The Waterfall Method and Agile Development are both development methodologies that are used during engineering processes. These methodologies organize the work that needs to be done in a software development project. Although both are reliable, one approach may be more appropriate for certain projects than the other.

The Waterfall Method follows a sequential path, and the output from the previous stage is the output for the following stage. The stages of this life cycle include requirements specification, system analysis, system design, implementation, testing, deployment, and maintenance. Typically, one stage is completed before the project continues to the next one; there is little flexibility to go back and fix a mistake once the project has moved forward from a stage. Generally, the developers and customers meet in the beginning of the project to lay out how the project will get done, and they continue to work together to approve each stage before moving on to the next. This approach is beneficial because it makes the project easy to understand and provides structure in terms of what needs to done.

Agile Development is a newer, more flexible approach to software development compared to the Waterfall Method. The goal of this methodology is to accommodate changes, mistakes, and the need for faster software development. It incorporates similar stages to the Waterfall Method, but where the Waterfall follows a linear process, Agile is a circular cycle that continues to evaluate and address issues in the software. Agile Development prioritizes the timeframe of a project, unlike Waterfall, which emphasizes milestones as a guideline. This approach is beneficial because it is flexible, the software is constantly being tested for bugs and

improvements, and the product reaches the market faster than if the Waterfall Method is used.

Unfortunately, projects that use the Agile Development method may not be completed within the allotted timeframe, and they require a major commitment of time and energy from the developers, which may not always be available.

Choosing between the Waterfall Method and Agile Development is up to the priorities of the developers and customers involved in the project. The Waterfall Method is more structured and guided by milestones, whereas the Agile approach is flexible and directed by time.

Ultimately, the Agile approach is seen being used more and more due to its flexibility, which means that the customers' requests are more likely to be met, and due to less amount of time it takes to put the product on the market.