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Multiple-Category Decision-Making: Review and Synthesis

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Abstract

In many purchase environments, consumers use information from a number of product categories prior to making a decision. These purchase situations create dependencies in choice outcomes across categories. As such, these decision problems cannot be easily modeled using the single-category, single-choice paradigm commonly used by researchers in marketing. We outline a conceptual framework for categorization, and then discuss three types of cross-category dependence: cross-category consideration cross-category learning, and product bundling. We argue that the key to modeling choice dependence across categories is knowledge of the goals driving consumer behavior.

Key words: Multiple-Category Choice, Consideration Sets, Cross-Category Dependence, Product Bundling, Market Baskets

1. Introduction

A teenage boy is deciding whether to use his savings to buy a mountain bike or a video game system. Back home, the boy's mother is debating whether she should place an order for a fax–printer–copier combination unit for her home computer. At the local hardware store, the boy's father is considering whether to purchase hanging flowers, having already placed a can of latex paint and a paint sprayer in his shopping cart.

Each of these scenarios provides an example of choice tasks in which the consumer must process information about alternatives in more than one product category prior to making a decision. The boy is basing his decision upon a consideration set which crosses category boundaries. The mother's decision to buy a fax–printer–copier all-in-one machine depends upon how she values a cross-category product bundle. Moreover, her decision may also depend upon her prior experience with other types of computer hardware and upon how many of her business associates already own fax machines. The father's goal of home improvement links choices in two categories: the purchase of one product (hanging flowers) is more likely because of the prior decision to purchase materials (paint and sprayer) to paint the exterior of the home. Although each of these examples is quite realistic, none fits neatly into the single-category, single-choice paradigm which dominates much of the choice literature in marketing.

Conceptually, we define multiple-category choice as a decision process in which the choice of one product or brand is affected by the presence of another product in a different category. Multiple-category choice assumes that high-level consumption goals (such as a desire for entertainment) prompt the consumer to examine information on products in a variety of different categories at some stage of the choice process. In contrast, single-category choice assumes that consumption goals are so specific that the consumer is content with selecting one item from a set of narrowly-defined substitutes (such as different brands of ground, caffeinated coffee). By taking a multiple-category perspective, the researcher is seeking a richer understanding of the context in which choices are made.

Multiple-category decision-making implies cross-category choice dependence. Such dependence can occur under three conditions. First, items from multiple product categories can be perceived as substitutes for the same consumer need. This leads to a cross-category consideration set from which one choice is made. Second, behavioral variables such as brand recall, attribute learning or attribute preference in one product category can influence the choice process in a different category. In this case, the choice of an item in one category is impacted by consumer experience with another category. Third, items from multiple categories may jointly contribute to fulfilling a consumer need. This scenario leads to the selection of number of different products, each perceived by the consumer to be part of one product bundle. Accordingly, multiple-category choice is defined in terms of the use of information across product categories—not in terms of the number of choices made by the consumer.

Our goal in this work is to provide insights into decision-making which crosses category boundaries. We begin our discussion by defining the concept of a category. We then explore three different types of cross-category choice dependence: cross-category consideration, cross-category learning and product bundling. This general theory is used to

develop a research agenda for multiple-category decision-making. We argue that the key to developing realistic models of multiple-category choice is knowledge of the goals driving consumer behavior.

Concept of categorization

Categorization is an important aspect of cognitive behavior which enables consumers to simplify decision-making. Although the cognitive psychology literature has concentrated on the mental representations of categories and the ensuing information-processing implications (see, e.g., Alba and Hutchinson, 1987; Barsalou, 1991; Murphy and Medin, 1985; Rosch et al., 1976; Rosch, 1978; Smith and Medin, 1981), little work has focused on the key issues of why categories form and how categories evolve over time. We consider a framework for category formation that incorporates psychological research by Barsalou (1991) and consumer behavior research by Ratneshwar, Pechmann and Shocker (1996).

Substantial numbers of consumers often have common needs or purposes, in part because they share the same set of biological, economic, and socio-cultural influences. Producers respond by creating and marketing appropriate products. Early in the product life cycle, one or more firms are likely to promote consumer learning of the product category by deliberately labeling it (e.g., compact disc players, wine coolers) to make its primary purpose clear and also to differentiate it from other products (e.g., cassette decks, beer) that serve the same general need or purpose. The results of these supply-side efforts are groupings of products that share various surface features as well as labels.

Notwithstanding, strong arguments can also be made for a more constructive, flexible, and goal-driven view of categorization. First, there is considerable evidence that consumer motives and goals (e.g., to always eat healthy foods, to buy a birthday gift for one's spouse), in general, may be an important factor in determining consumers' mental representations of products (Barsalou, 1985; Loken and Ward, 1990; Ratneshwar et al., 1996; Ratneshwar and Shocker, 1991). Second, category representations may be surprisingly flexible because they may be contingent on the goals that are salient in any given usage situation or context (Barsalou, 1991; Ratneshwar and Shocker, 1991). For example, Ratneshwar and Shocker (1991) found that category typicality judgments made in the context of specific product usage situations ("Snacks that people might eat at a Friday evening party while drinking beer") were significantly different from judgments made in response to simple category cues ("Snack foods"). Apparently, the contextual information had framed consumers' perceptions by focusing their attention selectively on situationally-relevant aspects of products (in this case, whether a snack is salty, crisp, easily divisible, and convenient for eating at a party).

In mature product-markets, many different product categories may coexist to serve the same general consumer need (e.g., both subcompacts and pick-up trucks can provide personal transportation). A key reason for such proliferation of product categories is that producers face technological barriers to optimally serving multiple, specific consumer goals. A second key factor is heterogeneity in preferences across consumers or households

in the importance they attach to different goals or desired benefits. Given technological constraints and consumer heterogeneity, producers create, label, and position different product categories so as to optimally serve disparate consumer goals (Ratneshwar et al. 1996). In such cases, consumers are likely to perceive that alternatives in the same category deliver only on certain goals and that options in different categories have negatively correlated attributes. For example, consumers may discern that subcompacts afford fuel efficiency but not off-road driving, and they may perceive the opposite for four-wheel drive vehicles. As we discuss later, the perception of negatively correlated attributes is critical for cross-category consideration.

The implication of this research is that nominal category definitions may not align well with the goals consumers bring to a purchase decision. Although categorization helps consumers process information and learn about new products, nominal classification will not determine the scope of the choice process in every instance. For this reason, dependence in choice across product categories should be observed in many settings.

Cross-category choice dependence

There are a variety of ways in which choices across different product categories may be linked. The taxonomy presented in Table 1 identifies three key types of dependence: cross-category consideration, cross-category learning and product bundling. In this taxonomy, we implicitly define a category as a set of items, each of which is a close substitute relative

Table 1. Types of Cross-Category Dependence

Type of Dependence	Description	Examples
Cross-Category Consideration	• More than one product category satisfies consumption purpose • One choice outcome	• Apples and granola bars as health snacks • Books and movies as alternative entertainment choices
Cross-Category Learning	• Choice in one category influenced by possession, experience, use, or marketing activity of products in other categories • Multiple choices in sequence over time	• Bicycle ownership stimulates interest in motorcycles • Judgment of television picture quality influenced by experience with movies • Use of Scott paper towels creates favourable attitude toward Scott facial tissues
Product Bundling	• Products in multiple categories must be purchased and used in combination to provide desired benefits • Bundle selection	• Computer hardward and software • Portfolio of magazine subscriptions • Shopping basket in grocery store

to a consumer's consumption utility. It is important to note that a multiple-category decision task *need not* involve multiple choice outcomes. Moreover, even if multiple choice outcomes are present, all choices *need not* be made during the same choice occasion. However, in each instance, the probability of choosing a product in one category is affected by the presence of products in other categories. We briefly discuss the three types of dependence below.

Cross-category consideration

There are many situations where the consumer's purpose can be satisfied with a single product. However, a large number of product categories (and many options or brands within each category) could possibly satisfy the purpose—thus, making products in multiple categories potentially substitutable (Srivastava et al. 1984). Consider choice situations where many alternatives are available (both within and across several product categories) that broadly satisfy the purchase purpose. Given the usual information-processing demands, it is unlikely the consumer will give serious consideration to *all* available alternatives. Instead, much research suggests a two-stage choice process in which the consumer rapidly narrows his or her attention to a small set of alternatives in the choice environment (Gensch, 1987; Hauser and Wernerfelt, 1990; Hutchinson et al., 1994; Nedungadi, 1990; Ratneshwar and Shocker, 1991; Ratneshwar et al., 1996; Roberts and Lattin, 1991). The final choice is made from this set after more detailed consideration of the alternatives, often after updating the set on the basis of new information and memory cues (Nedungadi, 1990; Shocker et al., 1991).

Given that the choice possibilities encompass many product categories and that the consumer follows a two-stage choice process, what is the likelihood of cross-category consideration? Ratneshwar et al. (1996) suggest the answer depends on the specific manner in which the consumer goes about constructing the consideration set. Consumers who use choice heuristics such as an elimination-by-aspect (EBA) may follow a hierarchical choice process: they are likely to eliminate all categories other than the one from which the consideration set will be constructed (Hauser, 1986; Howard, 1977; Tversky and Sattath, 1979). If so, obviously, cross-category consideration should then be low.

However, Ratneshwar et al. (1996) demonstrate that there are at least two conditions in which consumers do not engage in strict hierarchical processing, thereby generating consideration sets which include multiple categories. First, consumers may suffer from goal ambiguity: they may recognize a general need or consumption purpose, but they simply may not have well-defined goals and preferences at the level of specific product benefits or attributes. For example, choosing a restaurant to satisfy the preferences of several people will involve goal ambiguity if the decision maker does not know the tastes of the different people involved. Second, even when consumers have clear goals, goals may be in conflict. Ratneshwar et al. (1996) show that in goal conflict conditions, consumers often construct heterogeneous consideration sets that include negatively-

correlated alternatives from different categories, thereby deferring conflict resolution to the final choice stage.

Finally, the nature of the choice environment may also be conducive to cross-category consideration. There are at least two reasons for this. First, constraints on the number of available alternatives (e.g., a restaurant with a limited selection of entrees) may force consumers to engage in consideration and choice across multiple categories (Johnson, 1989). Second, the visual configuration of choice alternatives (in a restaurant menu, retail store display, mail order catalog, or Web site) may juxtapose multiple, competing categories and thus prompt cross-category consideration. However, empirical evidence on these effects and on variables which moderate these effects is sparse at this time.

Cross-category learning

Cross-category choice dependence can also be induced by learning drawn from earlier choices. For the present discussion, we focus on changes in the consumer's cognition and affect due to prior possession, experience or use of products in other categories. For example, the purchase of a music CD player may increase the likelihood of subsequently purchasing a piano because the use of the CD player stimulates renewed interest in music. In an analogous fashion, ownership of a limited function product (such as a pager) may increase interest in a more enhanced product (such as a cellular telephone) because the user has learned to appreciate the core benefits both provide. In such cases, cross-category choice dependence can be thought of as a series of sequential choices across different categories—each choice outcome affecting the next choice decision. Although the researcher may be interested in only predicting the outcome of the most recent choice, learning effects make it desirable that the impact of earlier choices be explicitly captured in the choice model.

A number of different models that capture cross-category learning can be found in the marketing literature. Brown, Buck, and Pyatt (1965) provided empirical evidence of a *priority pattern* to the acquisition of consumer durables (e.g., a washing machine is acquired before a dryer, and a refrigerator is acquired before a dishwasher). Kamakura, Ramaswami and Srivastava (1991) used a variant of latent trait theory to show that financial instruments (such as savings accounts and stocks) are ordered along an underlying scale of financial expertise. The presence of less sophisticated financial instruments (savings accounts) in the portfolio makes the consumer increasingly likely to select more sophisticated financial instruments (stocks) in the future. More recently, Erdem (1998) analyzed cross-category brand effects using an econometric representation of consumer search. She showed that the past purchase experience with a particular brand of toothpaste has a positive impact on a subsequent purchase of the same brand's toothbrush—and vice versa. As might be expected, she also found negative cross-category effects between one brand's toothpaste and another brand's toothbrush.

An interesting learning model in a retail grocery setting was developed by Harlam and Lodish (1995). These authors posit the existence of a global utility function which allows different purchases (different flavors of powdered beverages) to contribute to an overriding

goal (ideal portfolio of flavors). In this model, the string of purchases (both within and across shopping trip) creates a temporally-expanding bundle which is always guided by the consumer's global utility function. Consequently, the probability of making the next purchase for any particular product depends upon the set of powdered drinks which have already been purchased. Although the Harlam and Lodish (1995) application appears in a single category setting, it is clear that the logic of the procedure can be extended to multiple-category applications. Such applications, however, would require that the researcher identify a global utility structure to allow utility comparisons across categories (Johnson 1989).

An important new application of learning models involves the forecasting of multiple-category technological products. Kim and Srivastava (1995) integrated the two concepts of repeat purchase and multiple product generations using a dynamic choice model where generations are dealt with as brands to be selected and the choice is permitted repeatedly over the time periods. Their model captures the probability of leapfrogging behavior (choosing the purchase postponement option) for each individual consumer at every choice event. This model not only incorporates the influence of concepts such as product obsolescence and customer expectations, but also predicts the timing of initial, repeat, and technological upgrading purchases.

The work of Kim and Srivastava (1995) is a micro-level approach consistent with the Norton and Bass (1987) notion that newer generations always substitute for older ones. Efforts at including more comprehensive inter-category dynamics into multiple-category growth models have been made by Kim, Chang, and Shocker (1998). They relaxed the assumption of inter-generational relationships in Norton and Bass (1987) and suggested a model which deals with both inter-category and technological substitution effects. In an application to the wireless communication industry, these authors found evidence of asymmetric cross-category effects. Further discussion of learning models in technological diffusion research can be found in Bayus, Kim and Shocker (1998).

Product bundling

Probably, the most intuitive form of cross-category decision-making is product bundling. Product bundling is defined as a choice process which results in the selection of two or more non-substitutable products. Bundles are formed for a variety of reasons: several complementary products are combined to produce desired benefits (e.g., camera and film), variety in long-run consumption is valued (e.g., portfolio of magazine subscriptions), or transaction costs are lowered by buying several products simultaneously (e.g., basket of purchases at the grocery store). Consumers may be called upon to accept or reject a bundle of items previously assembled by a merchant (e.g., a customized hi-fi system comprised of components from different manufacturers), or consumers can examine products category by category and create a personalized bundle (e.g., the final shopping basket in a retail grocery setting).

Product bundling models are distinct from learning models for two reasons. First, bundles are often assembled on a single purchase occasion. Second, even if the bundle is

constructed by the consumer, the *order* in which the various items in the bundle are chosen may not be observed. In many cases, the researcher understands less about the consumer choice process in product bundling than in learning models. As will be seen, this ignorance impacts the types of models which may be constructed to represent bundle selection.

Research on product bundles in the marketing literature is surprisingly sparse. Early work by Farquhar and Rao (1976) developed the Balance Model, a general global utility function which can be used to link the choices of the items within a bundle into a coherent whole. Under the Balance Model, the decision maker selects items for a bundle both to maximize the average *value* of certain attributes and to maximize the *variance* of other attributes. Related work by McAlister (1979) tested models of attribute satiation (choice of a portfolio of magazine subscriptions) and attribute balancing (determining the portfolio of colleges to which a student might apply) using human subjects. She found substantial evidence for cross-item choice dependence in each of these tasks. Additional evidence for choice dependence in a bundle selection task can be found in a conjoint analysis procedure developed by Green, Wind and Jain (1972).

The focus on understanding the consumer's global utility function is also prominent in the consumer behavior literature. Yadav and Monroe (1993) argue that consumer evaluation of a bundle depends upon how consumers frame the problem—that is, whether the problem is viewed from the perspective of segregation or integration of multiple gains (i.e., multiple items in the bundle). Research has shown that consumers combine information about items in a bundle through an averaging process characterized by subadditivity (Gaeth et al., 1991; Gaeth et al., 1996). Moreover, bundles are evaluated more highly when the consumer plays a role in bundle creation (Gaeth et al., 1996).

An important new application in the product bundling literature is market basket analysis. Simply put, market basket analysis is a generic term for methodologies which study the composition of the basket (or bundle) of products purchased by a household during a single shopping occasion (Russell et al., 1997). Interesting applications in this research stream emphasize *affinity analysis*, the development of marketing policies (such as store layout) according to the coincidence of pairs of items in a market basket (Lattin et al., 1996; Brand and Gerristen, 1998); *electronic couponing*, the tailoring of coupon face value and distribution timing using information about the household's basket of purchases (Catalina Marketing 1998); and *on-line shopping*, the prediction of consumer behavior in Internet grocery store environments (Degeratu, Rangaswamy and Wu, 1998).

Recent research in the market basket literature studies cross-category correlations in preferences (Russell and Kamakura, 1997), choice inertia (Ainslie and Rossi, 1998b) and market mix response (Bell, Chiang and Padmanabhan, 1999; Ainslie and Rossi, 1998a; Bell and Lattin, 1998). However, the most relevant work for our discussion addresses the interrelated problems of store choice and market basket forecasting. Bodapati and Srinivasan (1998) use a nested logit framework to determine the effect of store advertising on consumer store choices. These authors find that the effect of feature advertising for the basket is significant, but only about 20% of consumers appear to be influenced by this type of retailer activity. Bell, Ho and Tang (1998) use market basket data to analyze consumer store choices and explicity consider the role of fixed (shopping list independent) and variable (shopping list dependent) costs in determining store choice. In both models,

consumers first assign a utility to an anticipated market basket, and subsequently use this utility to determine store choice.

Market basket forecast models predict the distribution of baskets which will be observed under various marketing mix conditions. Russell and Petersen (1998), drawing upon the theory of spatial statistics (Besag 1974, Cressie 1993), develop the multivariate logistic (MVL) basket model in which the utility for a basket (b) is given by the general expression

$$U(b) = \sum_j \beta_i X(i, b) + \sum_{i<j} \beta_{ij} X(i, b) X(i, b)$$

where $X(i, b) = 1$ if category i is in basket b (and $X(i, b) = 0$ otherwise), and the β parameters are utility weights estimated from the observed choice behavior. Interpreted from a consumer behavior perspective, this model is a first order approximation to an arbitrary bundle utility function defined over all elements of the market basket. In contrast, Manchanda and Gupta (1997) use a multivariate probit (MVP) model to understand how marketing activity in one product category influences the purchase incidence decision in another category. The MVP model can also be regarded as a statistical tool to infer the properties of an unknown, multiple-category utility function. Both models are able to distinguish true product complementarity from purchase co-incidence (in which categories are simply bought together for unobservable reasons). In empirical applications, both models detected complementarities among commonly purchased grocery items.

Directions for further research

Although the various types of cross-category dependence are diverse, they all provide mechanisms by which multiple-category information can enter into the choice process. Research on cross-category consideration examines the early stage of the choice process when the decision problem is being framed relative to consumer goals. In contrast, research on cross-category learning and product bundling examines characteristics of the utility function formed to make a decision relative to a given consideration set. Below, we use this process view of cross-category dependence to structure our discussion of research opportunities in multiple-category decision-making.

Cross-category consideration

Because nominal product categories are somewhat arbitrary and consumption goals are varied, it should not be surprising that consideration sets may span different categories. As discussed earlier, work in this area has documented the existence of cross-category consideration sets, and has attempted to identify variables (negatively-correlated attributes, goal ambiguity, and goal conflict) which favor the formation of cross-category consideration sets. The emerging view is that cross-category consideration sets are a powerful

reflection of how consumers frame decision problems in complex choice environments (Shocker, Kim and Bayus, 1999).

Future work in this area should continue to build a conceptual framework for studying cross-category consideration. Given the evident importance of consumer goals in multiple-category decision-making, more work studying goal characteristics would be useful. For example, it is possible that lack of product expertise is an important contributor to goal ambiguity (see Bettman and Sujan, 1987). Goal ambiguity could also arise when the decision-maker does not know fully the preference structure of the final consumer (e.g., gift-giving situations). Alternatively, goal ambiguity may be the outcome of low involvement in a purchase situation or even variety-seeking tendencies. All these variables may be determinants of cross-category consideration due to their association with goal ambiguity. Similarly, goal conflict and its consequent cross-category consideration may be more prevalent in high involvement buying situations or when consumers face tough budget allocation decisions. Research of this sort will aid in the development of a contingent theory of cross-category consideration.

Choice modelers should also examine marketing variables which alter perceptions of nominal product categories or suggest consumption goals. Ideally, research would examine both the manufacturer and retailer roles in stimulating cross-category consideration. For example, Nedungadi's (1990) provocative demonstration that choice may be affected by cueing recall while not affecting preferences suggests an interesting proposition about how advertising exposure prior to a memory-based choice situation can affect choice between categories. Every advertisement for a branded product also acts subtly as an advertisement for the benefits provided by the nominal product category to which the brand belongs. Accordingly, when products such as Coke and Pepsi advertise, the advertising message may alter the extent to which the category (sugared, caffeinated cola) is perceived as a possible solution to a particular consumption situation (such as drinks appropriate for breakfast). More research is needed on how advertising and other cues under management control affect decision framing and thereby influence the amount of cross-category consideration.

From the retailer perspective, the environment at the point of purchase can potentially influence the tendency to make comparisons across product categories. By positioning competing products near or away from one another, retailers can invite or inhibit comparisons. An open question is whether changes in the store layout affect the likelihood of a consumer constructing cross-category consideration sets. If so, does this effect occur solely due to proximity or because the various categories suggest goals to the consumer? Are such proximity effects confined to low-involvement choice situations? Explorations of this sort can shed light on the impact of the choice setting on the consideration process.

Cross-category utility functions

Both cross-category learning and product bundling focus on the specification of utility functions. The literature on cross-category learning has offered a number of explanations for why experience in one category should affect a future choice in another category:

knowledge transfer on key product attributes, affect transfer due to cross-category branding and cross-category use complementarity. In contrast, the product bundling literature has offered theoretical notions of bundle utility structure (maximizing of attribute levels versus maximization of attribute variance, satiation with respect to a global goal, attribute balancing) as well as statistical tools for directly measuring bundle utility (multivariate logit and probit). Taken together, these literatures argue that the utility of a given product must be viewed in the broader context of the consumption goals driving the choice behavior.

Additional work on utility specification should continue to exploit the cross-category learning notion that consumer experience in one category serves as a reference for behavior in other categories. For example, price is a form of cost (benefit) which has been successfully incorporated into choice models using reference dependence. It has been conjectured (but not demonstrated empirically) that other benefits–costs could be usefully modeled by incorporating reference effects into choice models (Hardie, Johnson and Fader, 1993). An open question is how related product categories affect reference points in a given product category more generally. In addition, characteristics of the consumer utility function in one category may serve as reference points for choice in another category. For example, in durable goods marketing, the consumer's perceived risks in relation to the product's future (expected) performance and quality variance are critical factors in decision making (Roberts and Urban, 1988). An interesting question is whether a consumer's risk tolerance in one product category transfers to other product categories.

Research on cross-category learning can be easily applied in the study of cross-category marketing activity. Clearly, a firm's marketing activity with respect to one product may affect buyer perceptions of that manufacturer's other products. Research is needed to help define the relevant other categories affecting buyer decision-making in particular instances. A better theory of the "transfer of preferences" would provide insight into the multiple-category effects of brand name, advertising and other promotion, distribution channel structure, and strategic alliances with other brands or endorsers. The work on brand extensions by Broniarczyk and Alba (1994) is an example of the research opportunities in this area.

Researchers should also continue work on the specification of bundle utility functions. Two general approaches have been advanced to date. The mapping approach is based upon the idea that multiple-category bundles are "non-comparable" choice items which may only be compared using abstract, higher-order attributes appropriate to a given consumer goal (Johnson, 1989; Johnson and Fornell, 1987). Formally, the researcher first links product attributes to benefits, and then links benefits to overall utility (Oppewahl, Louviere, and Timmermans, 1993). In contrast, the sequential approach views bundle selection as sequential choice task in which components are added to the bundle until consumption goals are satisfied (e.g., Harlam and Lodish, 1995; Russell and Petersen, 1998). This sequential approach, which bears some similarities to the cross-category learning literature, effectively imputes a bundle utility function without reference to an explicit mapping of bundle attributes to benefits. Research designed to compare these two approaches could be extremely useful in developing a general theory of utility structure in the context of multiple-category choice.

Conclusions

Perhaps, the most exciting aspect of multiple-category decision-making is that it represents a fresh area for academic inquiry. Essentially, multiple-category choice processes challenge the boundaries of the research analyst's traditional conceptualization of which factors must be included and which factors can be safely ignored in developing choice models. It is our contention that consumers frequently make use of products from multiple categories in constructing choice sets and in making choice decisions. These effects can be both *direct*, in the sense that the choice alternatives involve multiple categories, and *indirect*, in the sense that decision criteria regarding alternatives in one product category are affected by the characteristics of products in other relevant categories. By focusing exclusively upon the single-category, single-choice paradigm, researchers introduce unwarranted simplifications into their work that ignore the richness of consumer behavior and jeopardize the predictive accuracy of choice models.

Note

1. The views expressed in this article are based upon the deliberations of the seminar on "Inter-Category Effects on Consumer Decision making" of the International Choice symposium, July 1998. Professor Allan D. Shocker served as organizer and chair of the seminar. All participants provided position papers in advance of the seminar and contributed to the writing of this article. Address correspondence to: Professor Gary J. Russell, College of Business Administration, The University of Iowa, 108 Pappajohn Business Administration Building, Iowa City, Iowa 52242-1000, phone: (319) 335-0993, fax: (319) 335-3690, email: gary-j-russell-@uiowa.edu.

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