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### Article A Manager's Toolbox for Consumer-Centric Food Packaging

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# Future of Food Marketing



# A Manager's Toolbox for Consumer-Centric Food Packaging

At the point of sale, packaging is often one of the few means for companies to answer implicit questions that (potential) consumers might have before buying food products. This paper provides a novel toolbox that supports companies in designing consumer-centric packaging that assists consumers in their purchase decisions.

Dr. Eva Marckhgott, Prof. DDr. Bernadette Kamleitner

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Researchers (e.g., Ampuero & Vila, 2006; Underwood, 2003) differentiate between graphical and structural packaging dimensions. Graphical dimensions are purely visual. A large part of previous research has focused on these graphical dimensions. However, packaging is a multisensory concept (Krishna, Cian, & Aydınoğlu, 2017). Structural packaging dimensions engage additional senses apart from vision. Although some structural dimensions (e.g., shape) are well researched, others are poorly understood (e.g., surface).

Table 1 summarizes research on these packaging dimensions. Notably, most research has focused on how companies can design packaging to send specific signals to consumers. But are consumers really just passively receiving the signals that companies mean to send? What is it that consumers seek to know and what packaging dimensions do they look at to get their answers? No previous research has looked at packaging from a consumer perspective. To capture this perspective, the authors applied a qualitative approach that allows for deep consumer insights. They conducted focus groups in which consumers reacted to differently packaged food products. Focusing on the four key structural packaging dimensions material, shape, transparency and surface, the authors identified how these dimensions deliver answers to consumers' implicit questions about food products. Based on these qualitative insights, the authors develop a toolbox that supports companies in their packaging design.

#### Methodology of the Study

Two moderators conducted four focus groups (13 hours of video material, 200 pages of transcript) with a total of 24 participants (75% female (F), 25% male (M); aged 21 to 70) from diverse demographic backgrounds. To approximate real world variations, we exposed participants to 89 stock keeping units from six product categories (see figure 1). We sampled comparable packages that naturally differed in structural dimensions (e.g., sweets in carton box

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versus plastic foil) and established additional variations by manipulating selected packages (e.g., with matte paint).

In several rounds, participants inspected a subset of packages before sharing their spontaneous associations and entering a guided group discussion. The data was thematically analyzed (Braun & Clarke, 2006). The authors first identified and freely coded all sections of the transcript that signaled that the participants had drawn on structural packaging features to fuel product considerations. In an iterative re-coding process, these sections were compressed into 13 implicit questions that participants seemed to pose and answer via structural packaging dimensions. Finally, the authors thematically condensed these 13 implicit questions into seven broader areas of interest and identified which packaging dimensions participants appeared to draw on in order to generate answers to these questions.

#### Results

Table 2 provides the resulting overall toolbox. It documents the implicit questions consumers raised and the seven areas of interest they were condensed into. In addition, it shows which packaging dimensions consumers draw on to answer each question. Note that the order of the areas of interest follows the importance that participants seemed to allot to these considerations. Moreover, the order of structural packaging dimensions roughly reflects how profound the changes in the respective dimension are. The surface structure arguably entails the least profound and most sub-

## Table 1: Packaging Dimensions and Previous Research

	Graphical packaging dimensions
Color	Ampuero & Vila (2006); Ares & Deliza (2010); Becker, van Rompay, Schifferstein, & Galetzka (2011); Binninger (2017); Cavallo & Piqueras-Fisz- man (2017); Deliza, Macfie, & Hedderley (2003); Huang & Lu (2016); Labrecque & Milne (2012); Mai, Symmank, & Seeberg-Elverfeldt (2016); Mead & Richerson (2018); Milosavljevic, Navalpakkam, Koch, & Rangel (2012); Piqueras-Fiszman, Velasco, & Spence (2012); Risso, Maggioni, Olivero, & Gallace (2015); Roullet & Droulers (2005); Schulte-Holierhoek, Verastegui-Tena, Goedege- bure, Fiszman, & Smeets (2017); Seo & Scammon (2017); Silayoi & Speece (2007); Sugrue & Dando (2018); Yanping Tu, Shaw, & Fishbach (2015)
Images	Ampuero & Vila (2006); Binninger (2017); Deliza et al. (2003); Deng & Kahn (2009); Gvili et al. (2015); Hagtvedt & Patrick (2008); Honea & Horsky (2012); Levin & Levin (2010); Madzharov & Block (2010); Pires & Agante (2011); Sundar & Noseworthy (2014); Underwood & Klein (2002); Underwood, Klein, & Burke (2001); van Rompay, de Vries, Bontekoe, & Tanja-Dijkstra (2012); van Rompay, Fransen, & Borgelink (2014); Velasco, Woods, & Spence (2015); Westerman et al. (2012)
Typography	mpuero & Vila (2006); Gmuer, Siegrist, & Dohle (2015); Karnal, Machiels, Orth, & Mai (2016); Lyons & Wien (2018); Schroll, Schnurr, & Grewal (2018)
	Structural packaging dimensions
Material	Herbes, Beuthner, & Ramme (2018); McDaniel & Baker (1977); Steenis, van der Lans, van Herpen, & van Trijp (2018); Steenis, van Herpen, van der Lans, Ligthart, & van Trijp (2017); Yangjun Tu, Yang, & Ma (2015)
Shape	Ares & Deliza (2010); Becker et al. (2011); Deliza et al. (2003); Folkes & Matta (2004); Koo & Suk (2016); Raghubir & Greenleaf (2006); Raghubir & Krishna (1999); Silayoi & Speece (2007); Westerman et al. (2012); Yang & Raghubir (2005)
Transparency	Deng & Srinivasan (2013); Simmonds, Woods, & Spence (2018a, 2018b); Vilnai-Yavetz & Koren (2013)
Surface	Marckhgott & Kamleitner (2019); Ye, Morrin, & Kampfer (2020)
Size	Argo & White (2012); Chandon & Ordabayeva (2009); Ilyuk & Block (2016); Rolls, Roe, Kral, Meengs, & Wall (2004); Scott, Nowlis, Mandel, & Morales (2008); Vale, Pieters, & Zeelenberg (2008); Yan, Sengupta, & Wyer Jr (2014)
Weight	Kampfer, Leischnig, Ivens, & Spence (2017); Maggioni, Risso, Olivero, & Gallace (2015); Szocs, Biswas, & Borges (2016)

Source: Own illustration.

#### Management Summary

When buying food products, consumers implicitly

raise questions about the products and draw on packaging features to answer these questions. The present research applies a qualitative approach, uncovers these implicit questions and also identifies what structural dimensions (i.e., shape, material, transparency and surface) of a packaging consumers draw on when they seek answers to these questions. As a result of this research, the authors provide a toolbox that assists companies in the design of consumer-centric packaging. Fig. 1: Stimulus Material **Dairy products** Nonalcoholic beverages Alcoholic beverages **Cookies and candies** Salty snacks Condiments (\* S-1) ê ê i ê ji ti ê î î î î î Source: Own illustration.

tle change (matte or glossy). In the following, we briefly address the key insights for each area of interest.

#### Aesthetics

The aesthetic appeal of a packaging was oftentimes the first aspect participants were concerned with. Consumers implicitly seemed to raise the questions "*Is it pretty?*" and "*Is it special?*". Overall, food in sturdy packaging was perceived to be more visually appealing than food in flimsy packaging. For instance, participants assumed that the same chocolate wafer bits were somewhat prettier in a hard plastic container than in a plastic pouch.

Participants also drew on packaging shapes when evaluating the products' visual appeal. Overall, round packaging shapes appeared to contain prettier products than angular shapes. We observed this in particular for potato chips and chocolate sticks. Round shapes were also perceived to be somewhat cuter. The following statement shows that such associations can be enough to stimulate consumers to purchase a product: "I saw it and I bought it immediately, because I thought it was cute." (F, 27, about mineral water in a bellied bottle)<sup>1</sup>

The product's aesthetical specialness was another aspect participants were concerned with. Material that was atypical for a certain product category, such as an aluminum bottle for a soft drink, was perceived to contain a special version of the product. However, specialness appeared to be a two-sided sword. For instance, apple sauce packed in plastic foil was perceived as special, yet visually unappealing.

Shapes also sent signals of aesthetic specialness. Participants thought that round and asymmetric packages contained special products:

"It must be a special wine if it is in such a special bottle." (F, 70, about wine in an asymmetric bottle)

Finally, packaging surface also affected the aesthetic perception. Participants found matte and textured packaging (e.g., green tea and beer in a matte or textured can, potato chips in

Areas of interest	Implicit questions	Material	Shape	Transparency	Surface
Aesthetics	ls it pretty?	Sturdy	Round		Matte, textured
	Is it special?	Unusual	Round, asymmetric		Matte, textured
Knowledge and familiarity	Do I know it?	Usual	Usual		Glossy
	Can I get to know it?			Transparent	
Convenience	ls it convenient to use?	Sturdy, tube, beverage carton	Round, slim, concave	Transparent	
	ls it convenient to store?	Resealable, beverage carton	Angular		
	Is it convenient to transport?	Light			
Quality	Is it of overall good quality?	Sturdy	Slim	Transparent	
	Does it taste good?	Glass, non-resealable and reasealable			
Naturalness and sustainability	Is it natural, healthy and sustainable?	Glass, carton			
Consumption context	For whom is it?	For others: sturdy For self: flimsy			
	Where do I consume it?	At home: glass, beverage carton On the go: plastic, can, resealable			
Protection	Is it protected?	Sturdy, non-fragile		Opaque	

#### Table 2: A Manager's Toolbox for Consumer-Centric Packaging

Source: Own illustration.

a matte bag) prettier and more special than glossy and smooth packaging. Notably, this was at least partly due to the haptic appeal. Matte and textured packages were more pleasing to touch.

#### Knowledge and Familiarity

In addition to the aesthetic appeal of a package, consumers also appeared to be spontaneously concerned with their knowledge of, and familiarity with, the product. Implicitly they appeared to ask, "*Do I know it?*" and "*Can I get to know it?*". While the first question centers on previous experience and familiarity with the product, the second one deals with the possibility of getting to know the product via its packaging.

Packaging materials and shapes that were common in a certain product category strengthened participants' perception that they also know the contained product. For instance, participants stated higher familiarity with milk in a beverage carton (the dominant packaging material in the country of the study) than in a plastic bottle. As illustrated by a quote about wine bottles, this familiarity was also connected to associations about the product's country of origin:

"This one [tall and slim bottle] is from our country. This is how we know it. And that one [small and bellied bottle] is from somewhere else." (M, 22, about wine in different bottles)

Glossy packaging was also perceived as more familiar, especially in product categories where glossy surfaces are common. Participants felt, for instance, that they already knew chocolate in a glossy packaging.

When it comes to getting to know the product, transparency was the only structural dimension that consumers appeared to draw on. Transparent packages reveal their content and thus made it easier for participants to get familiar with the product:

"You can see what is inside, and this is exactly what you get." (F, 26, about rice in a bag with a transparent foil window)

One participant even stressed that transparency made the product feel closer:

"I see exactly how it looks. [...] That makes it feel a bit closer." (F, 25, about chocolate pralines in a box with a window)

#### Convenience

After the first impression that mostly centered on aesthetics, knowledge and familiarity, many participants were concerned with the product's convenience and implicitly seemed to ask, "Is it convenient to use?", "Is it convenient to store?" and "Is it convenient to transport?".

Participants judged sturdy materials (e.g., hard plastic) as more convenient to open than flimsy materials (e.g., plastic bag). Moreover, many stated that they would reuse sturdy packages such as glass bottles or plastic boxes instead of throwing them away.

Plastic bottles, tubes and beverage cartons were associated with particularly convenient usage because they allow for accurate dosing and easy pouring.

Convenience of transportation also mattered. Here, light packaging materials were judged as especially convenient:

"It [glass bottle] is heavier. [...] For the consumer, especially for the elderly grandma, it is very reasonable to buy this one [plastic bottle]." (M, 24, about mineral water in different bottles)

Participants also drew on the packaging shape when judging convenience. Round, slim and concave package shapes were described as convenient to use because they make it easier to get a good grip of the product. However, when it comes to convenience of storage, angular shapes were pre-

#### **Main Propositions**

- Consumers are not just passive recipients of signals companies send via a food product's packaging.
- 2. Consumers actively raise questions and seek for answers via the structural dimensions of a packaging prior to the purchase. These questions fall into seven areas of interest.
- **3.** Different structural packaging elements are uniquely suited to provide answers to these different areas of interest.
- **4.** A toolbox that maps the consumers' areas of interest to the structural dimensions of a product can help companies in the design of consumer-centric packaging.

ferred because they can easily be stacked and stored in the shelf or the fridge.

Consumers also perceived transparent packages as convenient to use because transparency allows to monitor how much of the product is still left in the package.

#### Quality

One of the most essential characteristics of food products is their quality. Participants implicitly asked "*Is it of overall good quality*?" and "*Does it taste good*?".

In general, sturdy packaging materials, like glass and hard plastic, as well as slim and tall shapes were associated with high quality and premium products:

"I think this one [tall and slim] is more elegant. [...] And I would think that it contains a wine of higher quality." (F, 26, about wine in a slim and tall bottle)

Transparent packaging and matte packaging surfaces also elicited perceptions of high quality:

"When I see the product, I think it is of higher quality, because they have nothing to hide. [...] They are proud of the product." (F, 24, about rice in a bag with a window)

"The glossy one seems to come from the discount store. And the other one [matte] seems premium." (F, 30, about potato chips in different bags)

Participants also specifically worried about the product's taste. Products packaged in glass bottles or jars seemed to appear particularly tasty:

"This one is fizzy and sparkling. When I open it, I get this complete cola freshness." (F, 22, about cola in a glass bottle)

The perceived superior taste of products packaged in glass was especially pronounced when the products were compared to the same product packaged in plastic. Some participants expected plastic packaging to have a negative effect on the product's taste.

"The acidic vinegar will have traces of plastic in it." (F, 70, about vinegar in a plastic bottle)

Interestingly, tastiness and in particular freshness were associated with both resealable and non-resealable packaging. Resealability was appreciated when the product cannot be finished in one go. However, if the packaging forces consumers to use up the product at once, this also can send signals of tastiness and freshness. The following quotes illustrate this dichotomy:

"I would think that this one [non-resealable pouch] is fresher because I use it and then it is gone." (F, 26, about mayonnaise) [...] "If I do not use up everything, but maybe just half of it, and put it back [in the fridge], it is not fresher. The other one [resealable glass jar] is fresher." (F, 25. about mayonnaise)

Packaging surface also sends varying signals about a product's tastiness. For dry products (e.g., potato chips), matte packaging led to increased tastiness perceptions. For many liquid products (e.g., ketchup or soft drinks), the opposite was true and participants thought that a glossy packaging signals tastiness.

#### Naturalness and Sustainability

Participants also worried about the products' naturalness, healthiness and sustainability. They implicitly raised the question "*Is it natural, healthy and sustainable*?". Participants had a hard time trying to disentangle these topics and mostly did not differentiate between evaluations of the packaging and evaluations of the product itself. As a result, they used the former as a heuristic for the latter. In general, natural packaging materials, such as glass or carton, and matte packaging surfaces were associated with natural and healthy products and sustainability as the following quotes demonstrate:

"This one looks healthier." (F, 70, about vinegar in a glass bottle)

"The glossy one is full of chemicals and the other one [matte] might be a bit more natural." (F, 29, about soft drinks)

"You get the feeling that it is a bit more sustainable." (F, 70, about a soft drink in a matte can)

Interestingly, some participants appeared to perceive a tradeoff between sustainability and convenience. This conflict of objectives was mostly resolved by opting for the more convenient packaging: "Usually I am in favor of glass, but with ketchup not at all. Because I get annoyed when it does not come out of the bottle." (F, 25, about ketchup in a glass bottle)

#### Consumption context

Participants also drew on packaging to better understand the supposed consumption context. Packaging was consulted to assess the questions "For whom is it?" and "Where do I consume it?".

Products in sturdy packaging materials, like hard plastic or glass, were considered particularly suitable as gifts or for guests. Flimsy material, in contrast, was considered to contain products for oneself that are consumed alone.

Packaging also sends signals about the place of consumption. Light materials like plastic, small units like beverage cans and resealable packaging was considered to signal consumption on the go. Heavier or bulkier packaging versions, such as glass or beverage cartons, were considered to signal consumption at home:

"I would take this [glass] if I drank it at home and that one [can] when on the go." (M, 26, about cola)

"[When on the go] I would take the plastic bottle because I can put it into the handbag without anything leaking out." (F, 29, about cola)

#### Protection

The previous quote shows that participants also implicitly asked *"Is it protected?"*. They were interested in the protection of the product but also of the surroundings, including themselves.

In general, sturdy and non-fragile materials were perceived to be the most protective. For instance, participants thought that sweets in hard plastic or carton boxes would crumble less easily than the same product in a plastic or paper bag.

"I think that they may easily get crushed when I put them in my bag." (F, 26, about rum truffles in a plastic bag)

Perceived product protection was also particularly high in the case of opaque packaging that protects the product from light. As a result, whether the packaging was opaque or transparent had an effect on where the product would be stored.

"This one is exposed to light. It has to go into the pantry." (M, 24, about ketchup in a transparent bottle)

#### **General Discussion**

Consumers are not merely passive recipients of the signals companies send via food product packaging. Quite on the contrary, they actively seek for support in their purchase decisions, and packaging can help them. In this context, the present research adopts a qualitative approach that allows for a unique consumer-centric view on packaging. It identifies 13 questions consumers implicitly raise that center on seven main areas of interest: aesthetics, knowledge and familiarity, convenience, quality, naturalness and sustainability, consumption context and protection. Consumers draw on the structural packaging dimensions material, shape, transparency and surface to answer these questions.

#### **Lessons Learned**

The present paper stresses the importance of consumer-centric packaging. In order to consider the role of the consumers when (re-)designing food packaging, managers should first determine which areas of interest are relevant for their (prospective) consumers. In a second step, managers can use the toolbox provided in this paper to answer these three questions:

- 1. Which structural packaging dimensions do the consumers draw on to judge the relevant areas of interest?
- **2.** Does my current packaging provide my consumers with what they need for their judgment?
- **3.** If not, how do I have to (re-)design the packaging to provide my consumers with what they need for their judgment?



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The resulting toolbox (cf. table 2) assists practitioners in designing consumer-centric packaging. On the one hand, it reveals the most important areas of interest that spontaneously come up when consumers are faced with packaging. These insights are novel and highly relevant for managers because they reflect what is going on in consumers' minds at the point of sale. On the other hand, the toolbox unveils the most important structural packaging dimensions that consumers draw on when evaluating packaged food. It shows that in some cases even comparably quick fixes such as a change in the surface finish can send important signals that consumers look out for.

These findings apply even though the signals packaging sends can have little to no factual substance. For instance, participants draw on a package's surface to judge the product's naturalness although it does not affect the content's naturalness (see also Marckhgott & Kamleitner, 2019).

Given the multitude of areas that consumers are interested in and the sometimes opposing effects packaging can have regarding these areas, consumers have to make tradeoffs. For instance, glass packaging sends signals of sustainability and tastiness but also triggers concerns about convenience. It is thus important for managers to decide which areas of interest they aim to prioritize in product positioning.

Importantly, some of the presented findings are contextsensitive. In particular, typicality or commonness plays an important role. Obviously, what is a common packaging for a certain product in a certain culture may not be common for another product in another culture. Although such variations may affect the application of the toolbox, the fact that managers will know what is common in their context and the fact that this toolbox is based on consumers' engagement with diverse product categories entails that the toolbox can be broadly applied.

In sum, companies have to understand which product characteristics consumers actually care about when judging a product and on which structural packaging dimensions they draw on in their judgement. The present paper and the presented toolbox provide a novel opportunity to design consumer-centric packaging that helps consumers in their purchase decisions.

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