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\* Assignment on Agile Approaches and Comparative Analysis

Agile methodologies are frameworks used for iterative and incremental project management and software development. Below is a comparative analysis of prominent Agile approaches based on their working principles, applicability and cost effectiveness.

Comparative Summary

Agile Approach	Structure	Flexibility	Cost efficiency	Best fit for
Scrum	Highly structured	Moderate	High for iterative delivery	Product and Software Development.
Kanban	Flexible	High	Low setup, moderate tools	Operational and maintenance task
Xp	Structured and technical	High	High in quality control	Fast-paced, dynamic projects
Lean	Minimalist	Moderate	Moderate to high	Efficiency focused projects.
FDD	structured	Low	High for Large projects	Feature - intensive development.

## 1. Scrum

Applicability:

- Best for projects requiring flexibility and frequent deliverables.

How it works:

- Follows an iterative approach with predefined roles (Scrum Master, Product Owner, Team)
- Work is divided into sprints (2-4 weeks)

## 2. Kanban.

Applicability:

- Suitable for maintenance, support or ongoing delivery projects.

How it works:

- Visualizes tasks on a Kanban board, emphasizing continuous delivery.

## Extreme Programming (XP)

Applicability:

- Ideal for teams working on software-intensive projects requiring high-quality code.

How it works:

Emphasizes technical practices like Pair Programming, Test-Driven Development, and continuous integration.



## 4. Lean Software Development

Applicability:

- Effective for projects where efficiency is critical.

How it works:

- Focus on eliminating waste, optimizing workflow and delivering value.

## 5. Feature-Driven Development (FDD)

Applicability:

- Medium to large-scale projects with clear requirements

How it works:

1. Develop an overall model
2. Build a features list
3. Plan by feature
4. Design by feature
5. Build by feature.

XP	Structured and incremental	High	Highly flexible	Medium to large-scale projects with clear requirements
Lean	Minimalist	Moderate	Highly efficient	Medium to large-scale projects with clear requirements
FDD	Structured	Low	Highly flexible	Medium to large-scale projects with clear requirements