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CRM at a pay-TV company: Using analytical models to reduce customer attrition by targeted marketing for subscription services

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Abstract

The early detection of potential churners enables companies to target these customers using specific retention actions, and subsequently increase profits. This analytical CRM (Customer Relationship Management) approach is illustrated using real-life data of a European pay-TV company. Their very high churn rate has had a devastating effect on their customer base. This paper first develops different churn-prediction models: the introduction of Markov chains in churn prediction, and a random forest model are benchmarked to a basic logistic model.

The most appropriate model is subsequently used to target those customers with a high churn probability in a field experiment. Three alternative courses of marketing action are applied: giving free incentives, organizing special customer events, obtaining feedback on customer satisfaction through questionnaires. The results of this field experiment show that profits can be doubled using our churn-prediction model. Moreover, profits vary enormously with respect to the selected retention action, indicating that a customer satisfaction questionnaire yields the best results, a phenomenon known in the psychological literature as the 'mere-measurement effect'.
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1. Introduction

The pay-TV company offers premium-channel content on a variety of topics and live broadcasts using an encrypted signal. The programming of the channel is mainly based on recent movies that have not been broadcasted yet (on free TV), as well as main sports events. In addition, it also offers a variety of information, home-made programs and series. During the early 1990s, the pay-TV company grew expansively and obtained a considerable customer base by 1996. After a few years of stagnation, 2001 marked the start of a constant decrease in membership (see Fig. 1). This significant decrease in membership urged management to enhance the relationship-building process with their customers. This move was motivated by the specific nature of pay-TV broadcasting, which is characterized by fairly high fixed costs due to high infrastructure investments (settop box, proprietary technology) as well as high broadcasting costs.

This paper shows how a company operating on a subscription basis can remedy high attrition rates. We apply different binary classification techniques on this customer-churn case: logistic regression, Markov chains and random forests. We choose the most appropriate model for our case, and justify that choice.

Next to developing a churn-prediction model, a company should also test its attrition prevention strategy. Any such strategy has to be implemented through specific marketing actions. This section describes three such courses of action, which have been implemented in the present case-study, but which can be applied to subscription services in general. The action types are (1) giving free incentives (enhancing the service), (2) organizing special events to pamper customers, and (3) obtaining feedback

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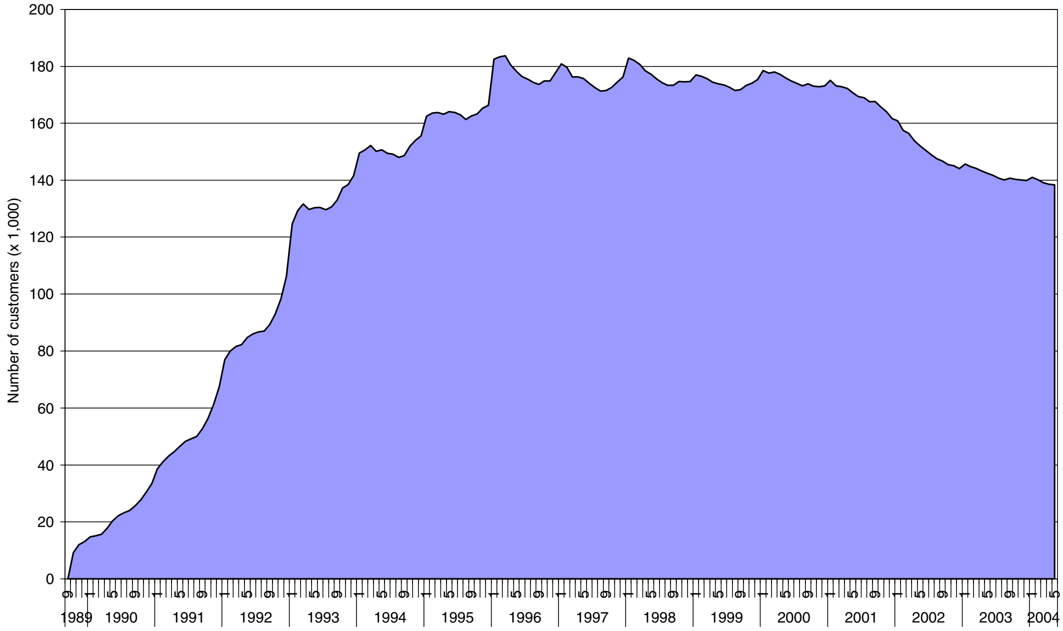

Fig. 1. The pay-TV company grew expansively during the early 1990s, but after a few years of stagnation, 2001 marked the start of a constant decrease in membership.

on customer satisfaction through questionnaires. The results of these strategies will be reviewed in the context of the pay-TV market, but we feel confident that this approach can be generalized to any professional, membership, or subscription services business; e.g. internet service providers, utility providers, telephone services (mobile, long distance…), newspapers, journals and magazines, web-based information delivery, health care, financial services, computing services, insurance.

After pointing out the importance of managing customer churn, this paper describes the model-building process and evaluates different proposed models. Next, the attrition-prevention strategies and the field experiment are described (see Fig. 2). The discussion of the results includes a quantification of profits for the pay-TV company. In addition, the transfer of the benefits of the model to other subscription-dependent industries is highlighted and directions for further research are provided.

2. Customer retention

An understanding of how to manage customer relationships effectively has become an important topic for both academics and practitioners in recent years. Although the concept of relationship marketing is not new, organizations have recently started to focus on identifying and retaining profitable long-term customers.

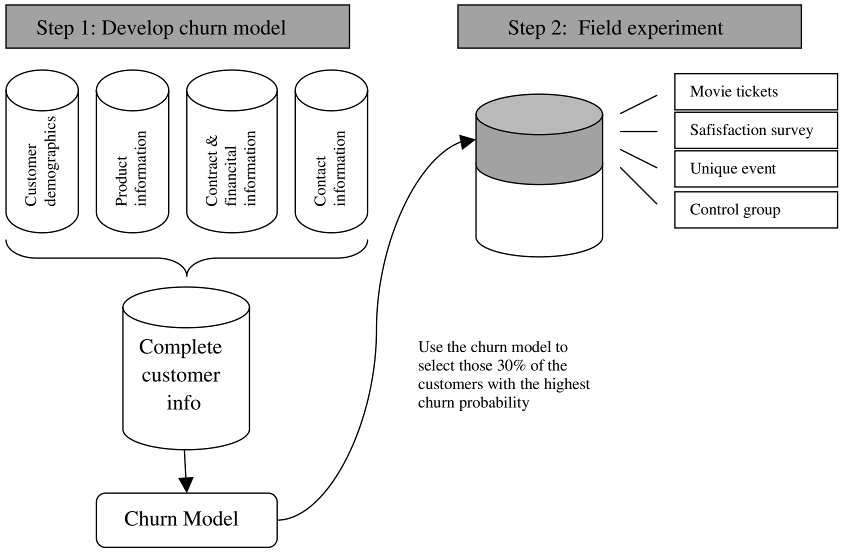
Step 1: Develop churn model
Customer demographics
Product information
Contract & financital information
Contact information
Complete customer info
Churn Model
Step 2: Field experiment
Movie tickets
Safisfaction survey
Unique event
Control group
Use the churn model to select those 30% of the customers with the highest churn probability

Fig. 2. The different steps in developing a churn prevention strategy.

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