IS IT WORTHWHILE FOR A BRAND TO ELIMINATE OVERPACKAGING?
NEW INSIGHTS FROM CONTEXT EFFECTS

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Abstract: Comparing an overpackaged product with a non-overpackaged product, experiments have shown that eliminating overpackaging may have an influence on brand image and consumers’ purchase intention. However, these experiments did not consider the potential effects of competitors’ strategies in terms of overpackaging when evaluating the impact of a target brand decision to eliminate overpackaging. In the present paper, we draw on context effects and attribution theories to consider that the influence of overpackaging elimination on consumers’ response may depend on the absence vs. presence of overpackaging on the competing product. An experiment conducted on 218 consumers demonstrates that overpackaging elimination will only be interrogated and attributed to low quality (1) when non-overpackaged products cohabit with overpackaged ones in the store shelves and (2) by non-environmentally concerned consumers. These results bear recommendations for public policy makers and for CSR sensitive companies.

Keywords: Consumer behavior; Overpackaging; Context effects; Attribution theory

LES MARQUES ONT-ELLES INTERET A SE DEBARRASSER DE LEURS SUREMBALLAGES ?
ANALYSE DES EFFETS DE CONTEXTE


Mots clés : Comportement du consommateur, Suremballage, Effets de contexte, Théorie de l’attribution

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Introduction

Companies have been increasingly encouraged through governmental measures to reduce the environmental impact of their packaging. A European directive (adopted on 1994 and amended in 2004) states that ‘the best means of preventing the creation of packaging waste is to reduce the volume of packaging’. Manufacturers have been working on reducing the amount of their products’ packaging. For instance, Sanex (Colgate Group) has developed a shower gel refill which contains less plastic. Unilever has launched new compressed deodorant aerosol cans with less aluminum, leading to a decrease in the carbon footprint of each can. Danone has removed overpackaging for each set of four Activia and Taillefine yogurts, leading to save tons of cardboard. The case of overpackaging, i.e. overpackaging surrounding the product without any grouping of primary units, is emblematic of the battle against environmentally unfriendly packaging since it serves marketing functions (attractiveness, information) rather than technical (Monnot, Parguel and Reniou, 2015). Overpackaging is indeed considered as superfluous because it consumes resources and generates waste (Elgaaied-Gambier, 2014). While many brands currently engage in overpackaging elimination programs, others are still reluctant to commit to such a policy because overpackaging facilitates product transportation, protection and hygiene. The lack of certitude on overpackaging elimination impact may explain such a heterogeneity in current strategies. To address this question, Monnot et al. (2015) studied the impact of overpackaging elimination on private labels. They showed that eliminating overpackaging has a negative influence on perceived quality and convenience for mimic private labels. No such effect appeared for generic private labels’ image: the consumer attributes the absence of overpackaging to a coherent decision by the retailer to reduce costs. Nevertheless, in the experiment conducted in this research, participants were only exposed to one yogurt pack, overpackaged or not, and not to a more realistic store shelf displaying different brands, overpackaged or not. As research on consumer choice behavior shows that decisions are largely influenced by choice context (Bettman, Luce, and Payne, 1998), context effects need to be taken into account in order to understand the psychological mechanisms underlying consumers’ response to overpackaging elimination. The question addressed in this research is the following: in a store shelf context, if overpackaged products are sold among non-overpackaged products, is the evaluation of overpackaged products impacted? In other words, this research seeks to examine how consumers assess non-overpackaged products by taking into account context effects related to in-store competing offers. To do so, we conducted an experiment among 218 respondents based on shelves pictures manipulating the presence vs. absence of overpackaging and the homogeneity vs. heterogeneity of the store shelf context.

Theoretical background

In store, consumers use heuristics to evaluate products in store shelf context to reduce their cognitive efforts and make choices. As they are first exposed to packaging (Orth and De Marchi, 2007) they may use its features (e.g. color, shape, volume) as cues to evaluate products. Previous research actually studied the influence of specific packaging features on perceived product quality and purchase intention (Schoormans and Robben, 1997; Orth et al., 2010). Besides, consumers are sensitive to context effects: they judge an option considering its features but also the features of the other options in the choice set (Drolet et al., 2000). The literature on choice behavior suggests that consumers who evaluate an option tend to put it in perspective with another one, which is considered as a comparison standard. For instance,
Deng and Khan (2009) show that consumers’ perceptions of the graphics of a packaging on a shelf depend on the graphics of other nearby packaging. This reasoning leads to suggest that if overpackaging may be considered as one of the extrinsic attributes consumers use to determine their preference among several products (Monnot et al., 2015), it has to be considered regarding the existence of overpackaging for other products in consumers’ choice set. In this research we simulate two types of store shelf context. A heterogeneous context is formed when the target product is different from the competing product in terms of overpackaging (a target product with [without] overpackaging is placed close to a competing product without [with] overpackaging). A homogeneous context is formed when the target is the same as the competing one (a target product with [without] overpackaging is placed close to a competing one with [without] overpackaging). To study context effects in consumers’ response to overpackaging elimination, we draw on attribution theory (Heider, 1944) which suggests that individuals seek for causes to what they observe in order to avoid cognitive dissonance (Festinger, 1957). Attribution theory has already been used to study consumers’ response to overpackaging elimination (Monnot et al., 2015). It suggests that the presence of overpackaging is associated with better perceived quality products and top-of-the-line brands (Underwood, 2003; Elgaaid-Gambier, 2014) while its elimination may be attributed to a cost reduction and a lower quality. We propose hypothesis H1: the absence of overpackaging on the target product negatively influences purchase intention for the target product.

Attribution theory applies when the situation observed by the individuals creates a cognitive imbalance that is significant enough to motivate them to investigate its reasons. An unusual heterogeneous context in the store shelf may enhance the motivation to investigate the reasons for such a contrast. Traditionally competing goods in the same category are either overpackaged, either non-overpackaged, which leads consumers to perceive the existence of a ‘standard’ in terms of overpackaging strategies. A heterogeneous store shelf context in which overpackaged and non-overpackaged products coexist therefore constitutes an unusual context, while a homogeneous store shelf context constitutes a usual context. Regarding such context effects, attribution theory invites to consider that consumers will be more likely to engage in attribution processes when they face a heterogeneous context than when they face a homogenous context. Conversely, when overpackaging is eliminated on all the products of the store shelf, consumers may be less likely to wonder why overpackaging is missing because they consider that it may be the new standard in the category. Thus, this suggests hypothesis H2: the absence of overpackaging on the target product has a stronger negative influence on purchase intention in a heterogeneous store shelf context than in a homogeneous context.

Environmentally-concerned consumers (ECC) tend to act consistently with ecosystems preservation by buying ‘green’ (Follows and Jobber, 2000; Olson, 2013) or ecologically-packaged products (Schwepker and Cornwell, 1991). The presence of overpackaging can be criticized because it generates a lot of waste. Indeed, consumers consider more and more often the ecological dimension of packaging (Schwepker and Cornwell, 1991; Rokka and Uusitalo, 2008). As they do not have a strong base preference for overpackaged products, ECC may not be sensitive to overpackaging elimination. In contrast, as their main decision criterion is not the environmental impact, non-ECC evaluate more favorably overpackaged products because they are more visible, they are better protected and they supply more information than non-overpackaged products. Therefore, non-ECC will be more sensitive to overpackaging elimination than ECC. We thus postulate hypothesis H3: the absence of overpackaging on the target product has a stronger negative influence on purchase intention for the target product among consumers that are less environmentally-concerned than among consumers that are environmentally-concerned.
Method

The experiment follows a 2 (overpackaging: present vs. absent) by 2 (store shelf context: homogeneous vs. heterogeneous) between-subjects design. Across all conditions, participants were invited to observe a visual representation of a shelf with two French brands of organic yogurts. We chose yogurt as the product category to study because it is a consumer staple with very high penetration in the population (96.7% for yogurts; Nielsen, 2014). It also symbolically embodies the issue of overpackaging reduction. We focused on the organic yogurt market because it is much smaller than the ultra-fresh market in general (only 3% in value) leading to an easier modeling of the store shelf context and because the organic ultra-fresh market is becoming increasingly important in the last years. We chose the two main labels operating on this market: Les2Vaches and Vrai. The visual representations of the store shelf used in the experiment were created with Spaceman Professional, a software program used by manufacturers to develop merchandising plans. Spaceman Professional allowed us to create virtually a retail environment with two brands and produce professional-quality planograms. Data collection was conducted online by a professional market research company among a quasi-representative sample of the French population. Subjects were randomly assigned to one of the four treatments. The respondents had to assess their purchase intention using a single item (i.e. “If you had to choose between one of these two products, what would be the probability that you choose Les2Vaches”). For the purpose of manipulation checks, we asked respondents whether the product they were exposed to was overpackaged and the results showed a significant difference depending on the presence of overpackaging (Chisquare =125.34, p=0.000). We made a filter on the database by erasing all respondents who did not check manipulations. We finally made our analyses on a database including 218 respondents. Preliminary analyses showed that the four groups were homogenous in terms of age (F(3,214)=1.897, ns), gender (χ²(3)=4.197, ns), environmental consciousness (F(3,214)=1.390, ns), price sensitivity (F(3,214)=0.505, ns), purchase frequency (F(3,214)=1.254, ns) and familiarity with the brand (F(3,214)=0.181, ns).

Results

To test our hypotheses, we ran an analysis of variance assessing the impact of the presence of overpackaging on the target product, the presence of overpackaging on the competing product and consumers’ environmental consciousness on intention to purchase the target product. Age, gender, price sensitivity, purchase of the target brand and familiarity with the target brand were included as covariates. As expected the results reveal a positive influence of purchase frequency of the target brand (F(1,205)=3.485, p<.10) and familiarity with the brand (F(1,205)=12.998, p<.05). Our results also highlight a positive influence of consumers’ age, which can easily been attributed to the fact that older consumers are generally more likely than other age groups to consume organic food (F(1,205)=3.548, p<.10). More interestingly, we found a main negative effect of overpackaging absence for the target product on purchase intention (F(1,205)=6.398, p<.05), corroborating H1 and replicating other research conducted in a unique product context (Elgaaied-Gambier, 2014; Monnot et al., 2015). The two-way interaction between overpackaging absence for the target product and environmental consciousness was marginally significant (F(1,205)=3.014, p<.10). Contrast tests showed that consumers that are less environmentally-concerned prefer the overpackaged product (M=5.379) over the non-overpackaged one (M=4.370, t=3.159, p<.01), while highly ECC are not sensitive to overpackaging elimination (M=4.574 vs. 4.389, t=.501, ns). These results corroborate H3. Turning to the test of H2, the two-way interaction between overpackaging absence for the target product and absence for the competing product was not significant (F(1,205)=1.205, p=.274). However, the analysis revealed a three-way interaction
between the three independent variables ($F_{(1,205)}=4.338$, $p<.05$). To go further into the exploration of this three-way interaction, we ran at each level of consumers’ environmental consciousness an analysis of variance of the purchase intention for the target product with the presence of overpackaging on it and the presence of overpackaging on the competing product as the independent variables. For consumers that are less environmentally-concerned, a two-way interaction appeared between overpackaging absence for the target product and absence for the competing product ($F_{(1,124)}=7.741$, $p<.01$). No such interaction effect appeared among highly ECC ($F_{(1,76)}=.680$, ns). To go further, contrast tests showed that consumers that are less environmentally-concerned prefer the overpackaged product ($M=5.608$) over the non-overpackaged product ($M=3.847$) when the competing product is overpackaged ($F_{(1,61)}=21.291$, $p<.001$), but not when the competing product is not overpackaged ($F_{(1,58)}=.133$, ns). These results partially corroborate H2. In summary, our results show that eliminating overpackaging can be detrimental to a brand through a deterioration of consumers’ intention to buy the product. However this negative impact may no longer be true: (1) when competitors are getting rid of overpackaging; (2) among consumers that are highly concerned about the environment.

Figure 1. Interaction effect between environmental consciousness and overpackaging of target product

Figure 2. Interaction effect between overpackaging of target product and overpackaging of competing product

Discussion

This research contributes to the literature on packaging features and their effects on product evaluation. The impact of overpackaging has to our knowledge been scarcely empirically investigated. The literature however suggests that store shelf context plays an important role in consumer perception and evaluation at the point of purchase (Meyers-Levy and Sternthal, 1993; Drolet et al., 2000; Deng and Khan, 2009). Including context effects in the experiment is a major contribution as previous work on packaging usually focuses on one product. Our results show that if one brand wishes to eliminate overpackaging, it should do it only if the competing brand also engages in the same strategy. When the competing product is overpackaged, eliminating overpackaging on the target product results in a significant decrease in purchase intention. This situation echoes game theory and prisoners’ dilemma. Indeed, both brands should decide to cooperate (Axelrod, 1984) and agree to eliminate overpackaging. Cooperation is in the interest of both brands, because when absence of overpackaging is the norm, eliminating overpackaging from the target product will not result in a significant decrease in purchase intention. Besides, eliminating overpackaging would not only reduce manufacturers’ environmental impact but could also result in cost savings. In
terms of societal implications, our findings suggest that public policy makers should regulate the market and encourage all manufacturers to eliminate overpackaging. In the meantime, it might be appropriate to rethink merchandising schemes. Brands that have already eliminated excessive packaging should avoid being placed next to overpackaged competing brands.

This research has some limitations. First, the choice configuration is not entirely representative of a real life situation. Consumers usually make their choice between more than two brands. Second, we focused on two competing mature brands exhibiting an average familiarity. This research could be replicated in another context with very familiar brands or totally unknown brands. New insights may appear regarding non-overpackaged products’ attractiveness, which is a main reason of the hesitations of eliminating overpackaging. Third, this research also focused on the category of yogurts. Replications on other product categories such as toothpaste or cosmetics could be considered because choice mechanisms might be different for these products. Fourth, the choice of organic brands may have introduced a bias in the results as these brands are more likely to consider the green issue of packaging. Finally, it could also be interesting to look at the validity of these results in an online buying context. In this context, consumer responses to merchandising instruments, such as shelf display, might differ from consumer responses in in-store context (Breugelmans et al., 2007).

References


