

Understanding the Impact of Substitution and Synergy in Multi-channel Marketing of a New Product Introduction

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ABSTRACT

We develop a multi-channel demand diffusion model for new product introduction. We are interested in obtaining insights on synergistic and substitutive interactions in the presence of word of mouth over a limited horizon and show that they coexist in our model. We formulate the budget allocation problem between channels as an optimal control problem and simplify it by characterizing the optimal temporal allocation of expenditures within each channel. We use the simplified problem to analyze inter-channel interactions. We develop a two-way channel classification based on channel's leverage and demand momentum, and use it to characterize when the interaction of one channel with other channels is driven by the substitution or synergy effects.