Categorization By Groups

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Categorization is a core psychological process that is central to consumer and managerial decision-making. While substantial research has been conducted to examine individual categorization behaviors, relatively little is known about the group categorization process. In three experiments, we demonstrate that group categorization differs systematically from individual categorization: groups create a larger number of categories with fewer items in each category. This effect is mediated by groups’ larger knowledge base and moderated by groups’ ease in achieving consensus. Moreover, we show that categorization context affects the structure of individuals’ memory and subsequent category membership decisions such as evaluations of brand extensions.

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SESSION OVERVIEW

Consumer researchers have long been interested in individuals’ spontaneous categorization of items into existing or new categories. Consequentially, categorization research in marketing has shown a strong focus on factors that are intrinsic to the consumer (e.g., expertise, risk attitude, motivation, etc.) or, if investigating situational factors, concentrated on processes inherent to the individual consumer (e.g., mood). While unveiling differences between individuals and their way of grouping items is instructive, this focus has also limited our understanding of other important aspects of categorization.

In particular, the effects of retailer provided categories have been largely ignored, even though contextual rather than individual differences are of particular interest to marketers. As most marketers sort their assortment into categories, externally provided categories are ubiquitous and may have important effects on consumers’ decisions. As such, how the environment is structured seems to be a very important yet underresearched factor in this area. Our session bridges this gap, investigating the genesis of external categories provided in the marketplace and shedding light on how consumers are affected by different externally provided category structures.

Findings presented in this session suggest that managers’ group-level interaction may lead to the creation of category schema which systematically differ from how consumers think about the grouped items. This session also suggests that consumers process information differently as a function of the categorizations and groupings they encounter in the marketplace. Finally, differences in external, marketer provided environments are shown to alter product choice and new product adoption.

The work by Hamilton, Putoni and Tavassoli investigates how teams of people develop different, more fine-grained categorization schemes when ordering options than do individual categorizers. As such, teams, representing the combined knowledge of their members, create environments that may not reflect how the average consumer thinks about the category. Subsequently, as this presentation will show, differences in categorization will affect consumers’ new product adoption decisions.

Relatedly, Ulkümen, Morwitz and Chakravarti investigate how differences in the external environment can affect how narrowly individual consumers think about a category. Their work also demonstrates that external environments affect how thoroughly consumers process information and, similar to the preceding presentation, will show how such differences in processing influence new product adoption decisions.

Van Herpen, Diehl and Poynor compare two common ways in which marketers organize assortments for consumers: grouping items with either substitutes or complementary products. Like the preceding presentation, their work shows that differences in the environment can affect the extent of consumer processing and further demonstrates how differences in organization alter consumers’ overall purchase experience.

The three presentations illuminate questions regarding the effects of external categories from diverse and novel angles, spanning different conceptual approaches but converging on a central theme. They investigate how external environments and particularly externally provided categorizations can affect decision processes and ultimately product choice. Taken together, this session provides new insights in the area of categorization that should be interesting to a wide range of researchers, for example, those studying context effects, new product adoption, assortment size and structure, or the effects of retail environments on consumer experience.

EXTENDED ABSTRACTS

“Categorization by Groups”
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Categorization is a core psychological process (Lakoff 1987) that is central to consumer (for a recent review, see Loken 2006) and managerial decision-making (e.g., Porac and Thomas 1990). Consumers’ understanding of categorization schemes helps them navigate retail environments and websites. At a more macro level, product market structure represents a social construction based on consensual categorical knowledge between consumers and producers (Rosa et al. 1999) that coordinates transactional relationships (e.g., Day, Shocker, and Srivastava 1979). Categorization shapes consumers’ product evaluations (e.g., Sujan 1985), and managers rely on categorization for product development (Griffin and Hauser 1993) and product positioning decisions (Cohen and Basu 1987).

In many of the situations described above, categorization may be performed by groups of consumers or managers (e.g., a family deciding on a vacation destination or a product development team categorizing customer needs for a product) rather than by individual consumers or managers. This requires group members to integrate their potentially diverse beliefs about how constructs are related. While a substantial amount of research has been conducted to examine individuals’ categorization behavior, much less is known about how groups categorize constructs. The goal of this research is to understand whether and how the outputs of group categorization processes differ from those of individual processes.

In a series of three studies comparing group and individual categorization of the same items, we find that groups and individuals systematically generate different category structures. Relative to individuals, groups with three or four members create a larger number of categories with fewer items in each category. This effect is mediated by groups’ larger knowledge base and moderated by groups’ ease in achieving consensus. We also show that categorizing concepts either individually or as part of a group affects the structure of individuals’ memory and subsequent category membership decisions such as evaluations of brand extensions.

In our first study, sixty-one participants categorized customer needs for a new product. To compare group and individual performance, we used four measures of category breadth: the number of categories created, the average size of categories, the size of the largest category and the size of the smallest category. As predicted, groups of four members sorted the 48 customer needs into a larger number of different categories (M=10.36) than individuals (M=8.35), F(1,26)=6.99, p<.05, resulting in a smaller average number of customer needs included in each category by groups (M=4.49) than individuals (M=5.96), F(1,26)=7.04, p<.05. Moreover, the average size of the largest group was larger for individuals (M=12.0) than
for groups (M=8.18), F(1, 29)=11.42, p<.005, and the average size of
the smallest group was directionally larger for individuals
(M=2.76) than for groups (M=2.27), p>.28.

In study 2, we examined the underlying process by measuring expertise and the group members’ perceived ease of reaching consensus. Working either individually or in groups of three, 211 participants categorized movies, a category in which we predicted relatively large variation in expertise. As in study 1, groups created more categories than individuals (Mg=9.32 and Mi=7.87, F(1, 108)=7.46, p<.001); created smaller categories on average (Mg=5.64 and Mi=6.56, F(1, 108)=8.69, p<.001); created a smaller largest category (Mg=11.28 and Mi=13.51, F(1, 108)=7.56, p<.001); and created a smaller smallest category (Mg=2.32 and Mi=2.67, F(1, 108)=7.13, p<.001). Moreover, providing evidence for underlying differences in group and individual categorization processes, we found that expertise mediated the effect and consensus moderated the effect. More knowledgeable participants created narrower categories than less knowledgeable participants, just as groups created narrower categories than individuals. In contrast, groups reporting greater ease in achieving consensus performed the task more like individuals, creating broader categories.

Our third study focused on the consequences of categorizing more or less integratively on memory structure and on subsequent categorization tasks such as evaluating brand extensions. One hundred forty participants completed a categorization task either individually or in groups of three. Next, participants evaluated line and brand extensions for three different brands. Because brand extensions require consumers to stretch the parent brand beyond its original product category, we predicted that groups would evaluate brand extensions less favorably than individuals. As predicted, there was no difference in the perceived fit of the line extensions across group and individual conditions (Mg=6.11 and Mi=5.96), but individuals evaluated the brand extensions (M=3.98) more favorably than groups (M=3.11), resulting in a significant extension type by social context interaction, F(1, 68)=7.01, p<.01.

The results of these studies show that whether individuals work alone or in groups systematically affects the way they categorize the same set of items. In all three studies, groups categorized less integratively than individuals, creating a larger number of narrower categories. We provide direct evidence for the mechanisms responsible for the effect of social context and provide insight into its consequences.

“The Effect of Exposure to Narrow versus Broad Categorizations on Subsequent Decision Making”

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In this paper we investigate the impact that externally imposed categorizations may have on choices that are made in a subsequent and unrelated decision context. We document a very simple, yet powerful effect: being exposed to a decision context with broad categorizations (e.g., movies classified as comedy or drama movies), as opposed to a decision context with narrow categorizations (e.g., movies classified as comic action, dark comedy, romantic comedy, courtroom drama, historical drama, or melodrama movies), systematically and reliably affects judgments and decisions made in a subsequent and unrelated decision task (e.g., an unrelated grouping task, or a new product adoption decision).

Through six studies, we show that this effect occurs because exposure to narrow (broad) categorizations in a decision context induces a more (less) careful and critical information processing orientation. This change in information processing style has important carryover effects on subsequent, unrelated decisions, by affecting the kind of information that people use as inputs in these decisions. In particular, it affects whether people make their decisions carefully and critically, by taking multiple factors into account, or whether they simple let the more salient cues in the environment guide their subsequent decision making. We observe these carryover effects in basic cognitive behaviors (e.g., grouping tasks, category inclusion decisions), in consumption domains (e.g., new product adoption decisions), and in general decision making strategies (e.g., susceptibility to heuristics).

Specifically, we find that people exposed to narrow categorizations become more critical and meticulous decision makers, basing their evaluations on all available information in the environment. In contrast, people exposed to broad categorizations appear to be less careful, basing their decisions on a few, highly salient dimensions. For example, we found that decision makers exposed to broad categorizations created relatively fewer categories in a grouping task (study 1a), and were more lenient in their category inclusion decisions involving a continuum of Chinese-Caucasian faces (study 1b). Likewise, their new product evaluations were also driven by attributes that were made salient by the decision context. Thus, exposure to broad categories led to relatively favorable attitudes towards new products in innovation-salient decision contexts (studies 2-5), but led to relatively unfavorable attitudes in risk-salient decision contexts (studies 4-5). In contrast, exposure to narrow categorizations, led to a more balanced consideration of both innovation and risk, irrespective of which dimension was made more salient in the decision environment (studies 2-5).

In fact, for decision makers exposed to broad categorizations, even difference perceptions were colored by the salient dimension (study 4). As new products became progressively more different from existing products in the market, each unit of increase in the perceived difference of a new product was construed either as an increase in innovation, or as an increase in risk, depending on which of these dimensions was made more salient by the decision context. For these decision makers, in innovation (risk) salient domains, differences were construed as being indicative of innovativeness (risk), and evaluations of the new product became progressively more (less) favorable as the new product was perceived to be increasingly more different from the conventional product offerings on the market. Exposure to narrow categorizations, on the other hand, led to a more balanced consideration of both innovation and risk in interpreting these difference perceptions.

More generally, we also found that decision makers exposed to broad categorizations in the first task, become more susceptible to context effects and decision heuristics in a subsequent and unrelated task (study 6). Specifically, we found that on exposure to broad categorizations in a first decision, decision makers were more likely to use the frequency heuristic, a popular consumer decision heuristic, in subsequent product evaluations and choice tasks. In contrast, exposure to narrow categorizations, led to more compensatory decisions that were invariable across contexts. Given that prior exposure to these broad-narrow categorizations (a) affected a wide variety of subsequent and unrelated tasks, (b) were accompanied by differential affect, mood, completion times, or feelings of task difficulty, and (c) went unreported in the funnel debriefings, it is quite likely that the carryover effects documented in this paper operate outside conscious awareness of the consumer and occur in an automatic fashion.
“Arranged to Distraction: How Categorizing Products with Complements versus Substitutes Alters the Experience of Product Choice”

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Websites such as www.furniture.com organize their assortment either by product type (i.e., dining tables) or by collection (i.e., full dining rooms with tables, chairs, sideboards, etc.). Likewise, clothing stores either present products in sets of substitutes or as part of entire outfits. These examples represent fundamentally different ways in which marketers organize products, in either taxonomic categories or consumption constellations. Although we know that consumers are influenced by the order and format in which alternatives are presented (Diehl, Kornish, and Lynch 2003; Drèze, Hoch, and Park 1994), prior research has mainly focused on sets of substitutes (e.g., Bettman, Luce, and Payne 1998; Simonson 1999) or on purchases of entire product bundles (Harris and Blair 2006; Janiszewski and Cunha 2004). As a result, we know much about the influence of substitute products in an assortment, but relatively little about the influence of categorizing complementary products alongside the target item. Our research posits that external categorization in terms of consumption constellations (Englis and Solomon 1996; Lai 1994) may have both drawbacks and benefits for consumers.

Complementary products can distract consumers who plan to buy a single target product. They may complicate search, as the cluttered environment obscures rapid identification of specific target products (Bravo and Farid 2006). As such, complements may raise the effort involved in shopping simply because they compete for attention (Janiszewski 1998) and thereby increase the difficulty in remembering and comparing target products. For complements to act as distractors it is not necessary that consumers effortlessly search complementary products or consider them at all relevant to their purchase goals (Perruchet, Rey and Hitverd 2006). We predict that the mere presence of complementary items in a display will mentally distract consumers from their target product, therefore increasing decision time and difficulty but not necessarily time spent actively processing complements.

However, organizing targets in consumption constellations may also generate positive outcomes. Compared to substitute-based organizations, consumption constellations may encourage greater visualization of product use (Dahl and Hoeffler 2004; Petrova and Cialdini 2005). Such organizations highlight how the target product can be integrated in a set of complementary products and may stimulate imagery of product use. As a result, we predict that consumers’ satisfaction with the assortment as a whole should be higher when items are externally categorized with complements rather than only with substitutes.

In Experiment 1, 82 participants were randomly assigned to either a substitute or a complement organization, in a 2-group design. Stimuli were clothing brochures, with products from 8 taxonomic categories. Participants were asked to choose a shirt. In line with our predictions, participants in the complement condition experienced higher decision effort, more difficulty to grasp the selection, and more confusion than participants in the substitute condition. Still, consistent with our predictions, they thought that the assortment was more attractive.

Experiment 2 examined whether increased effort in complement organizations could be attributed to greater physical distance between target products. Does the act of flipping pages to view different consumption constellations explain this increase in effort? 92 participants were asked to select a pair of pants from an online assortment containing 8 pairs of pants. Participants were randomly assigned to one of three conditions: substitutes together (the 8 pairs of pants all displayed on 1 screen), substitutes separated (one pair of pants on each of 8 screens), or complements (8 pairs of pants displayed on 8 screens surrounded by complementary products). The computer captured time measures as well as subjective responses.

Our results suggest that the physical separation of items in complementary sets cannot explain the decision difficulty found in Experiment 1: Decision times were significantly longer in the 8-page complement than the 8-page substitute condition, where page distance was objectively equal and only the organization changed. Interestingly, differences in decision time were not driven by consumers actively examining complementary products, but rather by them spending more time looking at consumption constellations overall. As in Experiment 1, individuals shopping in complementary sets consistently took longer deciding and reported greater decision difficulty. Yet, such sets also generated greater assortment satisfaction and were seen as more inviting.

A third study investigates differences in the underlying psychological processes triggered by complement as opposed to substitute based organizations. Preliminary results suggest that complement organizations prompt consumers to engage in more extensive visualization while substitute presentations impair such thoughts.

As a whole, our research shows that in the presence of a well-defined purchasing goal, external categorizations that group complementary products alongside the target product can have both adverse and beneficial outcomes. Marketers may want to adopt such complementary sets because they seem inviting and engaging to consumers. However, they should also be aware that although consumers spend more time deciding, they do not engage in more detailed examinations of either target products or complements.

REFERENCES


