

# **Hierarchical Bayesian Estimation - Consumers' Change in Recognition and Behavior toward Advertisements by Elaboration Likelihood Model**

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This paper proposes a hierarchical Bayesian Binomial logit model to verify the effectiveness of identification of information processing route via the elaboration likelihood model (ELM). The proposed model evaluates the influence of changes in recognition and behavior of consumers by cue information and the number of advertisement contacts. The concept of ELM leads to the identification of the two information processing routes, but the proposed model identifies also three initial states of advertisement targets. We examined the effectiveness of segment classification by estimating different parameters of 6 segments through a unified model. Analyses were conducted by using two sets of single-source data of two new products in different categories and two data sets of different elapsed time for one of the new products. Four models of different combinations of information processing route/initial states were compared to examine the validity of our proposed model. Our proposed model with six segments were selected as the best model by the information criterion, DIC. This shows that there are statistically significant differences on recognition and behavior changes among different groups in terms of the information processing routes and the initial states.

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