**Software Project Management Methodologies: Scrum vs. Waterfall**

# Introduction

The selection of suitable methodology for software projects determines the achievement of efficiency as well as quality and delivery timeliness. The widespread use of Scrum as an Agile methodology has coexisted with traditional Waterfall approaches in particular project situations. The report presents an overview of Agile thinking followed by an analysis of Scrum and Waterfall and it recommends evaluation factors to match projects with appropriate methodologies.

# Overview of Agile Mindset

Agile mindset places flexible operations alongside customer feedback loops alongside the importance of cooperation and progressive iterations. Agile approaches emphasize quantity over strict adherence to plans in order to implement needed changes in project requirements. Agile methodologies follow all principles mentioned in the Agile Manifesto (Manifesto, 2001) which prioritizes:

* Individuals and interactions over processes and tools.
* Working software over comprehensive documentation.
* Customer collaboration over contract negotiation.
* Responding to change over following a plan.

Teams under the Agile system develop continuous improvement practices while delivering software in smaller stages rather than as a complete whole and learning to adapt their work through ongoing feedback.



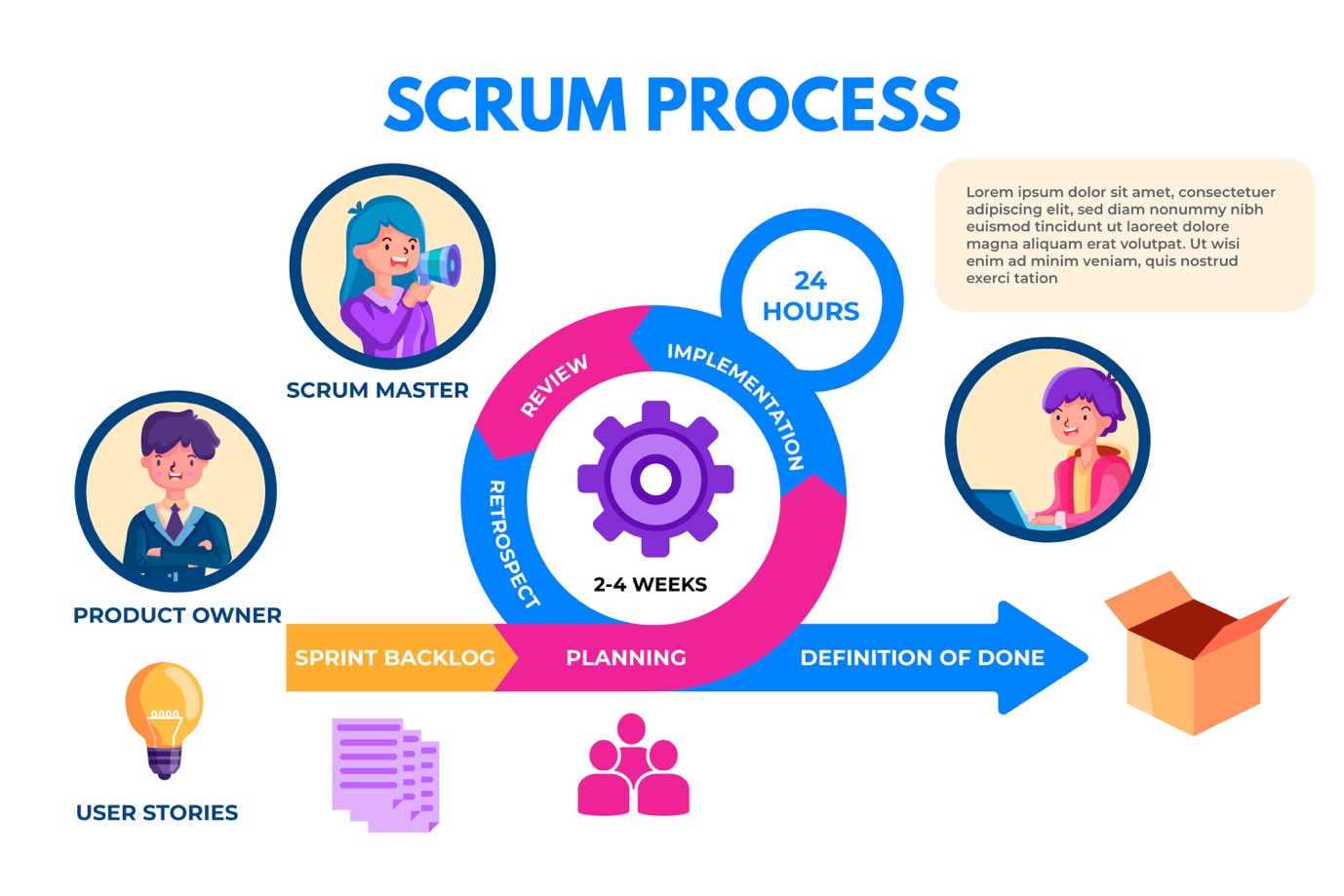
# Scrum Process Vs Waterfall

## Scrum Process

The agile proposal continues with the Scrum method which aims to define according to (Schwaber & Beedle, 2001) the project process that focuses primarily on individuals.

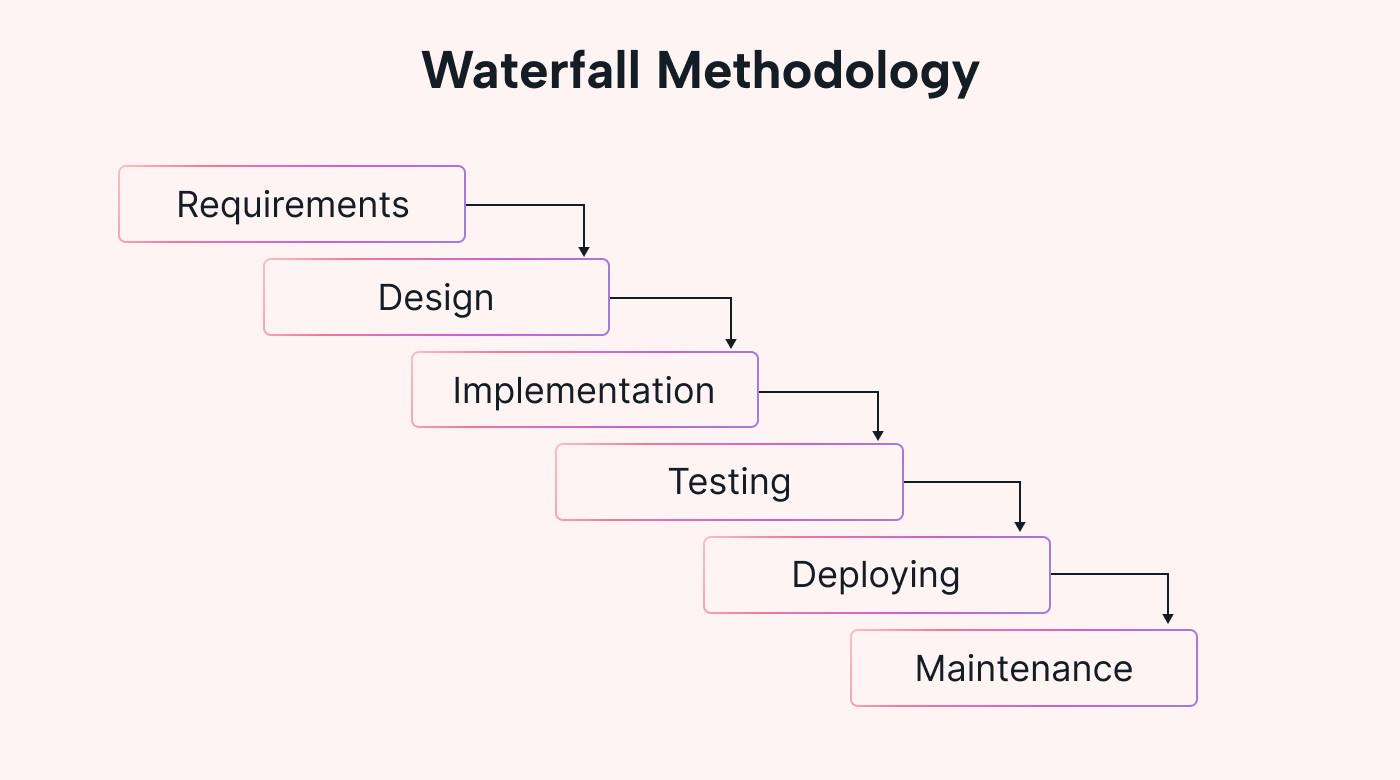
The principles of Scrum originated from Jeff Sutherland Ken Schwaber and Mike Beedle through six foundational characteristics (De Carvalho & Mello, 2011).

* Result flexibility;
* Deadline flexibility;
* Small teams;
* Frequent reviews;
* Cooperation;
* Object orientation.



## Waterfall

The System Development Life Cycle (SDLC) contains Waterfall method as one of its techniques which follows sequential workflow with no exception to complete the present stage before starting the next step. Each phase can receive maximum focus because there is nonexisting parallel work during the process (Adenowo & Adenowo, 2013).



# References:

Adenowo, A. A., & Adenowo, B. A. (2013). Software engineering methodologies: a review of the waterfall model and object-oriented approach. *International Journal of Scientific & Engineering Research*, *4*(7), 427-434.

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