**What Do Waterfall and Agile Have in Common vs What is different. What are strengths and weaknesses of each.**

Both Agile and Waterfall methods begin a cycle with a conceptual stage, and conclude a cycle with a dedicated period of testing prior to deployment. The primary difference is that for waterfall, a single cycle is envisioned as encompassing the entire project, whereas with agile the project is divided into smaller parts, and one cycle consists of one such part. Testing shall thus be a far more constant activity with Agile development, as each part shall have its own testing phase. Waterfall’s primary strengths are that it is a straightforward development methodology to keep track of – it is thus popular in heavily regulated industries. Waterfall also presents a kind of unity of vision and defined scope which may be absent from agile projects. Waterfall is however inefficient at correcting problems made in earlier stages of development. By contrast, agile methodologies allow for versatility in development – the splitting of a project into discrete sections and the completion of these parts discretely allows for much faster error detection and correction. Agile projects may be difficult to monitor the progress of, and problems that persist for long enough may have less clear sources than projects developed using waterfall methodologies, as a result. Agile projects may also be susceptible to uncertain or ballooning scope, as the project is conceptualised as a potentially unspecific number of smaller parts, rather than being approached as an absolute whole.