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Examining Trust in Consumers as New Food Co-Creators: Does the communicator matter?

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ABSTRACT

Consumers increasingly fulfil the role of co-creators by collaborating with producers in new product development. Communicating that the product has been co-developed with consumers tends to positively influence consumer perceptions. However, research remains limited regarding *who* should communicate this information, particularly in the case of food products where consumer perceptions largely depend on the trust in the producer and product information. This paper examines the influence of co-creation information communicated by a company vs. by co-creators (i.e. co-creating consumers) on two dimensions of trust in consumers acting as new food co-creators: perceived honesty and perceived competence. Furthermore, it investigates how this effect is moderated by respondents' familiarity with co-creation as an innovation process. Respondents were presented with the same new food product concept in an online experimental survey with consumers (n=697) divided into three experimental groups. One group served as the control group with no co-creation information provided. The other two groups were informed that the product was the result of a co-creation activity between the company and consumers, using two types of information communicator. In one group, the company communicated the information, whereas in the other group, it was communicated by the co-creators. Our findings suggest that *who* communicates the co-creation information matters *if* consumers are not familiar with co-creation. In this case, co-creators are more likely to facilitate general consumer trust in peer consumers as new food co-creators. This study provides valuable insights for food companies wanting to leverage the value of co-creation for innovation by selecting the information communicator depending on the level of co-creation familiarity in the target market.

Keywords: co-creation, trust, communication, new food product development, food innovation, consumer

1. Introduction

Higher failure rates are still a prevailing outcome in new food product development (Fuller, 2011; Gresham, Hafer, & Markowski, 2006; Kemp, 2013). The lack of meaningful differentiation results in approximately 50% to 75% of new food products failing in the market place (Dijkerhuis, 2016). In recent decades, consumer-oriented new product development has therefore been in focus to design successful new food products (e.g. Busse & Siebert, 2018; Grahl, Strack, Weinrich, & Mörlein, 2018; Grunert, Larsen, Madsen, & Baadsgaard, 1996; Moskowitz & Hartmann, 2008; Moskowitz, Reisner, Itty, Katz, & Krieger, 2006; Søndergaard, 2005; Traill & Grunert, 1997). Consumer involvement in companies' internal innovation processes has received much attention in the literature as it is increasingly recognized that 'connected, informed, and active' consumers are a source of competence that companies must tap into in order to add value to their products (Chang & Taylor, 2016; Garcia Martinez, 2014; Roberts & Darler, 2017). Engaging consumers in collaborative innovation activities positively contributes to internal creativity and innovativeness and reduces the risk of new product failure (Allen, Chandrasekaran, & Basuroy, 2018; Fredberg & Piller, 2011; Füller, Jawecki, & Mühlbacher, 2007; Hiernerth, 2006; Hyysalo, 2009; Lettl, Herstatt, & Gemuenden, 2006). Similar patterns are found in the food industry, where engagement of consumers in the innovation process can lead to both original and new ideas feasible for the target market (Banovic, Krystallis, Guerrero, & Reinders, 2016; Filieri, 2013). Extant research has therefore focused on how companies can motivate consumers to engage in co-creation processes (e.g. Cui & Wu, 2016; Füller, Hutter, & Faullant, 2011; Greer & Lei, 2012; Nambisan & Baron, 2009) and on the effects of co-creation on participating consumers (i.e. co-creators) (e.g. Dahl, Fuchs, & Schreier, 2015; Franke & Piller, 2004; Fuchs, Prandelli, & Schreier, 2010). Recently, attention has moved to consider the marketing of co-created products among consumers who are not involved in the co-creation process (i.e. general consumers). Emerging research provides evidence that marketing products as co-created can positively influence general consumers' perceptions of the company and the brand as well as increase their willingness to purchase and recommend the product (e.g. Dahl et al., 2015; Fuchs & Schreier, 2011; Paharia & Swaminathan, 2019; Schreier, Fuchs, & Dahl, 2012; van Dijk, Antonides, & Schillewaert, 2014). In their field experiment on a food snack product introduced by Muji, a Japanese consumer goods company, Nishikawa, Schreier, Fuchs, and Ogawa (2017) found product sales of the co-created product to increase by 20% when communicating the co-creation information (cc-

information) in store. Another example is Starbucks who introduced the Starbucks Mexican Mocha Coffee based on co-creation with consumers (Wang, Noble, Dahl, & Park, 2019).

While these studies underscore the importance of cc-information in consumer acceptance of co-created food products, research remains limited regarding *who* should communicate this information.

Our study is positioned within this recent stream of research and argues that the cc-information communicator matters for general consumers' trust in peer consumers as new food co-creators, depending on their level of familiarity with co-creation as an innovation process. Specifically, our study examines the influence of cc-information communicated by a company vs. by co-creators on two dimensions of trust, namely perceived honesty and perceived competence of new food co-creators, and how these relationships are moderated by general consumers' familiarity with co-creation for innovation.

Communication is crucial to support consumer acceptance (Peres, Muller, & Mahajan, 2010). Extant research has focused on communication through product labels briefly including cc-information (e.g. Nishikawa et al., 2017; Schreier et al., 2012). In these studies, the company by default communicates cc-information. In contrast, our hypothesizing suggests a more prominent role of co-creators in communicating cc-information, providing a unique opportunity for co-created products (Wang et al., 2019). However, our understanding of the role of this alternative communicator is limited.

Our study contributes to knowledge from two perspectives. To theory, this study extends prior research by integrating trust and communication research with co-creation innovation in food research to examine the role of the cc-information communicator (co-creators vs. companies) in the marketing of co-created food products to general consumers. Specifically, by distinguishing between two dimensions of trust, we provide a deeper understanding of the extent to which perceived competence and perceived honesty of peer consumers as new food co-creators are influenced by *who* is the cc-information communicator. To practice, results are relevant to food companies wanting to leverage the value of co-creation for innovation by selecting the information communicator depending on the level of co-creation familiarity in the target market.

Theoretical background and hypotheses development

Co-creation is the '*process in which [consumers] consciously and actively engage in a firm's innovation process, taking over innovation activities traditionally executed by the firm*'

(Gemser & Perks, 2015, p. 664). In other words, the consumer takes on the role of product co-creator (Lettl et al., 2006). Prior research shows how new products developed based on co-creation may have clear advantages over solutions generated by internal R&D departments (Kristensson, Gustafsson, & Archer, 2004; Mahr, Lievens, & Blazevic, 2014; Nishikawa, Schreier, & Ogawa, 2013; Poetz & Schreier, 2012). In addition to generating value for companies and participating consumers, marketing products as co-created affects general consumers' perceptions of the companies and their products (Nishikawa et al., 2017; Schreier et al., 2012).

Studies to date have focused on the effects of providing general consumers with cc-information, mostly via labels on products or shelves, vs. no information (e.g. Dahl et al., 2015; Nishikawa et al., 2017; van Dijk et al., 2014). However, research regarding *who* should communicate cc-information particularly in the case of food products remains limited. Recently, Wang et al. (2019) introduced co-creators (instead of companies) as potential communicators of the story behind co-created products as a way to increase product adoption. Consumers' product perception is likely to be influenced by the communicator of the product information, where information from a trusted communicator is more persuasive (Dou, Walden, Lee, & Lee, 2012; Pornpitakpan, 2004). Our study extends current understanding by focusing on trust in peer consumers as new food co-creators.

1.1. The importance of consumer trust in food product development

Consumer trust is a widely used concept regarding the relationship between consumers and products/companies (Casaló, Flavián, & Guinalú, 2007; Hess & Story, 2005; Mahr et al., 2014; Mal, Davies, & Diers-Lawson, 2018; Sirdeshmukh, Singh, & Sabol, 2002). According to Milne and Boza (1999), trust is essential in uncertain situations. Trust implies that you perceive the other actor's word as true, thus reducing the risk of opportunistic behavior (Gundlach & Murphy, 1993; Ridings, Gefen, & Arinze, 2002; Van Rijswijk & Frewer, 2012). It is defined as '*a heuristic that might be used in situations where lack of knowledge, experience, or familiarity with firms, products, or processes used to create products hampers decision making*' (Hobbs & Goddard, 2015, p. 72). Trust is therefore crucial for consumers' decision making regarding products that are somehow new to them (Hajli, Lin, Featherman, & Wang, 2014). Examples from the food industry showing trust to be essential include consumer acceptance of nanotechnology foods and packaging (Siegrist, Cousin, Kastenholtz, & Wiek, 2007), genetically modified food (Grunert et al., 2001; Huffman, Rousu, Shogren, &

Tegene, 2004; Poortinga & Pidgeon, 2004; Rodríguez-Entrena & Salazar-Ordóñez, 2013; Scholderer & Frewer, 2003), and functional foods (Siegrist, Stampfli, & Kastenholz, 2008). Acknowledging the importance of trust, food research has been attentive to the provision of food information especially in the area of health, sustainability, and production processes (e.g. Hoogland, de Boer, & Boersema, 2007; Meyerding, 2016; Mørbak & Nordström, 2009; Van Rijswijk & Frewer, 2012; Walters & Long, 2012). In their study on on-package food production information, Hoogland et al. (2007) showed that consumers value logos combined with further information details. Also Van Rijswijk and Frewer (2012) conclude that there is a consumer need for information on food traceability. However, consumers are often skeptical towards information about food products (including their underlying processes) (Korthals, 2008; Meyer, Coveney, Henderson, Ward, & Taylor, 2012), and providing more information may support this distrust unless it is communicated correctly (Eden, Bear, & Walker, 2008; Poortinga & Pidgeon, 2004; Pouta, Haikkilä, Forsman-Hugg, Isonemi, & Mäkelä, 2010; Scholderer & Frewer, 2003). Korthals (2008) mentions information reliability as one of the main concerns for food consumers and furthermore suggests that consumers value information differently.

To reduce uncertainty (Sichtmann, 2007), consumers need to trust the food product (including the accompanying information) (Hobbs & Goddard, 2015; Janssen & Hamm, 2014; Mørbak & Nordström, 2009; Nuttavuthisit & Thøgersen, 2017; Rollin, Kennedy, & Wills, 2011). Literature shows that trust in the food product is determined by trust in the various actors in the development process, and trust in these actors is therefore an important aspect of consumer behavior related to the particular product (Carfora et al., 2019; Del Giudice, Cavallo, & Vecchio, 2018). Trust acts as a basis for a strong relationship between producers and consumers influencing loyalty (Giampietri, Verneau, Del Giudice, Carfora, & Finco, 2018) and purchase decision (Hobbs & Goddard, 2015; Pivato, Misani, & Tencati, 2008; Sultan, Tarafder, Pearson, & Henryks, 2020). Compared to company-developed products, co-created products are not very common to general consumers, and trust can be even more important in such uncertain situations (Milne & Boza, 1999). Typically, the company is perceived as the product developer, but in the case of co-created products, consumers are co-creators. Hence, when marketing products as co-created, it is important that general consumers trust peer consumers as new food co-creators.

To be trusted, one must be *competent* to perform a certain task (Delgado-Ballester & Munuera-Aleman, 2001). Competence implies that an individual (or company) is able to

influence a specific area (Ridings et al., 2002). In relation to new product development, competence refers to the extent to which a consumer perceives the provider to possess the required skills and knowledge to deliver the new product (Coulter & Coulter, 2002; Sichtmann, 2007). To develop trust, a provider needs to reflect the necessary capabilities for delivering the product and assure consumers that it will provide an excellent product (Mal et al., 2018).

Furthermore, trust involves a belief that one is *willing* to perform the task (Sichtmann, 2007). This implicates integrity, which requires the individual (or company) to be fair, honest, and sincere in its communication as well as to behave as promised (Mal et al., 2018; Sichtmann, 2007). The importance of honesty towards consumers as an important element of trust is supported by Casaló et al. (2007) and Ridings et al. (2002).

1.2. The role of the information communicator in creating trust

Given the importance of trust, companies should consider how consumers perceive the communicator representing the product when communicating cc-information. Only trusted food information is utilized by consumers (Thiede, 2005; Urala, Arvola, & Lähteenmäki, 2003); therefore, information effectiveness depends heavily on how reliable and trustworthy the information and its communicator are perceived (Huffman et al., 2004; Pieniak, Verbeke, Scholderer, Brunsø, & Olsen, 2007; Rosati & Saba, 2004; Salaün & Flores, 2001). When consumers are skeptical towards food product information, they rely on their trust in the information communicator (Eden et al., 2008). Consumers differentiate between communicators of food information (Frewer, Howard, Hedderley, & Shepherd, 1996; Mazzocchi, Lobb, Traill, & Cavicchi, 2008; Zhang, Xu, Oosterveer, & Mol, 2016) and normally place more trust in independent parties compared to food companies (Sogn-Grundvåg, Larsen, & Young, 2014; Urala et al., 2003). A positive perception of the communicator will be reflected in the persuasiveness of the information (Pornpitakpan, 2004), and only information provided by communicators who are not perceived as biased or self-serving is trusted (Frewer et al., 1996; Frewer, Scholderer, & Lambert, 2003). Based on the attribution theory (Mizerski, Golden, & Kernan, 1974), consumers are less likely to be persuaded by information if external reasons could account for the communicator's behavior (Dou et al., 2012). Compared to consumers, companies are often perceived to have external (e.g. financial) incentives for their co-creation initiatives (Gebauer, Füller, & Pezzeri, 2013; Lee, Hyuk Soo Kim, & Jung Kyu Kim, 2011) making them less persuasive (Dou et al., 2012).

This can be a reason why consumers prefer fellow consumers or unpaid endorsers as communicators of product information rather than companies (Bickart & Schindler, 2001; Huang, Bai, & Ging, 2020; Moore, Mowen, & Reardon, 1994).

We argue that co-creators (vs. companies) are more persuasive in communicating cc-information to general consumers, thereby increasing the level of trust in peer consumers as new food co-creators. The following hypotheses are derived:

H1: Co-creators (vs. a company) as cc-information communicator increases the perceived honesty of peer consumers as new food co-creators.

H2: Co-creators (vs. a company) as cc-information communicator increases the perceived competence of peer consumers as new food co-creators.

1.3. The moderating role of co-creation familiarity

Consumers' ability to understand information about a topic is influenced by their existing knowledge of that topic (Hong & Sternthal, 2010; Johnson & Russo, 1984; Walters & Long, 2012). Consumers evaluate products based on a number of attributes, and this evaluation is in turn affected by consumers' familiarity with the product category (Park & Lessig, 1981). For food products marketed as co-created, consumer knowledge of co-creation as an innovation process may therefore be relevant for their product perception. Whereas co-creators are familiar with this approach to innovation through their experience, general consumers who have not participated in co-creation may have less or no familiarity with co-creation (Schreier et al., 2012). In relation to this, familiarity with a topic can have different effects on consumers' information processing (Johnson & Russo, 1984; Mandel & Johnson, 2002).

When evaluating new products, knowledgeable consumers are likely to screen out information they perceive as irrelevant, only selecting the relevant information for learning about a product (Johnson & Russo, 1984). Unknowledgeable consumers, on the other hand, are more motivated to obtain and to assess in detail the message information (Hong & Sternthal, 2010). In their study on product labelling, Janssen and Hamm (2014) conclude that consumers in general will have lower trust in the information labels of which they have limited experience. Since consumers lack knowledge, they are required to rely on information in shaping their product perception. Whether consumers then adopt the information, depends on their trust in it (Huang et al., 2020). Social trust is more important for unknowledgeable consumers (Siegrist & Cvetkovich, 2000). Specifically, consumers' familiarity with co-

creation could influence their reliance on the cc-communicator and thereby its potential effect on trust.

Hence, the following hypotheses are derived:

H3: Co-creation familiarity moderates the relationship between cc-information communicator and perceived honesty of peer consumers as new food co-creators.

H4: Co-creation familiarity moderates the relationship between cc-information communicator and perceived competence of peer consumers as new food co-creators.

The hypothesized model is depicted in Figure 1.

Insert Figure 1

2. Methods

2.1. Sample and experimental design

An experiment was conducted online with 679 respondents randomly selected in Denmark through a market agency (Userneeds, 2018). The sample aimed to be representative of the Danish population in terms of gender, age, and geographical location. 44.2% males and 55.8% females participated, and the average age was 48 years (see detailed demographics in Table 1). All respondents were presented with a product concept (a milk-based snack product) including a picture and a product description. The product concept was presented as a tasty and nutritious snack being high in protein, yoghurt cultures, and dairy nutrients. A Danish dairy company developed the product concept, and respondents were initially screened based on their interest in milk-based snack products. As the product was intended for market launch at a later point in time, no respondents could have prior experiences with the product. Respondents were randomly assigned to one of three experimental conditions (i.e. groups) where the treatment was cc-information communicator. In Group 0, no cc-information was communicated. In Group 1, cc-information was communicated by the company, and in Group 2, cc-information was communicated by co-creators.

Insert Table 1

Group 1 received the following cc-information communicated by the food company: '*At [company X] we enjoy food and want to develop the best products for our consumers. Our*

own product developers have developed this product in collaboration with the [company X] consumer community’.

Group 2 received the following cc-information communicated by the food co-creators: *‘The [company X] consumer community consists of consumers like you and me. We are a group of people who enjoy food and develop products in collaboration with [company X]’.*

Next, respondents were asked to evaluate peer consumers as new food co-creators based on the two dimensions of trust: perceived honesty and perceived competence. Following these questions, participants were introduced to the concept of co-creation: *‘The following is about product co-creation between companies and consumers, which to increasing extent is used by companies in their product development. The idea behind product co-creation is that a group of consumers (i.e. a consumer community) takes an active role in companies’ product development and in this way helps in designing products for the entire market. The consumer community consists of consumers who provide ideas/concepts for new products and work continuously with these ideas/concepts in a constant dialogue with each other and the company – often online. The company’s products are thereby developed based on consumers’ ideas’.* Demographic questions were asked at the end.

2.2. Measures

Perceived honesty and perceived competence of peer consumers as new food co-creators were measured based on Casaló et al. (2007) and treated as latent constructs measured with multiple items on a 7-point Likert scale ranging from 1- 7 (Table 2). To measure co-creation familiarity, respondents were provided with the general description of co-creation as an innovation process (see section 3.1) and asked to state if they had heard about the concept before. In this study, co-creation familiarity is treated subjectively (Park & Lessig, 1981) and reflects if the respondent thinks he/she knows about this approach to innovation. The survey went through a back-translation process to ensure that understanding remained as intended.

3. Results

3.1. Measurement model

To assess the multi-item scales reliability and validity (Hair, Black, Babin, & Anderson, 2010), a confirmatory factor analysis (CFA) with maximum likelihood estimator was conducted in AMOS 26 (Arbuckle, 2014). The CFA model overall showed an acceptable

goodness-of-fit (CFI = 0.987, NFI = 0.977, RMSEA = 0.043). The CFA model by group presented an acceptable fit as well, with all factor loadings above 0.8 ($p < 0.001$) supporting the convergent validity. Composite reliability (CR) and average variance extracted (AVE) were computed to evaluate the reliability of the scales. All CR and AVE values were above the recommended cut-off levels of 0.8 and 0.6, respectively (Table 2).

Insert Table 2

3.2. Hypotheses testing

Useful in experimental analysis, Multivariate analysis of variance (MANOVA) (Hair et al., 2010; Tabachnick & Fidell, 1996) was implemented to simultaneously test the effect of cc-information communicator on the two correlated dimensions of trust. The sample distribution of perceived honesty and perceived competence for each of the three groups was initially inspected indicating no major deviations from normality. Mahalanobi's distance was checked revealing no extreme multivariate outliers, thus all participants were retained in the sample. Levene's test for the two dependent variables indicated no significant departure from variance homogeneity (Levene's test_{honesty} = 1.159, p-value = 0.328; Levene's test_{competence} = 0.234, p-value = 0.947).

Results of the hypotheses tests showed a non-significant main effect of cc-information communicator on the trust dimensions. Thereby, there is not sufficient evidence for rejecting the null-hypotheses, and H1 and H2 could thereby not be supported ($F_{\text{honesty}} = .149$, p-value = .862; $F_{\text{competence}} = .002$, p-value = 0.998). Instead, the hypothesized interaction effect between cc-information communicator and co-creation familiarity on perceived honesty and perceived competence tended to be significant ($F_{\text{honesty}} = 3.084$, p-value = .046; $F_{\text{competence}} = 2.649$, p-value = .071). The results provide sufficient evidence for rejecting the null-hypotheses and bring preliminary evidence in favor of H3 and H4.

Inspecting the individual group differences for perceived honesty and perceived competence (Table 3), the results indicate a significant difference between Group 0 and Group 2 for consumers with no co-creation familiarity ($M_{0,\text{honesty}} = 4.495$, $M_{2,\text{honesty}} = 4.820$, p-value = 0.036; $M_{0,\text{competence}} = 4.093$, $M_{2,\text{competence}} = 4.372$, p-value = .075). For consumers who are *not* familiar with co-creation, perceived honesty and perceived competence of peer consumers as new food co-creators is, on average, higher when presented with a co-created product communicated by co-creators vs. by a company.

Insert Table 3

4. Discussion

Marketing products as co-created has been shown to impact how consumers perceive products and companies (Nishikawa et al., 2017; Schreier et al., 2012). However, research remains limited regarding *who* should communicate this information. Our study contributes to the literature on co-creation in a new food product development context by uncovering how co-creators, compared to companies, can be more effective in communicating cc-information to general consumers who are not familiar with co-creation as an innovation process.

In line with Schreier et al. (2012), our results show that not all consumers perceive themselves as familiar with co-creation, and this has implications for their response to cc-information. The relevance of pre-existing knowledge with a topic in terms of information response (Hong & Sternthal, 2010; Johnson & Russo, 1984; Mandel & Johnson, 2002; Walters & Long, 2012) is supported by our results, where consumers differ in their response to the treatment based on their co-creation familiarity. Our study distinguished between consumers with and without familiarity with co-creation as an innovation process, where knowledgeable consumers have a pre-existing idea of what they think co-creation is. Following Siegrist and Cvetkovich (2000), consumers perceiving their knowledge as sufficient will not rely on their trust in the communicator in order to make their judgement. In line with this, our results show no significant relationship between cc-communicator and trust for consumers who are familiar with co-creation.

In contrast, in the case of consumers with no co-creation familiarity the communicator becomes relevant in their response to the cc-information. Our results cannot conclude whether these consumers assessed the information content in detail; however, considering our study design, the communicator as an experimental treatment was incorporated as an explanation of the new food product development process. Therefore, respondents needed to assess this information relatively carefully to derive the cc-information communicator. Following Hong and Sternthal (2010), consumers are motivated to assess information in detail when they have limited prior knowledge, which could explain a motivation for assessing the

cc-information to an extent were they are able to derive the communicator. Our results show that respondents are affected by *who* provided the cc-information. Thus, opposed to the knowledgeable consumers, consumers who lack familiarity with co-creation rely on the communicator. This is supported by Siegrist and Cvetkovich (2000), claiming that social trust is important especially among unknowledgeable consumers. For unknowledgeable consumers, the cc-information is something they have not heard about before – it is a novel aspect of the product, which explains why they are more affected by who provided them with this information. This is well in line with the idea that trust becomes even more important in uncertain situations as when faced with a new food product (Hajli et al., 2014). Consumers' co-creation familiarity thereby plays an important role in determining whether the cc-information communicator is relevant to consider in the marketing of a given food product.

Who should then communicate cc-information to general consumers? In line with existing research on food communication (Frewer et al., 1996; Mazzocchi et al., 2008; Zhang et al., 2016), our findings suggest that who communicates the cc-information matters for certain consumers. We found that consumers who are not familiar with co-creation are more inclined to perceive co-creators as honest and competent when co-creators, instead of food companies, take on the role of communicator. This supports existing research on product endorsements claiming fellow consumers (Bickart & Schindler, 2001) and unpaid endorsers (Moore et al., 1994), compared to company representatives and paid endorsers, to be more effective product communicators. Third-parties are typically perceived as more trustworthy communicators of food information (Sogn-Grundvåg et al., 2014; Urala et al., 2003). Considering our study design, co-creators were not presented as independent parties, since the company was mentioned in both treatment conditions. It is therefore unlikely that respondents perceived co-creators as completely disconnected to the company. Still, following Mizerski et al. (1974), consumers will ask themselves why the communicator provides the cc-information, and this will be reflected in the information persuasiveness. Our results indicate that co-creators, compared to companies, are more persuasive in terms of influencing consumers' willingness to trust fellow consumers as new food co-creators. This is supported by existing research suggesting companies to be less persuasive in their communication (Dou et al., 2012; Gebauer et al., 2013; Lee et al., 2011).

One could question, whether the cc-information communicator is even relevant to consider in the case of a food product which is typically considered a product category requiring limited consumer involvement in decision making (Acebrón, Mangin, & Dopico, 2001; Briz, Ward, & de Felipe, 1998). However, our results indicate that it does have an influence on the extent to which some consumers choose to trust peer consumers as new food co-creators in terms of perceived honesty as well as perceived competence. In our study, consumers were exposed to a healthy food snack, which is a product type that has received massive attention in the literature with focus on information communication aiming to influence consumers' purchase and consumption behavior (e.g. Ball et al., 2011; Buscher, Martin, & Crocker, 2001; Gomez, Werle, & Corneille, 2017; Sigurdsson, Larsen, & Gunnarsson, 2014). As argued, consumer involvement is likely to be higher within this subcategory of healthy food (Kamrath, Bidkar, & Brörig, 2019). At the same time, consumers are skeptical towards food information and claims regarding its process (Eden et al., 2008) which makes the information (including its communicator) more important to consider. This can explain the relevance of the cc-communicator in our study particularly for consumers with no co-creation familiarity.

4.1. Implications

This study improves our understanding of the challenge of marketing co-created food products optimally to general consumers. Our results suggest important implications for professionals working with co-creation between companies and consumers in new food product development and considering marketing new products as co-created. Our conclusion highlights the potential in the communication of cc-information to consumers with no co-creation familiarity. It is important to notice that food companies should consider the use of co-creators in the communication based on the awareness of co-creation in their target market. As our results indicate, the choice of communicator plays a role only for consumers who are not familiar with co-creation; therefore, changing the communicator in markets with extensive knowledge about co-creation is not recommended based on our results.

If the target market has limited familiarity with co-creation, however, we emphasize that food companies take the unique opportunity of using co-creators as communicators as they support consumers in trusting the peer consumers as new food co-creators. The company typically communicates the cc-information, but we suggest to decrease the company's role as communicator instead letting the co-creators communicate the cc-information. This can be

done in a short version on the product/shelves or through more extended versions online where co-creators communicate the story behind their product development (Wang et al., 2019).

The food industry has had an increasing focus on consumer-driven product development (e.g. Grunert et al., 1996; Moskowitz & Hartmann, 2008; Moskowitz et al., 2006), and recent research reveals that consumers can successfully be used as co-creators of new food products (e.g. Banovic et al., 2016; Garcia Martinez, 2014). However, since food products are rarely marketed based on their consumer involvement, a limited awareness of this type of co-creation between consumers and companies is expected. This lack of co-creation familiarity makes the cc-information communicator highly relevant in the food market. Using co-creators as communicators therefore offer an opportunity for developing consumers' trust in collaborative new food product development.

Importantly, the relevance of perceived honesty and perceived competence of product developers in the eyes of consumers should be considered in relation to the specific product. Trust is of particular importance when consumers experience uncertainty (Sichtmann, 2007). For food product development requiring highly specialized competences and/or integrity of the developer, using co-creators as communicators is recommended for developing consumer trust. Consumer trust is essential for creating a positive perception of food products (Hobbs & Goddard, 2015; Janssen & Hamm, 2014; Rollin et al., 2011), which makes perceived honesty and perceived competence of co-creators highly relevant. Overall, this emphasizes the relevance of considering the communicator of co-created food products.

4.2. Limitations and future research

This study used an online experimental approach to investigate the effect of the cc-information communicator. The product concept was designed by a dairy food company and intended for future commercialization. The concept of a milk-based snack food product was selected, as it is assumed a product category relevant to most consumers. However, as the influence of cc-information has been shown to vary depending on the product type (Fuchs, Prandelli, Schreier, & Dahl, 2013), our study would benefit from complementary studies focusing on the cc-information communicator's role in other food product domains. In the case of food products perceived as requiring complex and professional development skills, it might not be beneficial to let co-creators dominate the communication. Future research could investigate this potential distinction between food products varying in complexity.

Furthermore, it may be worth distinguishing between levels of consumer involvement with regard to the specific food product type, as this might influence consumer attention and processing of the information provided (Celsi & Olson, 1988) – and thereby also the relevance of its communicator. Even though, food as an overall category is considered a low involvement product (Hamlin, 2010), consumers differ in their individual level and type of involvement (Oh, 2001; Verbeke & Vackier, 2004). As our study focused on a food product appealing to certain health aspects, consumers valuing a healthy lifestyle are likely to be more involved in the purchase of product types corresponding to this value (Teng & Lu, 2016). Future research could take into account the individual level and type (affective vs. cognitive) of consumer involvement for the specific product category.

As our study used a product concept not yet introduced in the market, respondents were assumed to have no product experience. However, as incremental innovations and minor product modifications generally dominate the food industry (Baregheh, Rowley, Sambrook, & Davies, 2012; Noordman & Meijer, 2013), most product concepts are not radically new to consumers. As concluded by Grahl et al. (2018), consumers are more likely to accept new product aspects if they are familiar with the basic product. Therefore, prior experiences with similar products can have an influence on the relevance of the cc-information and its communicator (as a new product aspect), which can be explored in future research.

As the perception of co-created products and their developers might be culture dependent (Paharia & Swaminathan, 2019), future research could investigate whether culture-specific dimensions such as power distance and individualism (Hofstede, 1991) influence the communicator's role in supporting trust. Focus could be on whether cultural characteristics such as low levels of power distance and/or high levels of individualism result in peer consumers as co-creators being a more trusted source of information compared to professionals.

Moreover, this study investigated the communicator's effect on trust in peer consumers as new food co-creators. Exploring how this might then affect consumer behavior such as purchase decision, willingness to pay, and intended recommendations would be interesting aspects of new food product success. Additionally, it could be beneficial to investigate the communicator's role in post-purchase experiences with the product as well as the willingness to re-purchase. However, when considering the purchase of a food product, other factors should be taken into account, since consumers differ in their use of product attributes for

choice making and will therefore value information differently (Korthals, 2008; Peschel, Grebitus, Colson, & Hu, 2016; Sparke & Menrad, 2011; Van Rijswijk & Frewer, 2012; Zander & Hamm, 2012). Especially for healthy snack products properties such as convenience, taste, cost, and energy are important for consumers' decision at point of purchase (Buscher et al., 2001; Waterlander, Scarpa, Lentz, & Steenhuis, 2011). Investigating how the co-creation communicator as one factor interacts with other important factors in a decision making context is relevant to provide a broader understanding of how the communicator effect works in a realistic physical or online purchase setting. In this regard, it could be considered *where* and *when* to provide the information. Extant research focuses on cc-information provided on-product/shelves (e.g. Nishikawa et al., 2017; Schreier et al., 2012; van Dijk et al., 2014) or off-products e.g. via social media (Wang et al., 2019). Our study is based on an online experiment focusing on a product concept including a picture and accompanying information, however, this does not mirror a perfectly realistic purchase situation. Even though consumers place value on product information details it may not be reflected strongly in their purchase intention and final purchase behavior (Hoogland et al., 2007; Sigurdsson et al., 2014). Thus, the information placement and/or channel as well as the timing of the provided cc-information in relation to attracting attention to its communicator is worth considering in the future.

One of the factors motivating consumers to engage in co-creation is the feeling that one's effort makes a difference by actually contributing to the innovation process (Fuchs et al., 2010), and this factor seems to play a role when the co-creation process is communicated among general consumers as well (Fuchs & Schreier, 2011; Paharia & Swaminathan, 2019). Within the food industry, this perceived consumer effectiveness has been related to consumers' value perception of food information (Ghvanidze, Velikova, Dodd, & Oldewage-Theron, 2016). Future research could explore how the communicator influences general consumers' belief in the perceived co-creator effectiveness (i.e. the extent to which consumers believe that the co-creators has truly made a difference to the product outcome).

Finally, our study treats co-creation familiarity as a binary variable, which does not take into account various levels of familiarity. Acknowledging that the level of familiarity can influence consumers' information processing (Johnson & Russo, 1984), it would be interesting to distinguish in detail between different levels of co-creation familiarity as a basis for information processing. Within the area of nutrition, prior research shows that easier-to-process information on food products increases purchase intention (Gomez et al., 2017). It is

important to consider how much information consumers are willing to take in regarding the product (Hoogland et al., 2007; Jin & Zhou, 2014). Our study focused on who should communicate the cc-information, and future research could explore how the message should be presented to consumers in order to be manageable for them to process.

5. Conclusion

When marketing food products as co-created, our results indicate that *who* communicates the cc- information matters, *if* consumers are not familiar with co-creation. In this case, co-creators as cc-information communicators are more likely to develop general consumers' trust in peer consumers as new food co-creators. Specifically, the co-creators as communicators support the perceived honesty and perceived competence of peer consumers as new food co-creators, which are relevant dimensions to consider when marketing new food products as co-created. Food companies wanting to leverage the value of co-creation in food innovation are therefore advised to consider their selection of information communicator depending on the level of co-creation familiarity in the target market.

6. References

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