A Choice Model to Predict Influence Strategies in Marketing Channels

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Abstract

This article proposes a theoretical choice model to explain how firms in marketing channels decide to use specific influence strategies to alter the actions of their channel partners. A nested logit model is suggested as the appropriate model to explain the choice of influence strategies. Conceptual justification is provided for the proposed model. The validity of the major assumptions behind the nested logit model in a marketing channel context is explained. Future research directions are discussed, including how the proposed model may be empirically estimated.

Keywords: marketing channels, influence strategies, stochastic choice model, multinomial logit, nested logit

1. Introduction

Firms in channels of distribution use many different types of tactics of influence in their attempts to "get their way" with other channel members (Wilkinson and Kipnis, 1978). When used on a long-term basis to achieve strategic business objectives, these tactics become *influence strategies* (Frazier and Summers, 1984), which form an essential aspect of an organization's way of conducting business. Influence strategies are closely linked to the sources of power possessed by a firm and they may be referred to as "exercised power sources" (Gaski, 1986). Although there are many sources of power, empirical research has concentrated on five which seem to be the most important: reward, coercive, legitimate, referent, and expert power (French and Raven, 1959; Hunt and Nevin, 1974). Therefore, when a firm actually uses the sources of power available to it in order to make another firm undertake certain specific activities which it would not otherwise undertake, the former firm is said to use influence strategies toward the other. The firm which uses the influence strategies is called the *source* firm, and the firm toward which such strategies are used is called the *target* firm (Frazier and Summers, 1984).

Research on influence strategies in marketing channels is important because the amount of influence applied by trading partners is a major determinant of channel member attitudes, morale, and system performance (Frazier, 1983; Boyle *et al.*, 1992). Consequently, a stream of empirical research on intrachannel influence strategies has been reported (*cf.* Frazier and Summers, 1984, 1986; Kale, 1986, 1989; Frazier, Gill, and Kale, 1989; Frazier and Rody, 1991; Johnson, Sakano, and Onzo, 1990; Johnson *et al.*, 1993; Boyle *et al.*, 1992; Leonidou, 2005; Chu, Chang, and Huang, 2012). All the empirical studies, however, have focused on only one end of the source-target dyad: the target. All the studies have measured the target firms' (usually distributors or dealers) perceptions of influence strategy use by the source firms (manufacturers or suppliers) within the channel and how the target firms would react to the various types of influence strategies directed at them by the source firms. This trend in the empirical studies has left a serious gap in the literature: there are no reports on the perceptions of the source firms or how the source firms choose to direct specific influence strategies at the targets. In fact, no theoretical model that would predict how source firms could decide on the use of particular influence strategies is available.

This article addresses the above-described gap in the marketing literature by proposing a theoretical choice model of influence strategy use by source firms in marketing channels. Future research possibilities, including empirical testing of the proposed model, are also discussed.

2. A Choice Model for Influence Strategies

Stochastic choice models have been extensively used in consumer behavior research. In these models, researchers assume that each member of a population purchases according to a given probability of purchase model, but that these individuals vary in terms of their lifestyles, preferences, past purchase behavior, and so on (Lilien, Kotler, and Moorthy, 1992). The probability of purchase also varies according to the level of involvement that a consumer has in the decision-making process as well as according to the context of the purchase situation.

A parallel to these stochastic consumer behavior models can be drawn in the study of interfirm influence strategy use in marketing channels. In the marketing channels in any industry, there are several competing supplier firms (source firms) which may use influence strategies to alter the behaviors of their dealers and distributors (target firms). There will be a certain probability behind the choice of any influence strategy depending on the characteristics of the individual source firms, such as company mission, size, bargaining power, past history of dealings with channel partners, etc. The individual characteristics of boundary personnel (which may vary widely) in decision-making capacities will add to the source firms' organizational characteristics, since the behavioral dimensions of boundary personnel are strong determinants of organizational behavior (Frazier and Sheth, 1985). In addition, the level of involvement in consumer buying behavior is analogous to the nature and intensity of source-target relationship in channel behavior. A source (supplier) firm may have different types of dyadic relationships with its different target (distributors and dealers) firms. These relationships may range from *transactional* or *discrete* to *relational* or *continuous* along a continuum (Kaufmann, 1987; Dwyer, Schurr, and Oh, 1987). In a transactional relationship, exchanges occur on an ad-hoc basis, the relationship has a short-term orientation, interdependence is low, and communication is limited. In contrast, a relational relationship operates on the basis of a long-term orientation, high interdependence, greater communication, and joint planning between parties (Dwyer, Schurr, and Oh, 1987). In a transactional relationship, a source firm is more likely to apply coercive influence attempts whereas, in a relational arrangement, it is more likely to rely on noncoercive influence strategies (Boyle *et al*., 1992). Also, the context of influence strategy use will affect the choice of a particular strategy. For example, in channels where the balance of power between suppliers and dealers is generally symmetrical, source firms tend to apply noncoercive or "soft" influence strategies (Frazier and Summers, 1984). In contrast, source firms in channels where there is a power asymmetry between suppliers and dealers (assuming, as before, the supplier is the source) are more likely to use coercive or "hard" influence strategies (Payan and McFarland, 2005; Frazier, Gill, and Kale, 1989). The theoretical similarities between the mechanism of consumers' brand choice and that of a firm's influence strategy choice in a marketing channel are summarized in Table 1.

Table 1

Comparison of Consumer Brand Choice with Firm Choice of Influence Strategies In Channels
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Consumer Brand Choice	Firm Influence Strategy Choice
1. Consumer chooses a product form, then a brand	1. Source firm chooses a category of influence strategy, then a specific strategy
2. Consumer chooses product form and brand according to given probabilities	2. Source firm chooses category of influence strategy and specific strategy according to given probabilities
3. Consumers vary by lifestyles, past purchase behavior, preferences, involvement, purchase context, etc.	3. Source firms vary by size, bargaining power, past history of dealings with channel partners, nature and intensity of relationship with targets, etc.
4. Consumer wants to maximize utility, utility is random, and choice mechanism is deterministic	4. Source firm wants to maximize chance of altering target's behavior, target's behavior change is random, and influence strategy choice mechanism is deterministic

From the above discussion, it is seen that the situation of a source firm willing to apply influence strategies in a marketing channel is analogous to that of an individual consumer trying to choose a product to purchase. Therefore, the influence strategy choice pattern for a source firm in a marketing channel could be explained using an applicable choice model borrowed from consumer behavior research. To identify a specific choice model that would be appropriate to explain the use of influence strategies, the various types of influence strategies available to firms need to be examined.

3. Classifying Influence Strategies

The most widely used taxonomy of interfirm influence strategies in marketing channels was proposed by Frazier and summers (1984) based on the social psychology literature. Six different influence strategies are identified, of which two seek to alter the target's perception in such a way that it will see the behavior desired by the source of influence to be beneficial to itself. Influence strategies based on altering a target's perception are *indirect*. The other four strategies attempt to influence a target's behavior while giving minimal importance to altering perceptions. These are *direct* strategies. The six influence strategies are described below.

Indirect Influence Strategies:

1) *Information Exchange*. The source discusses general business and operating procedures to try to alter the target's general perceptions of behavior that would be in its best interest. The source does not request or otherwise indicate any specific action by the target.
2) *Recommendation*. The source expresses the need for altered behavior by the target for the latter to maintain or increase desired outcomes (e.g., sales, profits).

Direct Influence Strategies:

1) *Request*. The source simply asks the favor of the target to perform a certain task without implying any subsequent sanctions, positive or negative, for complying or not complying, respectively.
2) *Promise*. In using this strategy, the source offers a specified reward to the target if the latter complies with the source's stated desires.
3) *Threat*. The source informs the target that the failure to comply with its demands will result in negative sanctions. These may be either the loss of something desirable (*e.g.,* withdrawal of incentives) or the receipt of something undesirable (*e.g.,* delayed deliveries, termination of contract).
4) *Legal Plea*. In this strategy, the source expresses that the legal contract between the two parties requires the target to perform the action sought by the source.

It is seen that the decision to apply a particular influence strategy follows a hierarchical model of choice. The source firm first chooses a type of influence strategy, indirect or direct, after which it chooses a specific strategy under that broad category. The decision hierarchy is illustrated in Figure 1.

FIGURE 1

DECISION HIERARCHY FOR INFLUENCE STRATEGIES
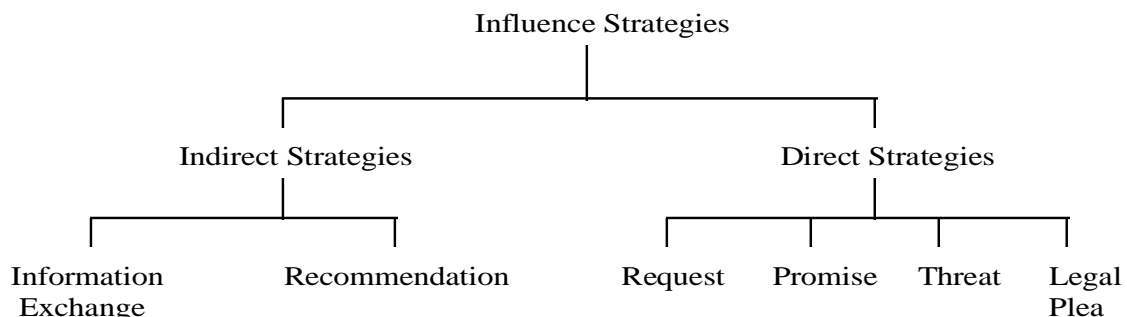
The most commonly applied model for hierarchical decision making in marketing is the nested logit (Lilien, Kotler, and Moorthy, 1992). Following this model in consumer research, the consumer first chooses a product form and then selects a specific brand. Following the influence strategy decision hierarchy shown in Figure 1, the application of the nested logit model to explain influence strategy choice in marketing channels is explained next.

4. The Nested Logit Model

The nested logit model (Ben-Akiva and Lerman, 1985; Lilien, Kotler, and Moorthy, 1992) is a modified version of the multinomial logit model (Malhotra, 1984; Batsell and Lodish, 1981; Gensch, 1985), following which a source firm in a marketing channel would choose an influence strategy which would provide the maximum utility. The utility of an influence strategy may be measured by the extent to which the strategy is able to bring about a change in the target firm's behavior. The utility would be reduced if, in a given situation, the influence strategy fails to change the target's behavior or results in the target's dissatisfaction and possible retaliation (Frazier and Rody, 1991; Frazier, Gill, and Kale, 1989; Chu, Chang, and Huang, 2012) which might happen in some situations when a direct influence strategy of a coercive nature (threat or legal plea) is applied. The choice mechanism of the influence strategy is deterministic as the source firm chooses a strategy based on its own values, policies, perceptions, and subjective evaluations of how it should manage the marketing channel. The utility of the influence strategies, however, undergoes random fluctuations as different target firms react differently to the same influence strategy based on their own perceptions. For example, a threat strategy may make a particular dealer comply with the supplier's demand but another dealer may protest and retaliate (Payan and McFarland, 2005; Bignoux and Gray, 2011). An indirect strategy such as information exchange may change the behavior of a dealer to the supplier's liking, but another dealer with relatively less sophisticated information processing abilities may just be confused and fail to perform the desired behavior. Thus, the choice of influence strategies follows the assumptions of random utility, deterministic choice mechanism, and utility maximizing behavior. These assumptions justify the use of the multinomial logit model.

There is, however, one problem with the multinomial logit model being applied to hierarchical decisions such as choice of influence strategies. This is the assumption of Independence of Irrelevant Alternatives (commonly called the IIA assumption), which states that the relative odds of two alternatives are independent of the attributes of a third alternative (Malhotra, 1984). The IIA assumption is not likely to be satisfied in the hierarchical choice model for influence strategies. Suppose the choice set consists of one indirect strategy, information exchange, and one direct strategy, request, both with the same utility so that they have equal probability (.5) of being chosen. Now, if another indirect strategy, recommendation, becomes available to the source firm having the same utility as the information exchange strategy then, under the IIA assumption, all three strategies will still have an equal probability (.33) of being chosen. This is obviously unrealistic. Since different categories of influence strategies are available, it is more likely that the newly available recommendation strategy will be used more at the expense of information exchange (the other indirect strategy) than at the expense of the request strategy which belongs to another category (direct).

The nested logit model overcomes the problem of the IIA assumption by relaxing it in a hierarchical decision-making situation (Dubin, 1986; Lilien, Kotler, and Moorthy, 1992). It is assumed that the utility that is common to all categories of influence strategies and the utility associated with specific influence strategies can be identified. Then, we have:

(1) $U_{xy} = U_x + U_{y|x}$

where, U_{xy} = utility from choosing category of influence strategy x and specific strategy y

     U_x = utility associated with category of influence strategy x

     $U_{y|x}$ = unique utility of influence strategy y (under strategy category x)

     For the probabilities of choosing influence strategies in the hierarchical model, we may write:

(2) $P_{xy} = P_{y|x} \cdot P_x$

where, P_{xy} = probability of choosing influence strategy y and strategy category x

     P_x = unconditional probability of choosing strategy category x

     $P_{y|x}$ = probability of choosing influence strategy y, given strategy category x

Following the standard derivation procedure for the nested logit model (Lilien, Kotler, and Moorthy, p.104), probability $P_{y|x}$ is given as:

(3)
$$P_{y|x} = \frac{\exp U_{y|x}}{\Sigma_z \exp U_{z|x}}$$

where there are z different influence strategies available under strategy category x.

　　　The equation for the strategy category probabilities is given by

(4)
$$P_x = \frac{\exp \mu[U_x + \ln(\Sigma_y \exp U_{y|x})]}{\Sigma_{x'} \exp \mu\{U_{x'} + \ln[\Sigma_y(\exp U_{y|x'})]\}}$$

where μ is a normalizing constant.

The probability of choosing influence strategy y in strategy category x can be derived by substituting equations (3) and (4) into equation (2). Thus, we have:

(5)
$$P_{xy} = \frac{\exp U_{y|x}}{\Sigma_z \exp U_{z|x}} \cdot \frac{\exp \mu[U_x + \ln(\Sigma_y \exp U_{y|x})]}{\Sigma_{x'} \exp \mu\{U_{x'} + \ln[\Sigma_y(\exp U_{y|x'})]\}}$$

5. *Model Estimation and Future Research*

The theoretical choice model described above needs to be validated by rigorous empirical testing. The experimental design for an empirical study is outlined here. The method calls for surveying source (manufacturer or supplier) firms in an appropriate industry. Previous studies on influence strategies have measured target (distributors and/or dealers) firms' perceptions in diverse marketing channels such as automobiles (Frazier and Summers, 1984), industrial distribution (Frazier and Rody, 1991), replacement tires for passenger cars (Boyle *et al.,* 1992), beer (Simpson and Mayo, 1997), and specialty tools and fasteners (Payan and McFarland, 2005). Any of these industries, among others, may be selected to study the source firms' influence strategy choice patterns. Ideally, the selected industry should be characterized by a wide range of channel governance structures, from *transactional* to *relational* (Dwyer, Schurr, and Oh, 1987), so that source firms typically use different types of influence strategies toward their channel partners (Boyle *et al.,* 1992). The survey respondents will be boundary personnel (typically mid-level managers and representatives) in source firms who are regularly involved in communicating with their channel partners.

The respondents in the source firms are to be asked whether (0 = no and 1 = yes) they use the six different influence strategies in dealing with their channel partners. The 0/1 scheme is to be used since a nested logit model has to be estimated using a choice (0/1) response. Another option is to ask the source firm respondent *how many times* (during the past year, six months, or so) each of the six strategies were used so as to obtain the aggregate frequency of use of each strategy, which is also acceptable in estimating a nested logit model. Two alternative measures of influence strategies are currently available in the marketing literature. The earlier studies (Frazier and Summers, 1984, 1986; Frazier and Rody, 1991) used single-item indicators of the six influence strategies to estimate their use. Later, Boyle *et al.* (1992) proposed more detailed multi-item measures where each influence strategy was described by four to six different items and effectively applied these measures to their empirical study. The multi-item measures are preferred for the estimation of the choice model for greater reliability and validity. Besides the frequency of use of the six influence strategies under the two broad categories (indirect and direct), the respondents would also be asked about their perceived utilities associated with each influence strategy, i.e., whether each strategy is effective (0 = ineffective, 1 = effective) in obtaining the desired outcomes of altered target firm action, greater satisfaction, enhanced financial performance, etc.

Aggregation of the data collected from all the respondents from the source firms will then provide the major predictor component of the nested logit model (see equation 5 in the previous section)—the utilities expected from the six influence strategies. The data on the frequency of use of the various strategies relative to one another will provide the probability of use of each strategy. By substituting the numbers thus obtained for the probabilities and utilities in equation (5), one can estimate the normalizing constant μ. Once the normalizing constant is estimated, the model can be applied to predict the influence strategy use by source firms. It should be noted here that because of environmental differences among marketing channels in various industries, μ is likely to vary from industry to industry. Caution should, therefore, be exercised in applying the model across industries.

Empirical research on influence strategies in marketing channels so far has measured the perception of target firms only. The proposed model can be, alternatively, estimated with survey data from boundary personnel in target firms who regularly communicate with the representatives of source firms. Such estimation will be limited by the fact that the model will then predict the choice of influence strategies by source firms as *perceived* by the target firms rather than directly predicting as per the expressed *intentions* of the source firms themselves. However, it may sometimes be more convenient to survey target firms (distributors or dealers) as there are more of them than source firms (manufacturers or suppliers). In this case, the survey will ask target firms their perceptions regarding how often their sources use the six influence strategies and to what extent the target firms consciously alter their action (which would measure the utilities) in response to the source's influence attempts. The resultant data can be used in the model in equation (5) as before.

So far, it has been assumed that manufacturers and suppliers in a marketing channel act as source firms and distributors and dealers are the target firms. While this may be true in many industries, retailer power has significantly increased in many channels (Stern, El-Ansary, and Coughlan, 1996, p. 64; Leonidou, 2005) particularly those for packaged goods, over the years. This means that large retail institutions in these channels may be using more influence strategies to alter the actions of their supplier firms than vice versa. Therefore, future research on predicting choice of influence strategies might concentrate on surveying retailers as source firms.

The proposed choice model should also be tested in overseas marketing channels in the future. The available empirical studies on influence strategies in foreign markets (Frazier, Gill, and Kale, 1989; Johnson *et al.*, 1993; Kale, 1986, 1989; Kazemi, Keskar, and Esmaeili, 2010; Mandal, Bandyopadhyay, and Roy, 2011) indicate that the influence strategy usage patterns in foreign marketing channels are quite different from those in the domestic channels due to the differences in environmental factors. It will be interesting to see whether and how well the proposed nested logit model can predict the use of influence strategies in international marketing channels.

6. Conclusion

In this article, a nested logit model is proposed to predict how firms in marketing channels may choose influence strategies to alter the actions of their channel partners. The focus is on examining the appropriateness of the nested logit model given the hierarchical decision-making involved in the choice of influence strategies and the applicability of the major assumptions for the model in a marketing channel environment rather than the mathematical derivation of the nested logit model itself which has been adequately reported in the literature (Lilien, Kotler, and Moorthy, 1992; Malhotra, 1984; Dubin, 1986). It appears that the nested logit model is well-suited to predict the choice of interfirm influence strategies and, consequently, to predict the relative use of the various influence strategies in marketing channels. Methods to empirically test the proposed model are suggested, and future research directions are also discussed.

The choice model could be of particular interest to dealers and distributors who are contemplating to enter a marketing channel and select their suppliers, or who are being actively recruited by suppliers. The dealer or distributor (the potential target firm) will be able to get an idea of how its supplier might try to influence its actions and whether it would be compatible with these influence strategies. Source firms entering a channel (manufacturers or suppliers) could also use the model to learn the norms regarding various types of influence strategy use in that industry and the associated utilities (outcomes), and that could assist them in strategy building. A lot of research has been done in measuring target perceptions of influence strategies. An in-depth look at the choice of influence strategies from the source's perspective will help complete the other half of the story.

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