**Reflection Report: format for the reflection report**

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**A brief description of the societal or business impact of your thesis**(You should describe how your solution could lead to a revenue increase, a cost decrease, or both)

For the business and societal impact, we refer to the appendix that comes with the thesis where both the business and societal impact are discussed elaborately.

In short, the thesis provides a contribution to existing knowledge on clinical trials in a Bayesian framework by showing how a Bayesian trial can be designed such that it has an acceptable type I error rate. An acceptable type I error rate is needed for the approval of a treatment. For a pharmaceutical company, approval of a treatment increases revenue or can create a whole new revenue stream. From a business perspective, it focuses on point 3 and 4 from the maturity scale, that is, revenue increase and new revenue generation respectively. Additionally, we demonstrate that in some cases clinical trials can arrive at results with fewer patients than anticipated at first. Hence, it also focuses on point 2 of the maturity scale, that is, cost decrease. From a societal perspective, more efficient testing can speed up release of a treatment, making it available earlier and thus benefiting the general health of the population. Also, we expose fewer patients to aa inferior treatment if that treatment ultimately does turn out to be inferior

**A brief description of the ethical considerations and screening steps taken to adhere to the Ethical Review Board requirements[[1]](#footnote-1)**

The TiSEM Institutional Review Board (IRB) evaluates proposals on:

1. Ethics of data collection

2. Data management and GDPR

In this thesis, we work with binary outcomes which are drawn from a distribution. These outcomes represent whether a treatment is effective on a patient (outcome = 1) or it is not (outcome = 0). A collection of 1’s and 0’s represents a set of measurements on population. The thesis is a simulation study and there actually are no humans, and therefore no personal data, involved.

According to the first step of the flowchart of the IRB[[2]](#endnote-1), no IRB review is required. Since no personal data collection has occurred, we have no ethical considerations and screening steps to discuss.

**Links to the code and data used for the master thesis as published on an open platform**(In case your data and code are confidential, please provide the documents indicating both supervisors in your portfolio have checked the data and code. This document can be found on Canvas)

Both the thesis itself and the thesis portfolio have been pushed to GitHub where it is publicly accessible. The files can be found via the following link:

<https://github.com/mfkros/ThesisMF>

**Division of tasks and responsibilities**(This part only has to be filled in, in caseyou did your graduation project in a team of 2-3 students)

*Not applicable*

1. <https://www.tilburguniversity.edu/research/economics-and-management/institutional-review-board> [↑](#footnote-ref-1)
2. <https://www.tilburguniversity.edu/research/economics-and-management/institutional-review-board/researchers> [↑](#endnote-ref-1)