3.1 I can assess the effectiveness of different project management techniques

Agile methods give companies frameworks they can use to complete their projects in an effective manner. The Agile model allows to change the requirements after the development process starts, so it is more flexible, therefore suitable for certain industries than others.

Many different types of industries use the Agile methodology for project management, it is used commonly in engineering, aerospace, construction and pharmaceutical industries.

Here is an example of how Agile method is applied for effectiveness in the Construction industry:

Construction industry- Construction projects often include various steps until completion. There is a lot of documentation and internal/external communication. Applying the Agile technique helps such companies achieve operational transparency, improve resource utilization and communication. The sequential nature of the agile methodology works well for construction projects. Here is a table showing the effectiveness of Agile approach, when applied to construction project management.

|  |  |
| --- | --- |
| **Agile Principle** | **The effectiveness Agile method, when applied in construction projects** |
| * Early and continuous delivery of valuable software. * Working software is delivered frequently * Working software is the primary measure or progress | * Early delivery of functional systems into test and operation * Customer satisfaction and involvement * Value added delivery * Focus on delivering working systems rather than * specified contract deliverables |
| Welcome changing requirements, even in late development | Cost increases exponentially as the project  moves into later phase, requiring changes |
| * Close daily cooperation between, business clients and developers * Face to-face conversation is the best form or communication | * Close cooperation Is encouraged * Team approach is important * Integrated meetings are held to share information rather than on electronic data sharing (reports, emails, schedules). |
| * Build projects around motivated individuals. * Give teams the environment,   Support and trust needed to get the job done. | * Motivation of the team, with shared goals and objectives Is critical to the project’s success * Individual contribution Is encouraged and improvements, based on individual ideas are implemented * Provide support systems to optimize work |
| * Sustainable development maintains a constant pace * Self-organizing teams | Schedule and resource levelling to maintain a trained  experienced workforce with project and site-specific knowledge preferred to maximize  productivity and quality in construction |
| * Continuous attention to technical excellence and good design enhances agility. * Simplicity-the art of maximizing the amount or work not done-is essential | The better the design, drawings,  specifications, and work  packages, the less delay there is in the field work and  implementation  Questions from the field can take a significant time to resolve; clean  and simple designs are best for implementations and lowers risk  Simplicity, simplifies work and provides the  end user the functionality needed |
| At regular intervals, the team reflects on how to become more effective, then tunes and adjusts its behaviour accordingly | * Improvement ideas are encouraged, and sought after by stakeholders * Root causes or problems are identified, and the problems are fixed |

Agile methodology effectiveness

Compared with other methodologies, Waterfall focuses mostly on a clear, defined set of steps and determines the end goal early. It works well for smaller and low budget projects where requirements are very well understood. The waterfall methodology is commonly used in construction, and software development industries. The Waterfall methodology is a straightforward, well-defined project management methodology with a proven track record.

Some of the advantages and effectiveness of using the waterfall method for project management:

* It is a simple, straightforward approach
* Developers can catch design errors during the analysis and design stages, helping them to avoid writing faulty code during the implementation phase.
* The total cost of the project can be accurately estimated, as can the timeline, after the requirements have been defined.
* With the structured approach, it is easier to measure progress according to clearly defined milestones.
* New Developers who join the project in progress can easily get up to speed because everything they need to know should be in the requirements document.
* Customers aren’t always adding new requirements to the project and delaying production.

Difference between the Agile and waterfall methodology

A significant difference between Waterfall and Agile is that Waterfall is a methodology, but Agile is a “movement” with a variety of derivative methods that apply the principles and values of Agile. Scrum, eXtreme Programming (XP), Kanban, [Scrumban](https://www.smartsheet.com/scrumban-choosing-middle-ground-between-scrum-and-kanban), and a number of other methods allow the development team options, so there may be a best choice among them

The Waterfall and Agile Hybrid

In some instances, combining the two project management approaches will result in the best product. This process, called “Agifall” or “WAgile”, melds some of the most advantageous parts of each method to result in the best management style.

In an Agifall project, the development phase takes on more of an Agile approach, with more information delivered up front and less of a need to wait for the completion of previous phases to move to the next one. There is still extensive planning, research, and strategy behind the method, like in Waterfall, but there is more flexibility and adoption of change, like in Agile.