A JOURNAL OF THE INSTITUTE FOR OPERATIONS RESEARCH AND THE MANAGEMENT SCIENCES

MARKETING SCIENCE

Volume: 19

Number: 2

Year: 2000

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Manufacturer-Retailer Channel Interactions and Implications for Channel Power: An Empirical Investigation of Pricing in a Local Market

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Abstract

The issue of "power" in the marketing channels for consumer products has received considerable attention in both academic and practitioner journals as well as in the popular press. Our objective in this paper is to provide an empirical method to measure the power of channel members and to understand the reasons (demand factors, cost factors, nature of channel interactions) for this power. We confine our analysis to pricing power in channels. We use methods from the game-theory literature in marketing on channel interactions to obtain the theoretical framework for our empirical model. This literature provides us a definition of power—one that is based on the proportion (or percentage) of channel profits that accrue to each of the channel members.

There can be a variety of possible channel interactions between manufacturers and retailers in channels. The theoretical literature has examined some of these games. For example, Choi (1991) examines how channel profits for manufacturers and retailer vary if channel interactions are either vertical Nash, or if they are Stackelberg leader-follower with either the manufacturer or the retailer being the price leader. Each of these three channel interaction games has different implications for profits made by manufacturers and retailers, and consequently for the relative power of the channel members.

In contrast to the previous literature that has focused largely on the above three channel interaction games, our model extends the game-theoretic literature by allowing for a continuum of possible channel interactions between manufacturers and a retailer. Furthermore, for a given product market, we empirically estimate from the data where the channel interactions lie in this continuum. More critically, we obtain measures of how channel profits are divided between manufacturers and the retailer in the product market, where a higher share of channel profit is associated with higher channel power. We then examine how channel power is related to demand conditions facing various brands and cost parameters of various manufacturers.

In going from game-theory-based theoretical models of channel interactions to empirical estimation, we use the "new empirical industrial organization" framework (Bresnahan 1988). As part of this structural modeling framework, we build retail-level demand functions for the various brands (manufacturer and private label) in a given product category. Given these demand functions, we obtain optimal pricing rules for manufacturers and the retailer. In determining their optimal prices, manufacturers and the retailer account for how all the players in the channel choose their optimal prices. That is, we account for dependencies in decision making across channel members. These dependencies are characterized by a set of "conduct parameters," which are estimated from market data. The conduct parameters enable us to identify the nature of channel interactions between manufacturers and the retailer (along the continuum mentioned previously). In addition to the demand and conduct parameters, manufacturers' marginal costs are also estimated in the model. These marginal cost estimates, along with the manufacturer prices and retail prices available in our dataset, enable us to compute the division of channel profits among the channel members. Hence, we are able to obtain insights into who has pricing power in the channel.

In the empirical application of the model, we analyze a local market for two product categories: refrigerated juice and tuna. In both categories, there are three major brands. The difference between them is that the private label has an insignificant market share in the tuna category. Our main empirical results show that the usual games examined in the marketing literature do not hold for the given data. We also find that the retailer's market power is very significant in both these product categories, and that the estimated demand and cost parameters are consistent with the estimated pattern of conduct between the manufacturers and the retailer. Given the evidence from the trade press of intense manufacturer competition in these categories, as well as the "commodity" nature of these products, the result of retailer power appears intuitive.

(*Channel Power*; *Private Labels*; *Competitive Games*)

Marketing Science © 2000 INFORMS
Vol. 19, No. 2, Spring 2000, pp. 127–148

0732-2399/00/1902/0127/$05.00
1526-548X electronic ISSN