



THE UNIVERSITY OF
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Department of Statistics

MASTER'S THESIS PRESENTATION

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A Bayesian Investigation of Consumers' Heterogeneity with the
Multinomial Logit Brand Choice Model

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ABSTRACT

Since its introduction, the multinomial logit brand choice model has drawn a lot of attention from researchers in the field of quantitative marketing. There have been many alterations and extensions to it over the years, but most works have estimated the model using maximum likelihood. In this paper, I perform a Bayesian implementation of the model instead, for 5 largest brands of the breakfast cereal market using Nielsen Consumer Panel and Retail Scanner Dataset. I also perform a simple Bayesian model selection using Reversible Jump Markov Chain Monte Carlo (RJMCMC) to account for consumer heterogeneity in their price sensitivities due to some demographic variables such as household income and household size. Finally, I estimate the market-level own and cross-price elasticities and their standard errors using the posterior samples from RJMCMC.

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