Methodology Choosing

Software Process

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Learning Objectives

By the end of this video, you will be able to

• Explain what factors to consider when choosing agile vs. plan-driven methodology.

• Explain what situations under each factor agile methodology shall be chosen over plan-driven methodology.

• Explain what situations under each factor plan-driven methodology shall be chosen over agile methodology.
Five Critical Factors to Help You Choose

**Size**
- #people on team

**Criticality**
- Defects’ impact extent w.r.t. comfort, money, and/or lives

**Dynamism**
- Requirements and technology change extent

**Personnel**
- Skill level of team members

**Culture**
- Team members prefer predictability/order vs. change

(Boehm & Turner, 2003)
Criticality Factor

Defects’ impact extent w.r.t. comfort, money, and/or lives

Agile Methodology

Plan-Driven Methodology
Dynamism Factor

Requirements and technology change extent

Agile Methodology

Plan-Driven Methodology
Personnel Factor

Skill level of team members

- Level 3
  - Capable of revising a methodology to an **unprecedented** new situation

- Level 2
  - Capable of revising a methodology to a **precedented** new situation

- Level 1A
  - With training, capable of conducting **discretionary** methodology steps
  - With experience, capable of gaining Level 2 skills

- Level 1B
  - With training, capable of conducting procedural methodology steps
  - With experience, capable of gaining Level 1A skills

- Level -1
  - Likely having technical skills, but incapable/unwilling to collaborate or follow methodologies

Agile Methodology

(Boehm & Turner, 2003)
(Cockburn, 2002)

Plan-Driven Methodology
Culture Factor

Team members prefer predictability/order vs. change

Agile Methodology

Plan-Driven Methodology
Polar Chart

Criticality: Loss due to defects’ impact

Personnel:

- %Level 1B
- %Levels 2 and 3

Dynamism: %Requirements change/month

Size: #Personnel

Culture: %Thriving on chaos vs. order

(Boehm & Turner, 2003)
References


The End