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University

PMG 622

AGILE PROJECT MANAGEMENT

LECTURE 03: IMPLEMENTING AGILE: CREATING AN AGILE ENVIRONMENT

دكتور مهندس استشاري ادارة المشروعات

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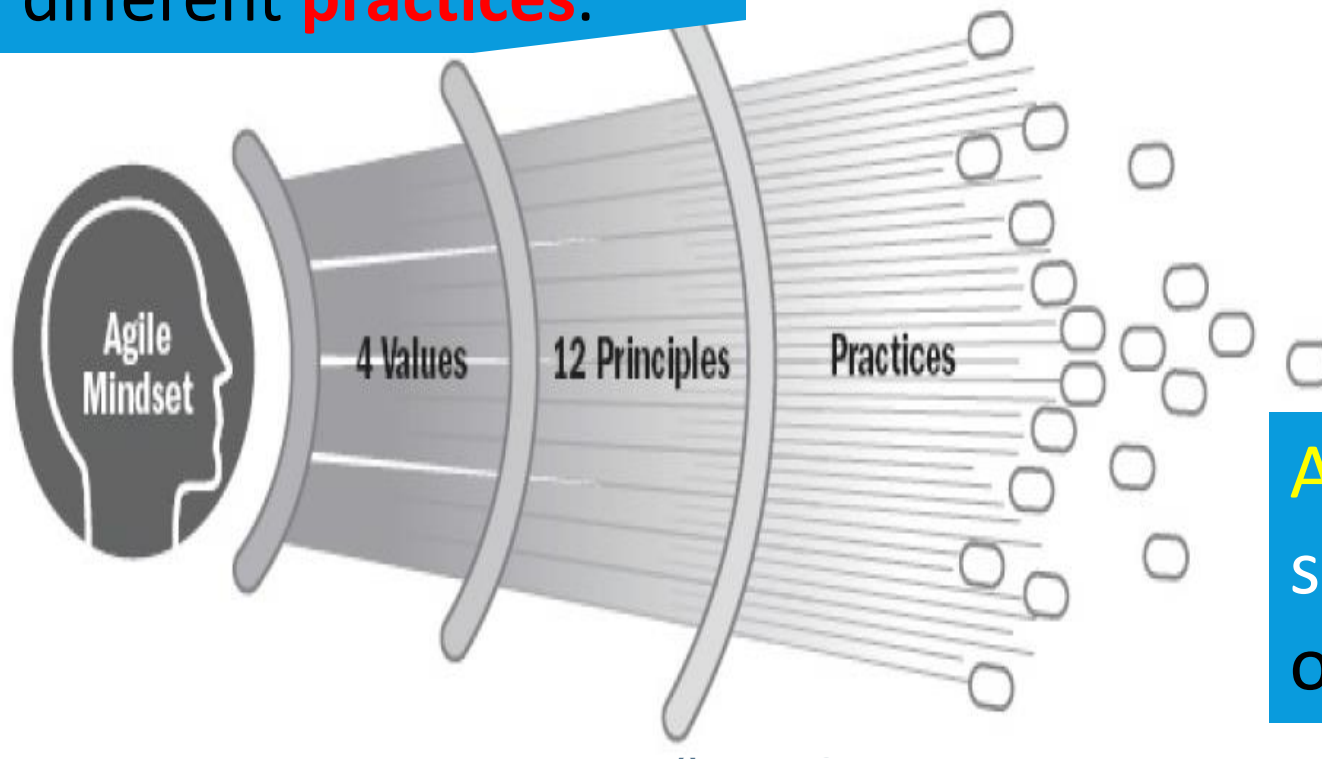
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QUICK REVIEW AND INTRODUCTION

THE AGILE MINDSET

✓ Agile is a mindset defined by **values**, guided by **principles** and manifested through many different **practices**.



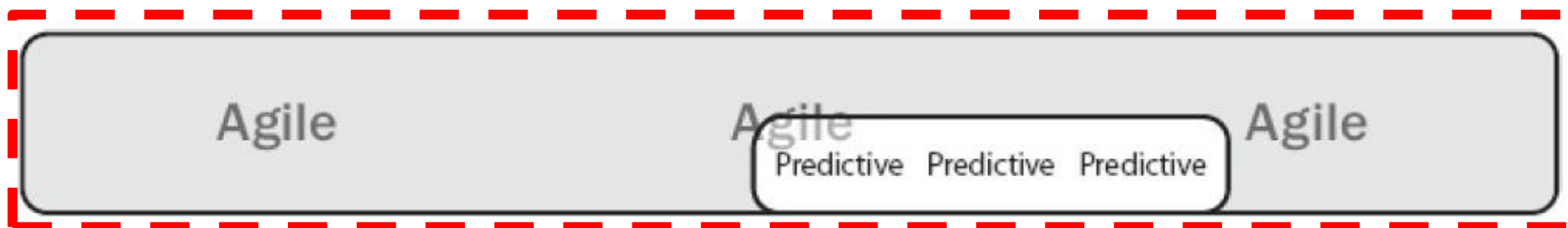
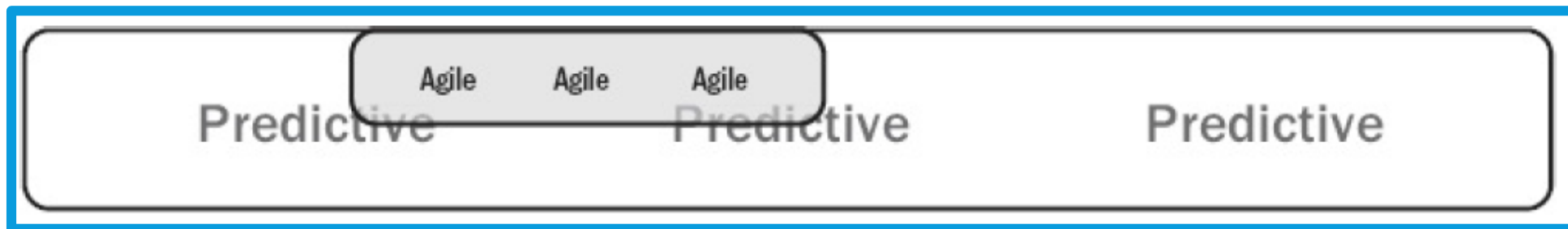
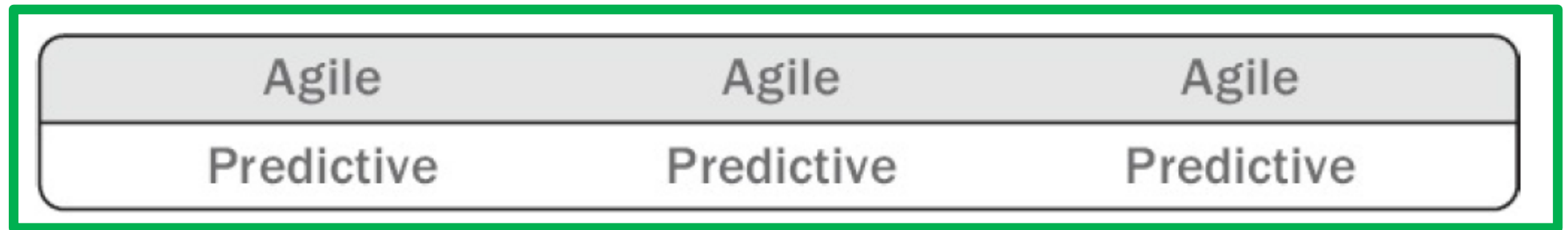
Agile practitioners select **practices** based on their **needs**.

AGILE MANIFESTO / “4 VALUES”

- We are uncovering better ways of developing software by doing it and helping others do it.
- Through this work we have come to value:



- That is, while there is value in the items on the right, we value the items on the left more.



CHARACTERISTICS OF FOUR CATEGORIES OF LIFE CYCLES

Characteristics				
Approach	Requirements	Activities	Delivery	Goal
Predictive	Fixed	Performed once for the entire project	Single delivery	Manage cost
Iterative	Dynamic	Repeated until correct	Single delivery	Correctness of solution
Incremental	Dynamic	Performed once for a given increment	Frequent smaller deliveries	Speed
Agile	Dynamic	Repeated until correct	Frequent small deliveries	Customer value via frequent deliveries and feedback

SUBJECT MATTER EXPERTS

- Why is it important to master the utilization of Subject Matter Experts
- What the key skills to master the utilization of SME
- What role can SMEs play in Agile Development



Forum Topic: Subject
Matter Experts



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CREATING AN AGILE ENVIRONMENT

CURRENT AND NEXT LECTURE OVERVIEW

- **IMPLEMENTING AGILE: CREATING AN AGILE ENVIRONMENT**
- **IMPLEMENTING AGILE: DELIVERING IN AN AGILE ENVIRONMENT**

START WITH AN AGILE MINDSET

- How can the project team act in an agile manner?
- What can the team deliver quickly and obtain early feedback to benefit the next delivery cycle?
- How can the team act in a transparent manner?
- What work can be avoided in order to focus on high-priority items?
- How can a servant-leadership approach benefit the achievement of the team's goals?



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SERVANT LEADERSHIP EMPOWERS THE TEAM

SERVANT LEADERSHIP

- Servant leadership is the practice of leading through service to the team, by focusing on understanding and addressing the needs and development of team members in order to enable the highest possible team performance
- The role of a servant leader is to facilitate the team's discovery and definition of agile.
- Servant leaders practice and radiate agile
- Servant leadership = facilitative skills

SERVANT LEADERS APPROACH PROJECT WORK IN THIS ORDER:

- **Purpose.** Work with the team to define the “why” or purpose so they can engage and coalesce around the goal for the project. The entire team optimizes at the project level, not the person level.
- **People.** Once the purpose is established, encourage the team to create an environment where everyone can succeed. Ask each team member to contribute across the project work.
- **Process.** Do not plan on following the “perfect” agile process, but instead look for the results. When a **cross-functional team delivers finished value often** and **reflects on the product and process**, the teams are agile. It does not matter what the team calls its process

INTERPERSONAL SKILLS VERSUS TECHNICAL SKILLS

- Team members emphasize their interpersonal and emotional intelligence skills—not just technical skills.
- Everyone on the team works to exhibit more initiative, integrity, emotional intelligence, honesty, collaboration, humility, and willingness to communicate in various ways so that the entire team can work together well.
- The team needs these skills so they can respond well to changes in project direction and technical product changes. When everyone can adapt to the work and to each other, the entire team is more likely to succeed

SERVANT LEADERSHIP: ENABLES PROJECT LEADERS TO BECOME MORE AGILE

- Promoting self-awareness;
- Listening;
- Serving those on the team;
- Helping people grow;
- Coaching vs. controlling;
- Promoting **safety**, respect, and trust; and
- Promoting the energy and intelligence of others

SERVANT LEADER RESPONSIBILITIES

- Manage relationships to build communication and coordination within the team and across the organization
- These relationships help the leaders navigate the organization to support the team
- This kind of support helps to remove impediments and facilitates the team to streamline its processes
- Because servant leaders understand agile and practice a specific approach to agile, they can assist in fulfilling the team's needs

SERVANT LEADERS PAVE THE WAY FOR OTHERS' CONTRIBUTION

- In agile, the team manages its work process and its work product.
- Servant leaders work to fulfill the needs of the teams, projects, and organization.
- The servant leader focuses on paving the way for the team to do its best work.
- The servant leader influences projects and encourages the organization to think differently.

EXAMPLES OF THE RESPONSIBILITIES A SERVANT LEADER MAY HAVE:

- Educate stakeholders around why and how to be agile
- Support the team through mentoring, encouragement, and support.
- Advocate for team members training and career development.
- Help the team with technical project management activities like quantitative risk analysis.
- Celebrate team successes and support and bridge building activities with external groups.
- Create upward spirals of appreciation and good will for increased collaboration.

ROLE OF THE PROJECT MANAGER IN AN AGILE ENVIRONMENT

- Some agile practitioners think the role of a project manager is not needed, due to self-organizing teams taking on the former responsibilities of the project manager.
- However, pragmatic agile practitioners and organizations realize that project managers can add significant value in many situations. The key difference is that their roles and responsibilities look somewhat different.

PROJECT MANAGERS USE SERVANT LEADERSHIP

- When working on an agile project, project managers shift from being the center to serving the team and the management.
- In an agile environment, project managers are servant leaders, changing their emphasis to coaching people who want help, fostering greater collaboration on the team, and aligning stakeholder needs.
- As a servant leader, project managers encourage the distribution of responsibility to the team: to those people who have the knowledge to get work done.



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TEAM COMPOSITION

INTRODUCTION

- A core tenet in both the values and the principles of the Agile Manifesto is the importance of individuals and interactions.
- Agile optimizes the flow of value, emphasizing rapid feature delivery to the customer, rather than on how people are “utilized.”
- *TIP: Build projects around motivated individuals. Give them the environment and support they need and trust them to get the job done.*

BENEFITS OF OPTIMIZING THE FLOW OF VALUE

- People are more likely to collaborate.
- Teams finish valuable work faster.
- Teams waste much less time because they do not multitask and have to re-establish context.

AGILE TEAMS [1/2]

- Agile teams focus on rapid product development so they can obtain feedback
- The most effective agile teams tend to range in size from 3 to 9
- Ideally, agile teams are co-located in a team space
- Team members are 100% dedicated to the teams
- Agile encourages self-managing teams

AGILE TEAMS [2/2]

- Agile teams thrive with servant leadership
- The leaders support the teams' approach to their work
- Cross-functional agile teams produce functional product increments frequently
- The teams collectively own the work and together have all of the necessary skills to deliver completed work

AGILE TEAMS EFFECTIVENESS

- The more a team limits its **work in progress**, the more likely its members can collaborate to expedite work across the board
- Team members in successful agile teams work to collaborate in various ways (such as **pairing, swarming, and mobbing**) so they do not fall into the **trap of mini-waterfalls** instead of collaborative work

AGILE TEAMS COLLABORATION

- **Pair Work.** A technique of pairing two team members to work simultaneously on the same work item
- **Swarming.** A technique in which multiple team members focus collectively on resolving a specific impediment
- **Mobbing.** A technique in which multiple team members focus simultaneously and coordinate their contributions on a particular work item

MINI-WATERFALLS

- Mini-waterfalls occur when the team addresses *all* of the requirements in a given period, then attempts to do *all* of the design, then moves on to do *all* of the building

ATTRIBUTES OF SUCCESSFUL AGILE TEAMS

[1/2]

Attribute	Goal
Dedicated people	• Increased focus and productivity • Small team, fewer than ten people
Cross-functional team members	• Develop and deliver often • Deliver finished value as an independent team • Integrate all the work activities to deliver finished work • Provide feedback from inside the team and from others, such as the product owner
Colocation or ability to manage any location challenges	• Better communication • Improved team dynamics • Knowledge sharing • Reduced cost of learning • Able to commit to working with each other

ATTRIBUTES OF SUCCESSFUL AGILE TEAMS

[2/2]

Attribute	Goal
Mixed team of generalists and specialists	• Specialists provide dedicated expertise and generalists provide flexibility of who does what • Team brings their specialist capabilities and often become generalizing specialists, with a focus specialty plus breadth of experience across multiple skills
Stable work environment	• Depend on each other to deliver • Agreed-upon approach to the work • Simplified team cost calculations (run rate) • Preservation and expansion of intellectual capital

AGILE ROLES

- Cross-functional team members,
- Product owner, and
- Team facilitator.

CROSS-FUNCTIONAL TEAM MEMBER

- Cross-functional teams consist of team members with all the skills necessary to produce a working product.
- In software development, cross-functional teams are typically comprised of designers, developers, testers, and any other required roles.
- The cross-functional development teams consist of professionals who deliver potentially releasable product on a regular cadence.
- Cross-functional teams are critical because they can deliver finished work in the shortest possible time, with higher quality, without external dependencies.

PRODUCT OWNER [1/3]

- The product owner is responsible for guiding the direction of the product.
- Product owners rank the work based on its business value.
- Product owners work with their teams daily by providing product feedback and setting direction on the next piece of functionality to be developed/delivered.

PRODUCT OWNER [2/3]

- The product owner works with stakeholders, customers, and the teams to define the product direction.
- Typically, product owners have a business background and bring deep subject matter expertise to the decisions.
- Sometimes, the product owner requests help from people with deep domain expertise, such as architects, or deep customer expertise, such as product managers.
- Product owners need training on how to organize and manage the flow of work through the team.

PRODUCT OWNER [3/3]

- In agile, the product owners create the backlog for and with the team.
- The backlog helps the teams see how to deliver the highest value without creating waste.
- A critical success factor for agile teams is strong product ownership.
- Without attention to the highest value for the customer, the agile team may create features that are not appreciated, or otherwise insufficiently valuable, therefore wasting effort.
- *That means the work is small, often small enough to be described on one index card.

TEAM FACILITATOR

- A servant leader.
- This role may be called a project manager, scrum master, project team lead, team coach, or team facilitator.
- People need time to build their **servant leadership skills** of facilitation, coaching, and impediment removal.
- Initially, many organizations invite external agile coaches to help them when their internal coaching capability is not yet fully developed.
- External coaches have the advantage of experience, but the disadvantage of weak relationships in the client organization.
- Internal coaches, on the other hand, have strong relationships in their organization, but may lack the breadth of experience that would make them highly effective.

GENERALIZING SPECIALISTS

- Many successful agile teams are made up of generalizing specialists, or “**T-shaped**” people.
- A single person's throughput is not relevant. The goal is for the *team* to optimize the delivery of finished work to get feedback.
- The team's objective is flow efficiency, optimizing the throughput of the entire team.

TEAM STRUCTURES

- Organize people into cross-functional teams to iteratively develop working products.

CASE

- *The core team assembled to write this practice guide had varied backgrounds—some represented PMI and some represented Agile Alliance.*
- *They were self-organizing and worked in increments to complete the work.*
- *PMI assembled a group of subject matter experts to inspect the work, and this allowed the team to incorporate feedback and improve the product as it was developed.*
- *However the core team was not representative of a typical agile team because its members' time was not 100% dedicated to this endeavor.*

CO-LOCATED, DISTRIBUTED AND DISPERSED TEAMS

- Some organizations have been able to create co-located, cross-functional teams.
- Some organizations have distributed or dispersed teams.
- Distributed teams have cross-functional teams in different locations.
- Dispersed teams may have each team member working in a completely different location, either in an office or from home.
- While these arrangements are not ideal due to increased communication costs, they may still be workable.

DEDICATED TEAM MEMBERS

- Multitasking reduces the throughput of the team's work and impacts the team's ability to predict delivery consistently.
- People experience productivity losses somewhere between 20% and 40% when task switching. The loss increases exponentially with the number of tasks.
- When a person multitasks between two projects, that person is not 50% on each project. Instead, due to the cost of task switching, the person is somewhere between 20% and 40% on each project.
- People are more likely to make mistakes when they multitask. Task-switching consumes working memory and people are less likely to remember their context when they multitask.
- When everyone on the team is 100% allocated to one project, they can continuously collaborate as a team, making everyone's work more effective.

TEAM WORKSPACES

- Teams need a space in which they can work together, to understand their state as a team, and to collaborate.
- Some agile teams all work in one room together.
- Some teams have a team workspace for their standups and charts, and work on their own in cubicles or offices.
- When teams have geographically distributed members, the team decides how much of their workplace is virtual and how much is physical.
- Geographically distributed teams need virtual workspaces. In addition, consider getting the team together in person at regular intervals so the team can build trust and learn how to work together.

TECHNIQUES FOR MANAGING COMMUNICATION IN DISPERSED TEAMS

- *Fishbowl windows*
- *Remote pairing*
- *Follow-the-sun development process*

FISHBOWL WINDOW

- Create a fishbowl window by setting up long-lived video conferencing links between the various locations in which the team is dispersed. People start the link at the beginning of a workday, and close it at the end. In this way, people can see and engage spontaneously with each other, reducing the collaboration lag otherwise inherent in the geographical separation.

REMOTE PAIRING

- Set up remote pairing by using virtual conferencing tools to share screens, including voice and video links. As long as the time zone differences are accounted for, this may prove almost as effective as face-to-face pairing.



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FOLLOW-THE-SUN DEVELOPMENT PROCESS

- Work is handed off at the end of every day from one site to the next, many time zones away in order to speed up product development

OVERCOMING ORGANIZATIONAL SILOS

- The best place to start when forming agile teams is by building a **foundational trust** and a **safe work environment** to ensure that all team members have **an equal voice** and **can be heard** and **considered**. This, along with building the agile mindset is the underlying success factor.
- The team members report to different managers. Managers need to focus on flow efficiency (and **team-based metrics**) rather than resource efficiency.
- To overcome organizational silos, work with the various managers of these team members and have them dedicate the necessary individuals to the crossfunctional team.

TIP

- *As an agile project leader, first focus on how you can create a team that is cross-functional and 100% dedicated to one team. Even if it means just getting key team members, such as the developers and testers, to work and communicate together on a daily basis, that is a step in the right direction toward agility.*