When is Agile Execution not the best answer for a given effort/project?

The conditions under which we, as part of a team for a project, need to use an agile method over, for example, a waterfall method are very clear, and we can find them on blog posts, tech talks and any modern project management book. The industry is pushing more and more towards the adaptation of the current methods towards agile-based ones, especially in the technology industry, where every project seems to adhere to the agile conditions. However, when have we heard of unsuccessful agile projects? Doesn’t it sound suspicious? In the following essay a few published unsuccessful – or closely controlled - agile development projects are discussed, to hopefully arrive to more practical conditions where it might seem that agile suits our project, when in reality, it doesn’t.

The agile methods have been a significant contribution from the software engineering industry and have been praised due to its similarity with the changing market conditions and the rate of innovation in new technologies (Thesing et al., 2021) (Siqueira, 2017). Nevertheless, companies should always analyze their circumstances before adopting a new methodology, since “few organizations are technically able to adopt agile development approaches successfully over a short period of time” (Siqueira, 2017), according to Brazilian researchers published by renowned house Springer. This statement comes after an outstanding investigation where a nonparametric statistical method was applied to analyze the performance of two teams developing *ten different software projects* with an agile methodology and then with a waterfall-based method, giving polarizing results. One cannot help but think: when is my project/company suited to fall in the success of agile methodologies?

The study by Springer gives an overview of the pros and cons of agile methodologies, especially when compared to waterfall development, since the company that performed the study had the chance to implement ten different real-world projects with their employees. The results of the study were both good and bad news: the teams using agile development took 7.3% more time to complete the project than those using waterfall development, but the latter development produced close to five times more defects in the outcome (Siqueira, 2017). From this study we can gather a few conclusions: agile is suited for efforts where the outcome is key to market acceptance, rather than the amount of time it takes for the completion of the project. This may explain why waterfall methodologies work especially for well-established products or a predictable market (Thesing et al., 2021), because this implies that the product or result’s ground is not extremely sensitive to defects, and this is achieved in markets that have already been explored and educated to accept said product. New horizons for innovative products seem to be quite sensitive to defects in usability, aesthetics or simply errors (Thesing et al., 2021), making defects a delicate issue worth experimenting with, ability that the agile methodologies seem to provide.

The International Journey of Project Management published a large-scale study on more than a thousand agile projects assessed, with different metrics: business efficiency factor, stakeholder success factor, and many others. The overall results determine that the greater the agile approach, the higher the reported project success. But if we dissect what ‘success’ means, we find that it is formed as the cumulative sum of all the metrics used: some might be extremely beneficial for agile, while some others are not, but in the end, the cumulative sum disguises these components. The study has an important insight, since it shows that indeed, the more agile efforts, the greater stakeholder satisfaction there will be. However, as we mentioned, success is not only stakeholder satisfaction; it also takes on account business efficiency. This metric alone showed that, no matter the level of agile effort, the business efficiency index did not change, and even increased the more traditional planning components the approach had (Serrador et al., 2015). This may be explained due to the very nature of traditional planning: it develops the project based on a formal plan, with little to no changes based on external inputs. This entails the construction of a business case aligned to the market, but more remarkably, aligned to the business needs and objectives. The result of a strategy that follows said case without any significant change is then the strict attachment to business efficiency.

References

Siqueira, A. A., Reinehr, S., & Malucelli, A. (2017). Using a statistical method to compare agile and waterfall processes performance. In Systems, Software and Services Process Improvement: 24th European Conference, EuroSPI 2017, Ostrava, Czech Republic, September 6–8, 2017, Proceedings 24 (pp. 523-532). Springer International Publishing.

Thesing, T., Feldmann, C., & Burchardt, M. (2021). Agile versus waterfall project management: decision model for selecting the appropriate approach to a project. Procedia Computer Science, 181, 746-756.

Serrador, P., & Pinto, J. K. (2015). Does Agile work?—A quantitative analysis of agile project success. International journal of project management, 33(5), 1040-1051.