

Forecasting Market Demand for Mobile Broadcast Services

Status Report

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1 Accomplishments

This project aims to build a model to forecast the demand for mobile broadcast services in Finland starting from the launch of the service in the beginning of the year 2006. The goal will be reached by using a diffusion model to forecast the demand. In parallel with the diffusion model, a qualitative value chain analysis will take place in order to spot possible deal-breakers.

The original project plan determined milestones and divided the project into subtasks. According to the plan, by April 17 we should have completed

- table of contents
- service/product definition
- project plan
- choice of model
- collection of data
- mid-report

In fact we achieved all of these subgoals. The collection of data refers to searching information on the chosen analogies. The data is necessary to estimate the parameters of the diffusion model. We have the sales figures of i-TV, DIRECTV and Walkman. We still lack price information on i-TV and also its maximum cumulative adoption level. Information on i-TV's diffusion and its prices have been found only from market research companies. The market research companies sell their report at prices up to \$ 5000.

We will use the basic Bass model to make the forecast. It has only two parameters that will be estimated from data. A more detailed model requires more information and we do not have it. Therefore we will not be able to support a very sophisticated model. We have chosen to upgrade the Khalish-Shlomo model to the status of the sophisticated model and use a unmodified Bass model as the basic model.

Other tasks that were planned to take place before April 17 were

- market identification
- industry identification
- requirements of model
- understanding market

These are related to the value chain analysis. The first written parts of the final report are a qualitative overview of the service adoption process and a description of the mobile broadcast market. At the moment the text is very general and could apply to any market. It is our aim to make it more specific to Finland by recognising local players and their inter-relationships.

Simulation runs using noisy data have showed that increasing the variance of the error did not significantly change the outcome. The cumulative maximum level determined the shape of the forecast. The model is so rigid that it does not vary much, even with rather imprecise data.

2 Changes

We will not make a model of our own, instead we will use basic Bass and Khalish-Shlomo models. This change is because it has been difficult finding meaningful data about the analogies. It does not suffice to find the cumulative sales of a product. In addition we should have the price, the price elasticity, income of people, market share and most importantly the size of the market.

We will assign the lacking information to the analogies. We will attempt to assign the lacking information in a way that would not affect the parameter estimates. This fabricated information will be replaced once real figures are available. In this way we are able to make use of the more advanced model and show our client how prices affect the diffusion.

The possibility to see the effect of pricing is a major asset. It makes possible to use this forecast to design a marketing strategy for the product. It also makes the model interactive enabling the user to experiment and play around with different possibilities.

3 Plan

Tests with the model have lead us to understand that the choice of the final cumulative level is very important. We will focus efforts to find a good estimate for the final cumulative level of adoption. We will also advise our client about this critical factor. Then it is possible they will want to use their expertise to help us find an appropriate estimate.

Time limits are to be controlled more tightly to keep work going at all times. The initial subtasks and their schedule still apply. Some refinements have been made. An updated schedule is presented in Figure 1.

Matti and Toivo will make the parameter estimations and the forecast.

Teemu will write about diffusion models. It will form the scientific background of the final report.

Tero will fit the general industry picture into the Finnish circumstances.

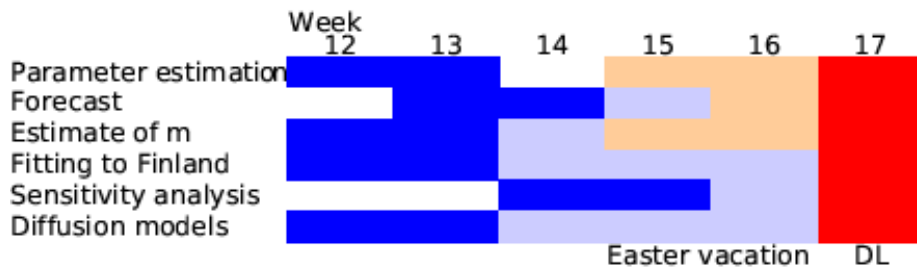


Figure 1: Schedule of the remaining subtasks.

He has been very critical about the model. His critique will be greatly appreciated in the final conclusions and sensitivity analysis.

Timo will search for facts that can be used to justify an estimate for the final cumulative level of adoption.

Writing of the final report has already begun. Version management is done by email. The report is sent to all team members. When someone wants to make modifications he informs others that the report is frozen. Then after he has made the modifications, the new version is sent to all.

4 Risks

The reliability of the diffusion model appears to lie choosing correctly the final cumulative adoption level. It is the one most significant factor. Its choice will have a deep effect on the final performance of our forecast. There is a major risk that we will choose an incorrect value.

There have been some problems with team members dedicating too little time to this project. Some have had other assignments that have required immediate attention to them. Project management has failed in pressuring team members to achieve results within limited time even though the final deadline of the project is still one month away on April 19.

Now that tasks have been individually assigned team members are individually responsible. It is planned increase the amount of dedication and care each and every one puts to their work.

Communication has not worked within pairs. Communication between individual group members and the project manager have been satisfactory, even excellent with some members of the team. It also appears that group meetings put pressure on people to achieve goals. That is a strength that should somehow be harnessed. on the other hand group meetings take time, need to be agreed upon well in advance and easily lead to meetings where nothing happens and people just have a good time meeting friends.