

Aalto University

MS-E2177 Seminar on Case Studies in Operations Research

The Effect of Information Steering on Finnish Forest Owners' Decision-Making

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1 Objectives

This case study aims to comprehensively explain how information steering can be used to impact the decision-making of private forest owners in Finland. The goal is to systematically model decision-making within forest management and maximize the effectiveness of different information steering methods. The aim with creating the model is to enhance the effectiveness and use of Tapio's Best Practices guidelines.

The objectives have undergone some changes since the preliminary project plan. Initially, the goal was to understand decision-making and information steering in forest management broadly. However, the scope of this work has been narrowed to focus on how and when information steering is the most effective in impacting human decisions. The objective is to optimize the use of communications resources to direct forest management activity according to the Best Practices Guidelines.

The model on Finnish forest owners' decision-making aims to consider different traits of the individuals and the owned forests, as well as the timing and type of information steering utilised. Individual traits are, for instance, life situation, personal goals and values for the owned land. The significant traits of the owned forest are factors such as location and forest type. The interactions and dependencies of the traits, timing, and information steering type will be laid out to predict the possible decision-making of a certain type of forest owner.

2 Project status

So far, our project work has consisted of finding and reading articles related to the three topics introduced in the initial plan: 1) human decision-making, 2) Finnish forest owners, and 3) information steering¹, with one person per topic and one reading the most relevant articles from all three. For each of the topics, we have collected 15-20 articles at this time. Some articles come from academic journals, such as *Forest Policy and Economics* and *Small-scale Forestry*, but many come from governmental and other non-profit institutions, including Tapio itself. We have also created an informal questionnaire on our topic which will be answered by a small group of Finnish forest owners.

Detailed notes have been taken about the articles, and we have started to discuss what kind of broader conclusions can be drawn. A second meeting with our Tapio contact, Kalle Vanhatalo, has clarified what our end product should be; we need to produce approximately five digestible diagrams summarizing our most impor-

¹the translation has been changed to more accurately reflect the concept of *informaatio-ohjaus*

tant findings as well as an accessible presentation that explains them. The final report will provide a literature review, elaborate on the diagrams, and discuss the limitations.

After the deadline for this interim report, there are six more weeks until the final report must be finished. Our weekly meetings will continue as they have throughout the project, and our focus will shift from research towards developing the model, designing the diagrams, and writing the final report. The last four weeks will be entirely spent on these three tasks.

3 Schedule

Our project schedule includes a longer planning meeting on April 11th, where we will be developing the model. There will also be possible additional design discussions if needed. On May 5th, we will visit Tapio to present our diagrams and findings. The final report is due on May 14th, and it will summarize our research and conclusions.

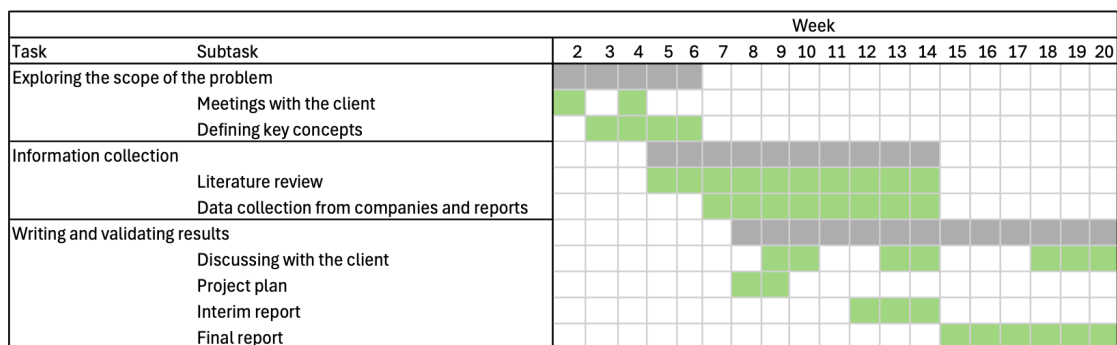


Figure 1: Schedule

4 Risks

The risks have not changed significantly after our initial risk evaluation. We had a meeting with our client and they seemed to like what we were doing, therefore we have updated the probability of results failing to meet the client's expectations from medium to low. On the other hand, we will need to shift our focus slightly meaning that there is a new risk that we focus on the wrong things. Some mitigation options have been updated. No risks have been eliminated. For each risk, the consequences, probability, impact, and mitigations are presented in Table 1. The probability and impact are estimated with the scale [Low, Medium, High].

Risk	Consequences	Probability	Impact	Mitigations
Focusing on the wrong thing	Final conclusion partially not being useful	Medium	Medium	We change our focus to match our client's wishes and reserve time to find new research material
Topic lacking focus	Extra work for group members and final conclusions not being useful	Medium	Medium	We narrow down the topic sufficiently and have one longer meeting when we check that our team has a common focus
Results fail to meet the client's expectations	The project is useless for the client, and thus half of the objectives are not met	Low	Medium	We keep in contact with the client and ask for feedback for our progress
Not finding enough or useful material	The final conclusions are not correct or relevant	Low	Medium	We reserve enough time for finding material and ask for help from the client if we get stuck
Communication challenges with the client	The results do not satisfy the clients needs or deadlines are not met	Low	Medium	We contact the client in time when we want to meet and have regular contact with the client and in worst case the course teacher is contacted
Team member becoming inactive (e.g. due to sickness)	The other team members need to do more work or some deadlines are missed	Low	Low	We have weekly meetings with the group and the work is distributed equally between the rest if there is an incident

Table 1: Updated risk assessment.