Title:
Survival models for combined credit and prepayment risk.

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Abstract:

Prospect value models are increasingly used to focus marketing spend on the most cost effective communication channels and individuals. The accurate estimation of the future lifetime of a customer is a key component in these models. In many real situations the survival of a customer will not follow any of the standard hazard functions making parametric formulations unappealing. In addition the lifetime is often driven by the likelihood of two possible events, default and customer churn/prepayment which may be driven by differing factors at different points in a customers lifetime making a standard Cox's proportional hazards approach systematically wrong.

This presentation describes the application of a range of different survival modelling techniques in estimating the lifetime of Sky TV subscribers. We look in particular at; Cox PH models with time dependent variables, combining separate survival models for credit and prepayment events and finally, quantile survival models. We identify how accurately the different classes of models rank people at different time horizons and in comparison with standard logistic regression scorecards. We present a range of practical diagnostic techniques to determine which survival modelling approach is most effective.