HELSINKI UNIVERSITY OF TECHNOLOGY
Systems Analysis Laboratory

INTERIM REPORT

MAT-2.177 SEMINAR ON CASE STUDIES IN OPERATION RESEARCH
VTT: PROJECT PORTFOLIO AND DECISION MAKING

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1 INTRODUCTION

This report presents the interim status of the case study "VTT: Project portfolio and decision making". The interim report describes briefly what has already been done, the most important results achieved and how the results have changed the scope and schedule of the study and updated project risk assessment.

2 CURRENT STATUS AND ACHIEVED RESULTS

Task 1 - Evaluation criteria

Title:	Evaluation criteria 1.2.2007 – 31.3.2007
Description:	The first task is to seek out a set of criteria and to build a prototype model of the decision process.
Resources:	Mikko Pitkänen, Kalle Korpiaho, Reetta Vartiainen
Responsible person:	Mikko Pitkänen
Outcome:	From the basis of these criteria a model presentation (ppt.) was created in order to provide input to the interviews.

Task 2 - Interviews

Title:	Interviews 1.2.2007 – 15.3.2007
Description:	The model is presented at the interviews (3-5) to provide feedback, generate discussion and reverse opinions.
Resources:	At least 2 team members will participate in each interview, one as a rapporteur of the discussions to the whole team.
Responsible person:	Reetta Vartiainen
Outcome:	Based on these discussions the key criteria were chosen and more sophisticated model was generated.

The project team has made five interviews (Research professor Markku Sipilä 23.2.2007, Vice president of Strategic research steering group, professor Rauno Heinonen 26.2.2007, Executive Director of Business solutions Jouko Suokas 7.3.2007, Vice president of Technology in the community, professor Matti Kokkala 9.3.2007 and Vice president of Business development steering group Petri Kalliokoski 12.3.2007) to gain knowledge of the current decision making process. At first the main goal was to clarify the criteria of which the decision makers were using while evaluating the R&D project proposal. The identified key criteria were (roughly in the order of importance):

- Compliance with strategy

- Research group's references
- Novelty value
- Market potential
- Partners in cooperation
- The distribution of external funding
- Costs versus benefits
- Estimation of goal attainment

The numerical scoring of criteria was proposed to the interviewees at the interviews, but the proposition did not get much acceptance. The numerical evaluation of projects and project proposals regarding the criteria would be vital for applying Robust Portfolio Modeling (RPM) to the group of projects. Also the interviewees did not consider the ranking of individual projects useful. Hence there is no need to numerically evaluate the projects and use RPM to rank the projects.

As the interviews progressed it became clear that the DMs need tools to get holistic view of the project portfolio. The information in the project portfolio can be considered as a multidimensional criteria space and the need is to get visualizations of certain subspaces. For example there is a need to search all projects which are in a certain technology area and show the past and present external funding proportions. The task of the project team is to give examples of good visualizations of different projections from multidimensional criteria space to small subspaces.

3 CHANGES IN OBJECTIVES AND SCOPE

Task 3 - Modeling

Title:	Modeling 1.3.2007 – 31.3.2007
Description:	Build a model of the portfolio management.
Resources:	Juuso Soininen, Reetta Vartiainen, Mikko Pitkänen, Kalle Korpiaho
Responsible person:	Kimmo Turunen
Outcome:	A model of the project portfolio management.

Task 4 - Literature review

Title:	Literature review 1.2.2007 – 15.4.2007
Description:	Academic literature review on most important publications.
Manpower:	Kimmo Pitkänen, Reetta Vartiainen
Responsible person:	Kalle Korpiaho

Outcome:	Short overview of the project portfolio management on the other R&D organizations.

When the project started the objective was to study the decision making situation in order to make it more transparent, more efficient and to get all the DMs to participate in the decision making. The second objective was to find a method to monitor the ongoing projects and at any given moment be able to rank the projects.

After the interviews the project team has realized that the original scope was too narrow and needed to be expanded to take in count the whole innovation process consisting of multiple (probably sequential) projects. It seems that the problem is not only the portfolio management but in a bigger picture the whole operations model and its disorder.

The original objective to rank the projects in portfolio has been abandoned for two reasons. The DMs did not consider the information got out of this relevant and there is not data available for the use of RPM. The new objectives of the project team are to build a model of the whole life span of a project and to model the information flows between different shareholders, find examples of good visualizations of the data available from the project portfolio and write down the good practices the interviewees have told us. The scope has been shifted from building a mathematical model to rank the projects in the portfolio to understand and compare the operations model of VTT to other similar research organizations.

4 RISKS

The risk of building a too complex and time consuming mathematical model to evaluate projects has been eliminated because the model will be much more generic than originally planed. The new risk will probably be that the model will be too generic.