

Agile Project Management

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PMG 622
Master of Project Management

Lecture 3



How is Agile similar to and different from Traditional PM Life Cycles?

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Agile Project Management

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Learning Objectives

1. Learn main characteristics of Traditional and Agile PM Life Cycles
2. Identify similarities between Traditional and Agile PM Life Cycles
3. Identify differences between Traditional and Agile PM Life Cycles

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Key Points from Previous Lecture

Agile Frameworks and Methodologies have similar processes that might differ in naming and terminology

The role of the Project Manager in Agile is a coach, facilitator, and enabler for success.

The Customer (Product Owner) is represented in the team

In Initiating and Planning an Agile project, we do Product Vision, Product Roadmap, and Product Backlog

In Executing an Agile project, we do Iteration Planning, User Stories, Iteration Backlog, and Iteration Retrospective, work is monitored through Daily Meetings, Burn Down, and Velocity Charts

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Main Characteristics of Traditional and Agile PM Life Cycles



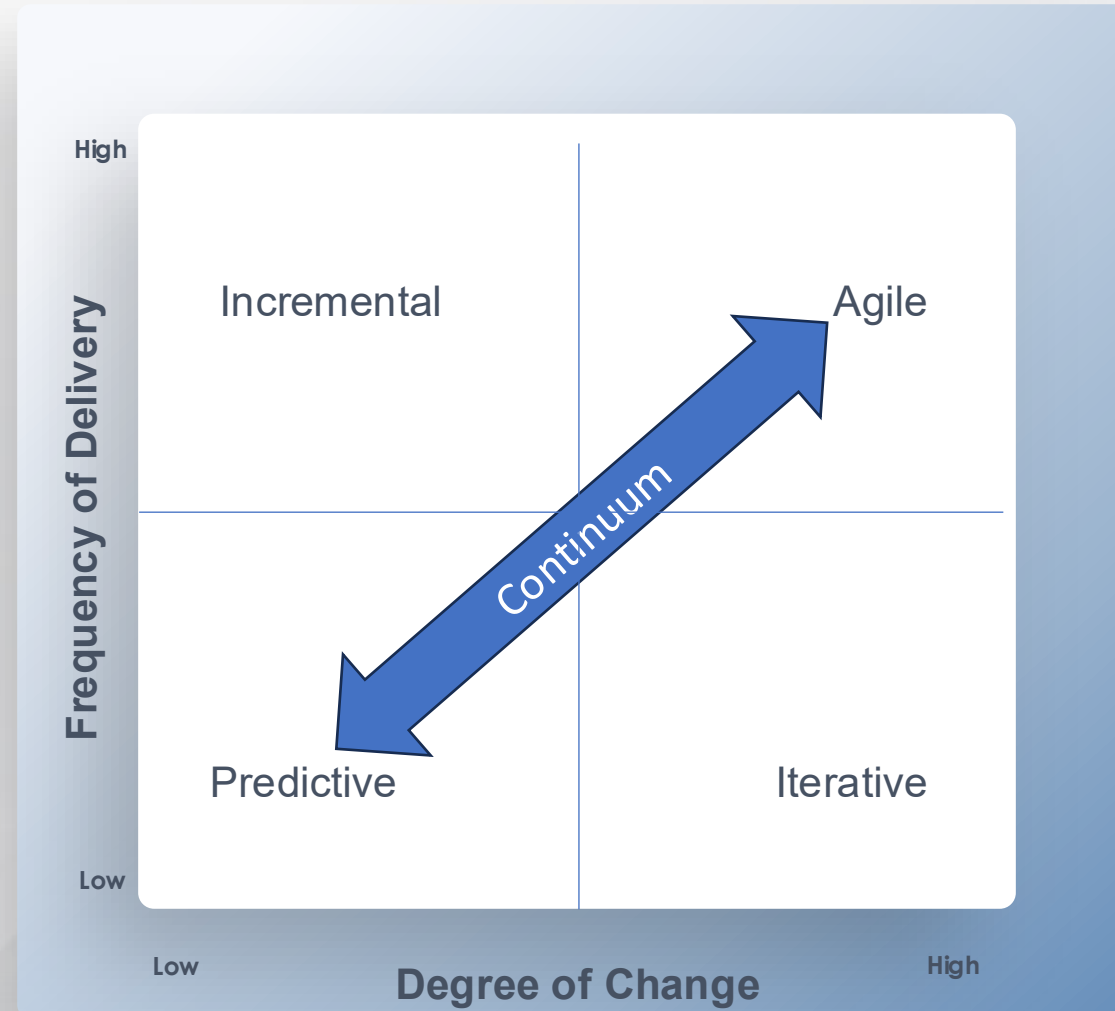
The Four main Project Life Cycles

	Predictive	Iterative	Incremental	Agile
Definition	A more traditional approach, with the bulk of planning occurring upfront, then executing in a single pass; a sequential process	An Approach that allows feedback for unfinished work to improve and modify that work	An approach that provides finished deliverables that the customer may be able to use immediately	An approach that is both iterative and incremental to refine work items and deliver frequently
Example	Building a house	Developing a new medication Product is released at the end only bit (product, technologies, methods might be adjusted along the way	Modifying 100 processes in batches of 10 and implementing finished processes in each batch immediately	Developing a software application and adding features while testing different technologies

Comparing The four main Project Life Cycles

	Predictive	Iterative	Incremental	Agile
Requirements	Fixed	Dynamic	Dynamic	Dynamic
# of Deliveries	Single delivery	Single delivery	Frequent smaller deliveries	Frequent small deliveries
Activities	Performed once for the entire project	Repeated until correct	Performed once for a given increment	Repeated until correct
Goal	Manage cost	Correctness of solution	Speed	Customer value via frequent deliveries and feedback
Change	Constrained as much as possible	Incorporated at periodic intervals		Incorporated in real-time delivery
Stakeholders	Involved at specific milestones	Are regularly involved		Continuously involved
Risks and Costs	Controlled by detailed planning or mostly knowable considerations	Controlled by progressively elaborating the plans with new information		Controlled as requirements and constraints emerge

The Continuum of Project Lifecycles



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Traditional PM Life Cycles



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Traditional Project Management

- Called Linear, Predictive, or Waterfall and is Logical and intuitive.
- Relies on heavy up-front analysis and documentation of the need and problems of the client.
- A plan is formed, and a solution is constructed, monitoring is done through comparison to the original plan.

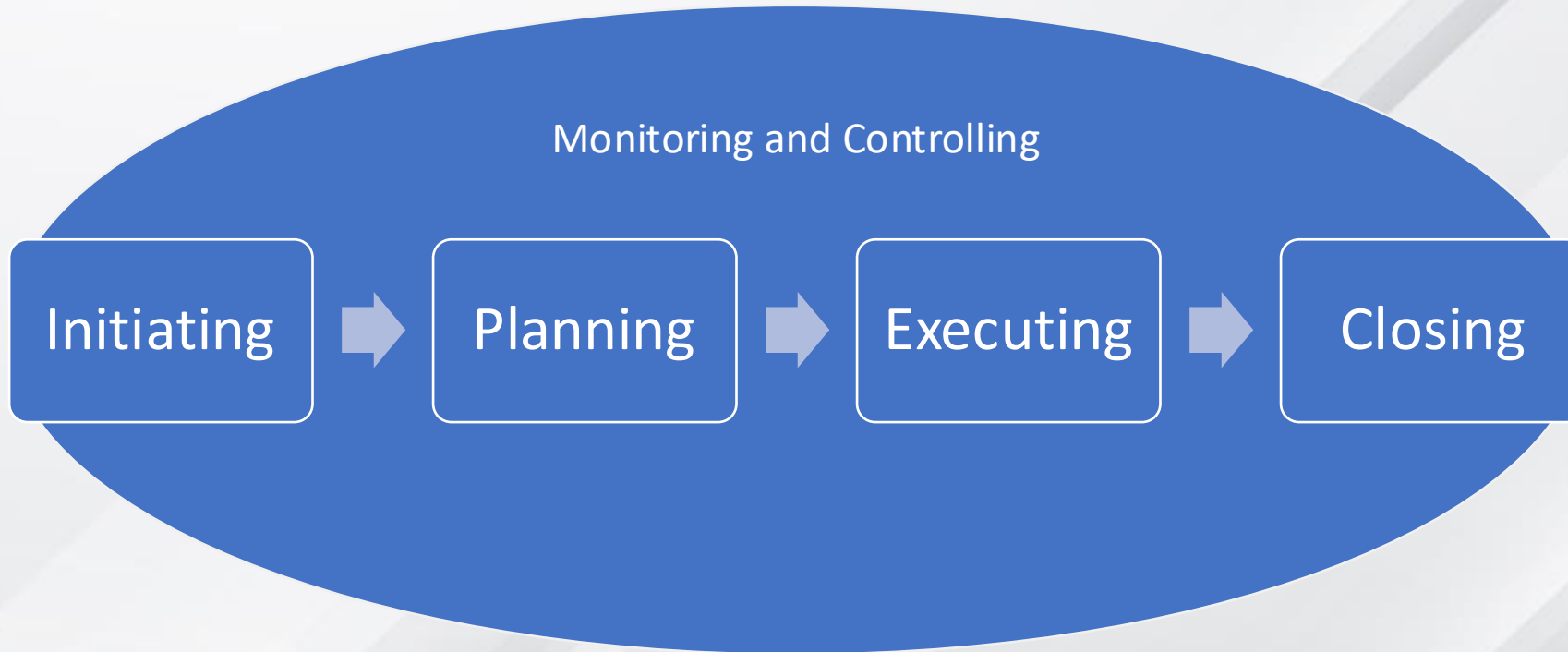
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Traditional Project Management

- Assumes nearly perfect information about the project goal and solution
- We have multiple experiences with similar projects before or the project is just a simple well-defined effort.

Traditional PM has 5 processes groups that interact and overlap



Traditional PM addresses 10 areas from initiation to closing



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Traditional Project Management Characteristics:

- Complete and clearly defined goal, solution, requirements, functions, and features
- Few expected scope change requests
- Routine and repetitive activities
- Use of established templates
- Detailed documentation

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Traditional Project Management Strengths and Weaknesses:

Strengths	Weaknesses
• Easy to understand and manage as stages are clearly defined	• Does not accommodate change well
• Resource requirements are known from the start	• Costs too much
• Do not require the most skilled team members	• Takes too long before any deliverables are produced
• Team members do not have to be co-located	• Requires complete and detailed plans
• Detailed documentation facilitates transfer of knowledge and handover	• Must follow a rigid sequence of processes
• Client knows what to expect in terms of scope, cost, and timeframe	• Does not focus on client value

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Traditional Project Management (Incremental/Phased) Characteristics:

- Brings some Agility into Traditional Project Management
- Divides the projects into phases (or increments)
- Allows for some scope change to happen between phases (or increments)
- A need to release deliverables against a more aggressive schedule

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Traditional Project Management (Incremental/Phased) Characteristics:

- Example:
 - A real estate developer may modify design in next phases of its development
 - A process re-engineering project may change the priority of remaining processes after each phase

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Traditional Project Management (Incremental/Phased) Strengths and Weaknesses:

Strengths	Weaknesses
• Produces business value early in the project	• The team may not remain intact between increments
• Enables better scheduling of scarce resources	• Requires hand-off documentation between increments
• Accommodates minor scope change requests between increments	• Must follow a defined set of processes
• Offers product improvement opportunity	• Increments must be defined based on function and feature dependencies rather than business value
• More focused on client business value	• Takes longer to execute

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Traditional Project Management Models:

- Standard Waterfall Model
- Rapid Waterfall Model (relies on doing parallel execution)
- Staged Waterfall Model (incremental/phased)

Benefits and Drawbacks of Traditional PM

Benefits

Predictability &
Control

Suitable for complex
projects

Well-defined roles and
responsibilities

Extensive
documentation

Drawbacks

Less flexible and
adaptable

Less Customer
Satisfaction

Slower Time to Market

Higher Risk of failing
products

Traditional PM Case Study: Apollo 11 Mission



- **Challenge:**

The Apollo 11 mission was the first mission to land humans on the moon. It was a complex and challenging project with many risks involved. NASA needed to carefully plan and execute the mission in order to ensure its success.

Traditional PM Case Study: Apollo 11 Mission



- **Solution:**

NASA used a traditional project management methodology to plan and execute the Apollo 11 mission. This involved developing a detailed project plan, identifying and mitigating risks, and carefully monitoring and controlling the project's progress. NASA also used a team of specialists from different areas, which helped to ensure that all aspects of the mission were considered and developed in a coordinated manner.

- **Results:**

The Apollo 11 mission was a success. Neil Armstrong and Buzz Aldrin became the first humans to walk on the moon on July 20, 1969.

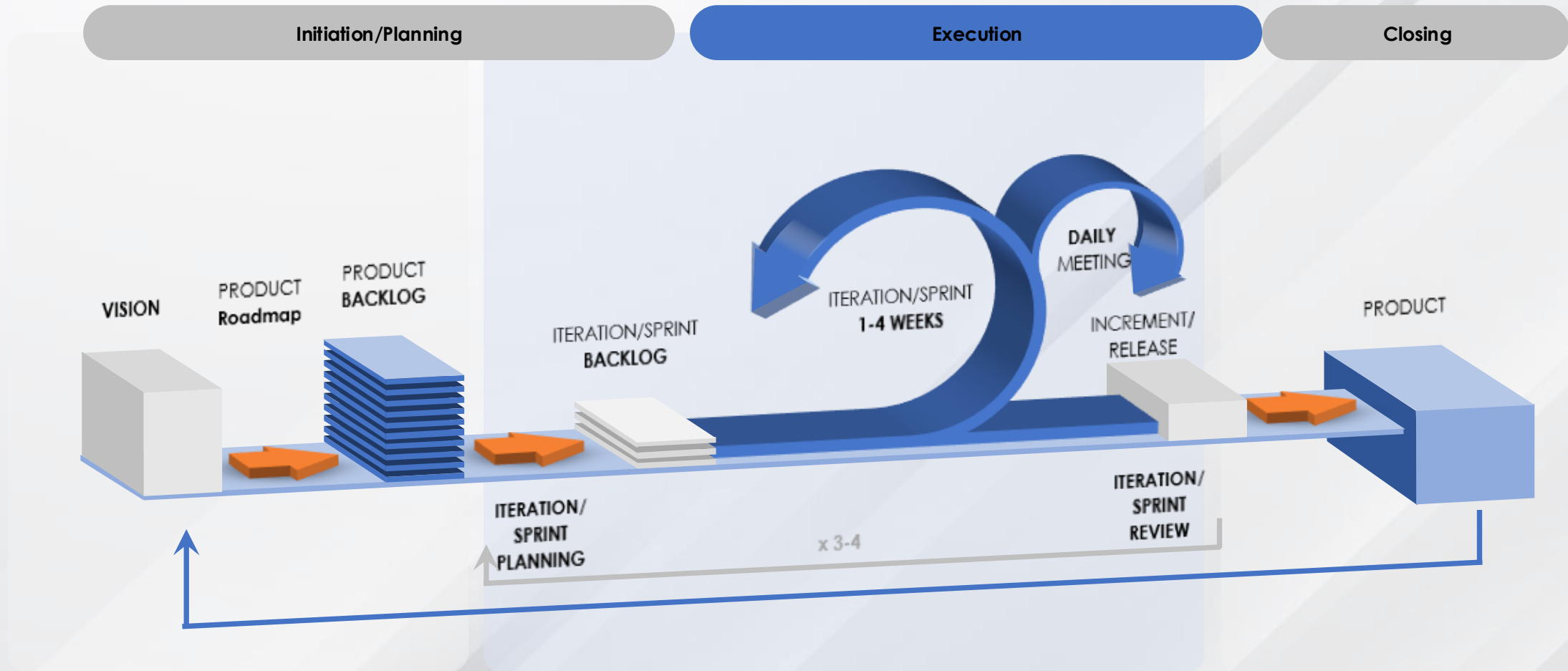
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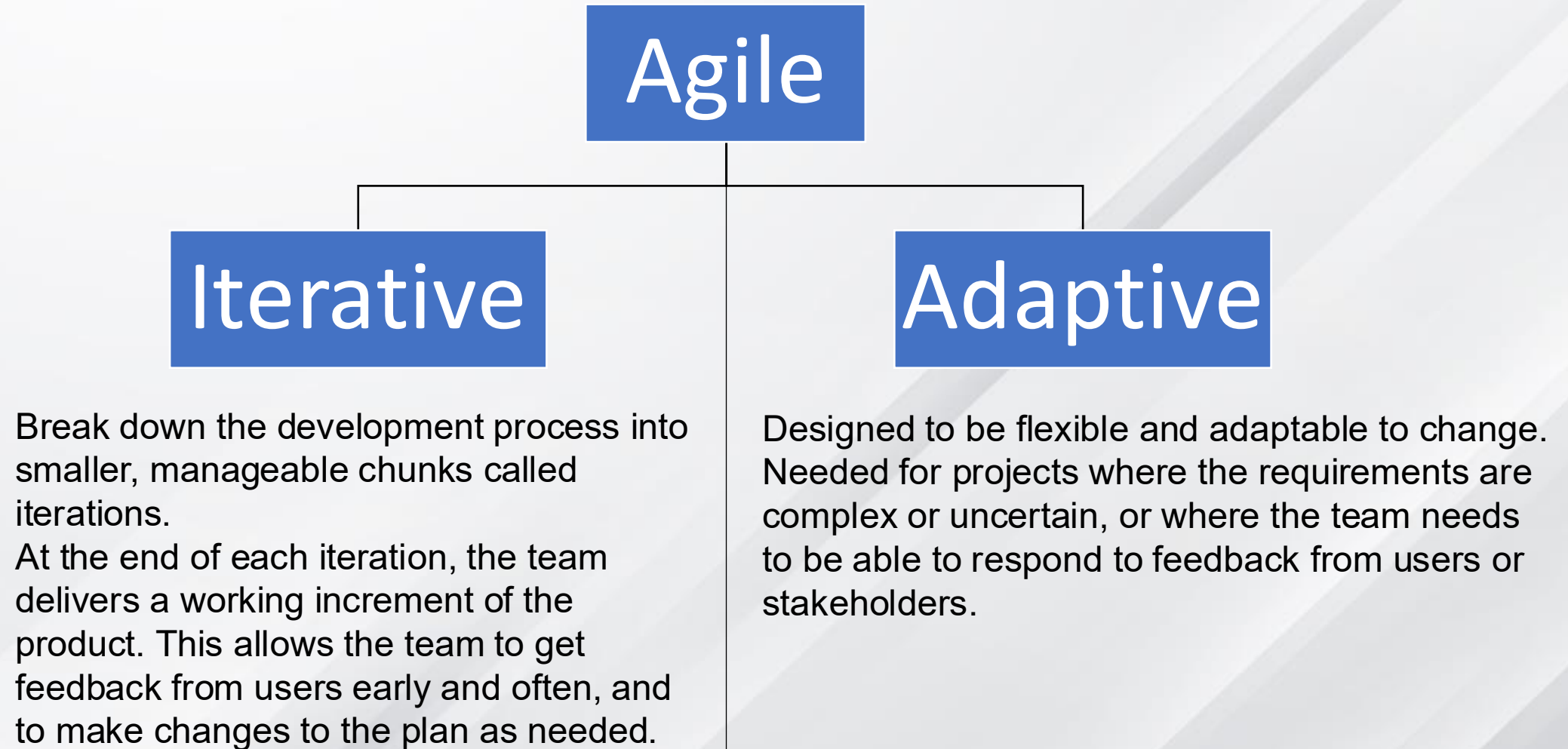
Agile PM Life Cycles



Agile Practices and Processes



All Agile Models are incremental



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Agile Project Management (Iterative) Characteristics:

- Complete and clearly defined goals
- Solution is known but not in details or minor parts are not defined
- Incomplete requirements
- Some scope changes are expected
- Uses prototypes to discover the complete solution

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Agile Project Management (Iterative) Strengths and Weaknesses:

Strengths	Weaknesses
• Based on Just-In-Time Planning	• Risks losing team between iterations
• Accommodates change very well	• Subject to losing priority between iterations
• Focused on generating business value	• Resource requirements are unclear at project launch
• Client previews partial solutions for improvement	• Requires a more actively involved client than traditional PM projects
• Can process scope changes between iterations	• Requires co-located teams
• Adaptable to changing business conditions	• Implementation of intermediate solutions can be problematic
	• Final solution cannot be defined at project start

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Agile Project Management (Adaptive) Characteristics:

- Iterative Structure
- Just-In-Time Planning
- Critical mission projects
- Thrives on change through learning and discovery
- Continuously reviewed and adapted to changing conditions

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Agile Project Management Models:

- Scrum
- Kanban
- Feature-Driven Development (FDD)
- Extreme Programming (XP)
- Crystal
- Scaled Agile Framework (SAFe)

Benefits and Drawbacks of Agile PM

Benefits

Flexibility and
adaptability

Higher Customer
Satisfaction

Faster Time to Market

Lower Risk of failed
products

Drawbacks

Difficult to manage
complex projects

Challenging to keep
stakeholders aligned

Requires high-level of
team commitment
and discipline

Higher risk if team
changes

Agile Case Study:

Developing and launching a new music streaming service



- **Challenge:**

Spotify was entering a crowded market with established competitors such as iTunes and Pandora. The company needed to develop and launch its new streaming service quickly and efficiently, while also ensuring that it was high quality and met the needs of its target customers.

Agile Case Study:

Developing and launching a new music streaming service



- **Solution:**

Spotify used an agile project management methodology to develop and launch its new streaming service. This allowed the company to quickly iterate on its product and get feedback from customers early and often. Spotify also used a cross-functional team approach, which helped to ensure that all aspects of the product were considered and developed in a coordinated manner.

- **Results:**

Spotify's new music streaming service was launched on time and on budget. The service was well-received by customers and quickly became one of the most popular music streaming services in the world.

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Traditional and Agile PM Life Cycles Similarities and Differences



Similarities between Traditional and Agile PM

Both aim to deliver projects on time, on budget, and to scope

Both aim to satisfy the customer

Both require communication and collaboration between team members and stakeholders

Both involve planning, executing, monitoring and controlling

Both use techniques for prioritizing, estimating, and risk management

Both need a PM to lead the projects

Differences between Traditional and Agile PM (1/2)

Characteristic	Traditional	Agile
Approach	Sequential	Iterative and incremental
Requirements	Gathered and frozen at the beginning of the project	Gathered and refined throughout the project
Planning	Detailed planning done at the beginning of the project	High-level at the beginning of the project, with detailed planning done on a rolling basis
Change management	Changes are difficult and expensive to make once the project plan is set	Changes are welcomed and accommodated throughout the project
Customer involvement	Customer involvement is typically highest at the beginning and end of the project	Close customer involvement throughout the project
Documentation	More emphasis on documentation	Less emphasis on documentation

Differences between Traditional and Agile PM (2/2)

Characteristic	Traditional	Agile
Team	Specialized and needs to be coordinated	Cross-Functional, Self-Organizing and disciplined
PM	Manager and Leader	Coach, Facilitator, Leader
Customer Relationship	Contractual	Collaborative
End Product	Well known at the beginning	Emerges and known clearly at the end
Focus	Adherence to plan	Delivering customer value
Management	Formal	Casual

When to use Traditional or Agile PM Life Cycle

Traditional	Agile
Requirements are well-defined and stable	Requirements are complex or uncertain
Projects is complex and require a high degree of predictability	Project needs to be delivered quickly
When regulations or industry standards require specific documentation	When customer feedback is important
When teams (or culture) are not familiar with agile methodologies	Teams are self-organizing and disciplined

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Key Points

Traditional and Agile PM Life Cycles have many similarities and also differences

Selection of the RIGHT Life Cycle depends on Degree of Change, Frequency of Delivery, and Context of Project

Traditional Life Cycle can be Incremental (ex. Rolling out a system to many branches)

Agile Life Cycles are usually Incremental, Iterative, and Adaptive

Each Life Cycle has its Strengths, weaknesses, benefits and drawbacks

Preparation for discussion panel:

- Question for Discussion:
 - Select a project from your organization.
 - Identify is it following Traditional or Agile Life Cycle
 - List strengths and weaknesses of this life cycle on the project.

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For Discussion Panel



Before next lecture:

- Read the Article:
[*"Implementing Agile in an Organization: A Six-Step Guide"*](#)

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For Next Lecture





Thank You