# Introduction

The following case study is of a share portfolio management software, released in 2004. Currently it is used only in New Zealand by 11 companies all belonging to a sole investment management franchise. The large body of code making up the software has deteriorated and does not support mobile platforms with only 3 people to maintain and support it.

The software is due for redevelopment by an in-house development team of 15 but the franchise group are looking to expand this to 18 by the end of 2017.

The purpose of this report is to identify and look into any beneficial practices/approaches with regard to these five areas: collaboration and communication, requirement engineering, project planning and tracking, managing change and lastly quality assurance. We will be looking at practices under the agile methodology.

Agile methodologies has been shown to perform better on average in comparison to traditional methodologies (i.e. Waterfall, sequential and well defined approach). In a quantitative study, Serrador & Pinto found that not only did agile methodologies and practices outperform waterfall in terms of project success but it was observed to be by a large margin in spite of project complexity or experience of a project team [2].

While scrum is most suited for teams 4-9 it has been found to have observed benefits when used within larger teams and projects, Lagerberg found that overall scrum (even single practices) had obvious benefits in comparison to a traditional waterfall methodology and practices regardless of the proportion of practices adopted [1]. The mid-size nature of the end development team means that they can be split into 2 teams of 9 to better align with the general recommendation of the ideal agile team size. Lastly due to agile being shown to be practical in a large scale environment the investment management franchise have the option to scale up this project/development team should they decide.

# Recommended Practices

## Collaboration and Communication

## Requirements Engineering

## Project Planning and Tracking

Product backlogs are a part of the scrum planning process, they allow teams to prioritize features of a given software and track progress based on estimated work (hours) left according to each user story (feature) through a gaant chart.

From my research I was unable to find any empirical papers to support the benefits of specific individual practices. Though what I did find was for the most part scrum does show some benefits over more traditional methodologies as in her study Lagerberg found Project B (scrum project group) rated higher or equally in all areas except productivity [1]. Lagerberg did touch on this in her paper hinting that these perceived benefits could have been a result of planning amongst other things and may be lost if less time were to be spent on this, with more research needing to be done in this area [1]. I do agree with her on both points as scrum is a methodology with a strong focus on planning and re-planning especially at the beginning of sprints.

Of course there were many limitation in this study in that they only looked at one set of project groups within a corporation or participant error amongst other things however there is other research that shows the benefits of agile practices. Serrador & Pinto found in their research that there is some correlation between the amount of time spent planning and the success of a project [2] thus the benefits of a product backlog along with the necessary planning that goes along with it cannot be discounted.

## Managing Change

## Quality Assurance

# References

1. **Lagerberg, L., Skude, T., Emanuelsson, P., Sandahl, K., & Stahl, D. (2013). The Impact of Agile Principles and Practices on Large-Scale Software Development Projects: A Multiple-Case Study of Two Projects at Ericsson. *2013 ACM / IEEE International Symposium on Empirical Software Engineering and Measurement*. doi:10.1109/esem.2013.53**
2. **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. doi:10.1016/j.ijproman.2015.01.006**