Does crowdsourcing necessarily lead to brand engagement? The role of crowdsourcing cues and relationship norms on customer-brand relationships

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Dear Editor, Prof. Cleopatra Veloutsou

We are very grateful to you, and the three reviewers for your feedback in previous rounds. We are also delighted that the reviewers are positive and recommend the publication.

In this round, we addressed all the remaining concerns from JPBM’s review panel, following the Editor’s roadmap:

1. We checked all the in-text citations and make sure that they are on the reference list.
2. We checked all the references on the references list and checked if they are cited in the text.
3. We have carefully made sure that the paper followed JPBM’s submission guidelines.
4. We have addressed the remaining comments from R1 (and thanked R2 and R3 for the acceptance).
5. Additionally, we also searched business journals, specifically in the marketing area for recent literature on the following topics: (A) Crowdsourcing, (B) self-brand connection, and (C) relationship norms. Based on the search, we incorporated the following references in our paper:


Tsai, Claire I., Min Zhao, and Dilip Soman. "Salient knowledge that others are also evaluating reduces judgment extremity." *Journal of the Academy of Marketing Science* 50, no. 2 (2022): 366–387. doi.org/10.1007/s11747-021-00807


Xu, Hui, Yang Wu, and Juho Hamari. "What determines the successfulness of a crowdsourcing campaign: A study on the relationships between indicators of trustworthiness,
Comments to Reviewers 1, 2 and 3

Dear Reviewers,

Thank you for your kind comments and for recommending the acceptance of our paper. We were delighted to hear such positive feedback. Your suggestions for repositioning the paper towards customer-brand relationships have helped us a lot. Also, we agree that the differentiation between observer’s perspective adds to the paper, and helped us to better point out some key limitations of our work.

Furthermore, we also acknowledge that removing Study 4, as suggested by the some of the reviewers, was the best decision. As an author, you always like to demonstrate your empirical efforts (especially field studies). However, in this particular case, we agree with the reviewers that the limitations of our field study were higher than its contributions to the paper. Thus, the decision to remove it was the best to take (we thank the reviewers for this suggestion).

In this round, we also got some minor revision from Reviewer 1. We thank R1’s suggestions and in this new version we have followed his/her suggestions to improve our paper, in terms of (1) improving our managerial implications, (2) adding relevant literature on crowdsourcing, (3) emphasizing our validity in terms of observers, (4) clarifying our moderation effects, (5) strengthening our hypotheses, (6) improving our consistency of terms, (7) better explaining our findings, and (8) reinforcing the importance of brand engagement.

We thank JPBM’s review panel for their insightful comments. We are grateful to receive such detailed feedback to improve our work.

Thank you!

The authors
Does Crowdsourcing Necessarily Lead to Brand Engagement? The Role of Crowdsourcing Cues and Relationship Norms on Customer-Brand Relationships

ABSTRACT

**Purpose:** This research aims to examine how the relationship norms established between customers and brands influence customer perceptions of crowdsourcing (vs. firm-generated) cues.

**Design/methodology/approach:** Four studies (N=851) examine the moderating role of relationship norms on product labeling cues (crowdsourcing vs. firm-generated) effects on brand engagement, and the underlying mechanism of self-brand connection.

**Findings:** The findings suggest that crowdsourcing (vs. firm-generated) cues lead to higher brand engagement (Studies 1A–1B), mediated by self-brand connection (Studies 2–3). In addition, relationship norms moderate the effects (Study 3), such that under exchange brand relationships crowdsourcing (vs. firm-generated) cues yield higher brand engagement, whereas communal brand relationships reverse such effects.

**Practical implications:** The findings provide valuable managerial implications by highlighting the importance of using relationship norms as diagnostic cues to successfully implement crowdsourcing initiatives.

**Originality and value:** This research adds to the customer-brand relationship literature by revealing an accessibility-diagnosticity perspective of consumers' reactions to crowdsourcing (vs. firm-generated) cues.

**Keywords:** crowdsourcing, firm-generated innovation, brand engagement, relationship norms, self-brand connection.
1. Introduction

Crowdsourcing is a relatively novel practice that is gaining popularity among brands (Bal et al., 2017; Benoit et al., 2022; Gu et al., 2022; Schreier et al., 2012) in the hopes of improving customer-brand relationships and outcomes (Brunneder et al., 2020; Nishikawa et al., 2017; Schreier et al., 2016). Notably, labeling products as crowdsourcing can be an effective way to foster brand engagement (e.g., Fedorenko et al., 2017; Costa and do Vale, 2018). However, although there is some evidence for positive crowdsourcing effects (Bal et al., 2017; Wichmann et al., 2022), other studies indicate that using customers as a source of innovation can backfire (e.g., Fuchs et al., 2013; Heidenreich et al., 2015). This paucity in the literature is particularly important because crowdsourcing is an innovative way to connect and engage customers with brands (Fazli-Salehi et al., 2022; Mo et al., 2021; Robiady et al., 2021).

This research aims to contribute to the customer-brand relationship literature by providing more refined notions that qualify the relationship bonds between customers and brands. Although prior studies have focused on the strength of the bonds that unite consumers and brands (e.g., Batra et al., 2012; Park et al., 2010), brand relationships can result in unfavorable outcomes (Alvarez and Fournier, 2016) such as negative word-of-mouth and vandalism (Johnson et al., 2011) or revenge and avoidance (Grégoire et al., 2009) due to a sense of betrayal when the brand fails to them. This work draws on the psychology of customer-brand relationships (Alvarez and Fournier, 2016; Escalas, 2004; Ferraro et al., 2013) and the relationship norms literature (Aggarwal, 2004; Shuqair et al., 2022; Yang and Aggarwal, 2019) to propose an accessibility-diagnosticity perspective (Ahluwalia and Gürhan-Canli, 2000) on consumers’ reactions to crowdsourcing (vs. firm-generated) labeling cues.
The relationship norms framework indicates that customers form their perceptions of brands or providers depending on whether they consider them as basic 'exchange' relationships (characterized by quid pro quo transactions) or 'communal' relationships (based on partnership and deeper social bonds – Aggarwal, 2004; Scott et al., 2013; Wan et al., 2011; Yin et al., 2020). In particular, this research posits that the effect of crowdsourcing labeling on brand engagement and the self-brand connection depends on brand relationship norms that might signal stronger (i.e., communal) or weaker (i.e., exchange) bonds between customers and brands. Hence, it is proposed that in the absence of a strong brand relationship (i.e., exchange norms), crowdsourcing (vs. firm-generated) cues improve self-brand connection, thus generating brand engagement. That is, under such conditions crowdsourcing cues might help consumers form more positive judgments about the brand. However, when consumers develop communal brand relationships, they establish more personal and closer interactions (e.g., Aggarwal, 2004; Costello and Reczek, 2020) and rely on the company to generate better products (e.g., Fuchs et al., 2013). As a result, they react more positively to firm-generated innovation (vs. crowdsourcing).

This research makes several contributions to the brand management literature (e.g., Brodie et al., 2013; Schau et al., 2009) by revealing how crowdsourcing cues and relationship norms shape brand engagement. Brand engagement is a key variable of modern marketing, thus understanding the factors that shape engagement is crucial for marketing literature and practice (e.g., Santini et al., 2020). In particular, this research provides a more nuanced understanding of how relationship norms affect brand engagement when consumers use brands as self-signaling devices. Therefore, this research contributes to the body of knowledge in brand management by bridging the
theories of customer-brand relationships and relationship norms, providing a new
perspective of crowdsourcing as diagnostic information (Ahluwalia and Gürhan-Canli,
2000). Importantly, the findings also provide relevant guidelines for companies that
wish to develop new products, highlighting the importance of using relationship norms
as diagnostic cues to successfully implement crowdsourcing initiatives.

2. Literature Review

2.1. Crowdsourcing and Brand engagement

Crowdsourcing is a recent form of open collaboration for new product
development and idea generation (Albors et al., 2008; Jeppesen and Lakhani, 2010;
Schlagwein and Bjørn-Andersen, 2014; Xu and Hamari, 2022), in which customers are
challenged to provide a solution for companies (Howe, 2006; Palacios et al., 2016).
Various models of crowdsourcing have emerged, including crowdfunding (e.g.,
Kickstarter and Indiegogo), crowd creation (e.g., Wikipedia and Linux), and crowd
selling (e.g., Etsy, Airbnb, and Uber) (Goodman and Paolacci, 2017; Labrecque et al.,
2013). Crowdsourcing is the act of involving customers directly in the product creation
or innovation process, resulting in outcomes that meet customers’ expectations (Fuchs
et al., 2013; Nishikawa et al., 2017). It helps organizations innovate and engage
customers in new product development and sales (Howe, 2006, 2009), driving firms’
performance and competitive advantage (Primo et al., 2021).

Prior research shows that crowdsourcing is a successful branding strategy
(Estellés-Arolas and Gonzalez-Ladrón-de-Guevara, 2012; Füller and Bilgram, 2017;
Poetz and Schreier, 2012). Previous studies have examined the effects of crowdsourcing
in various domains (Gatautis and Vitkauskaite, 2014; Whitla, 2009), such as product
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development (Poetz and Schreier, 2012) and sales (Nishikawa et al., 2017), branding
(Fuchs et al., 2013), communication (Hempel, 2006; Thompson and Malaviya, 2013),
corporate social responsibility (Kull and Heath, 2016), and exposure to crowdsourcing
ideas (Chen and Althuizen, 2022). For example, Nishikawa et al. (2013) demonstrated
that crowdsourced products enjoy higher levels of success compared to firm-generated
ones.

The literature also shows that using customers as a source of innovation might
generate negative effects for brands (e.g., Fuchs et al., 2013; Heidenreich et al., 2015).
Specifically, Fuchs et al. (2013) suggest that consumers innovations for luxury products
are perceived to be lower in quality and fail to signal high status, reducing consumers
purchase of crowdsourced products in comparison to the brand designs. Moreover,
Heidenreich et al. (2015) explored the service failure context, showing that
crowdsourced services create a greater negative disconfirmation with the expected
service outcome.

This paper focuses on crowdsourcing observers (i.e., individuals exposed to
crowdsourcing innovation cues – Fuchs et al., 2013), instead of crowdsourcing
participants (i.e., individuals involved in creating and designing a new product or
ideation task – Dahl et al., 2015). Overall, participants in crowdsourcing have a higher
sense of community (Brabham, 2010), a higher level of psychological ownership
(Yuksel et al., 2019), and higher quality perceptions of the product due to their
involvement (Nishikawa et al., 2017). In contrast, observers’ perceptions of
crowdsourcing might be shaped by various factors such as their trust in the company
designs (Song et al., 2021), task popularity (Xu et al., 2022) and product complexity.
(Allen et al., 2018; Costa and do Vale, 2018; Fuchs et al., 2013), affecting their preferences for crowdsourced products.

This article focuses on how observers react to product labeling as crowdsourcing (vs. firm-generated) cues. According to the accessibility-diagnosticity model, the accessibility of cues is expected to increase the likelihood of using that input for judgment (Ahluwalia and Gürhan-Canli, 2000). Thus, the literature suggests that labeling products as crowdsourcing might affect consumers' judgments and evaluations (Dahl et al., 2015). For example, a recent field experiment indicates that the mere presence of crowdsourcing cues increased the product's actual market performance (Nishikawa et al., 2017).

This research extends prior research on crowdsourcing cues by demonstrating that the labeling of crowdsourcing (vs. firm-generated) cues affects brand engagement. Brand engagement is broadly defined as a psychological state that results from customers’ interactive experiences with brands (e.g., Brodie et al., 2011; Hollebeek et al., 2014; Paruthi and Kaur, 2017), reflecting the brand’s perceived personal relevance or importance for the consumer (Greenwald and Leavitt, 1984; Mittal, 1995). But how does labeling products as crowdsourcing (vs. firm-generated) affect engagement?

Prior research suggests that crowdsourcing cues might signal quality because they address consumers' unique needs (Nishikawa et al., 2017) and reflect consumers' involvement in innovation development (Fuchs et al., 2010; Goh et al., 2017; Sawhney et al., 2005; Schau et al., 2009; Schreier et al., 2012). Thus, it follows that when consumers perceive crowdsourcing cues, they are more capable of creating interactive experiences with brands, when compared to firm-generated innovation. That is because crowdsourcing cues signal the brand’s perceived relevance for the customer (in the form
of engagement). In summary, this research proposes that crowdsourcing cues (vs. firm-generated innovation) signal that a company values consumers, thus helping to build brand engagement.

**H1.** Perceptions of crowdsourcing (vs. firm-generated) cues will increase brand engagement.

### 2.2. The Underlying Mechanism of Self-Brand Connection

Self-brand connection is a key element of customer-brand relationships (Alvarez and Fournier, 2016; Cheng et al., 2012; Connors et al., 2021; De Keyzer et al., 2022) and refers to the degree to which consumers have incorporated the brand into their self-concept (Escalas, 2004; Liu and Mattila, 2017; Liu et al., 2022). Prior research on the psychology of customer-brand relationships indicates that customers' attachment styles affect brand relationships through self-signaling and assimilative mechanisms (Alvarez and Fournier, 2016). Thus, a fundamental aspect of a self-brand connection is that the self is implicated: relationships are stronger when the brand contributes to or reflects the consumer’s sense of self (Alvarez and Fournier, 2016; Park et al., 2010).

Self-brand connection refers to the way consumers establish cognitive links with brands and their desired identity (Escalas, 2004; Escalas and Bettman, 2005; Dretsch and Kirmani, 2014; Park et al., 2010, 2011; Tan et al., 2018). Prior research demonstrates that customers are more likely to have a stronger self-brand connection with brands that are closer to their self-image (e.g., Escalas and Bettman, 2005; Li et al., 2021; White and Dahl, 2007).

Self-brand connection captures the relationship between the customer and the brand, thus translating into positive downstream consequences such as engagement and...
purchase intention (Harrigan et al., 2018). Research further suggests that self-brand connection is associated with various factors such as brand loyalty, brand experience, or brand equity (Dwivedi et al., 2015; Grénman et al., 2019; van der Westhuizen, 2018).

Drawing on the brand management literature (Djelassi and Decoopman, 2013; Escalas, 2004; Nishikawa et al., 2017; Schreier et al., 2012; Tan et al., 2018; van der Westhuizen, 2018), this research suggests that self-brand connection mediates the effects of crowdsourcing (vs. firm-generated) cues on brand engagement.

Crowdsourcing activities provide meaningful, personal brand interactions (Dretsch and Kirmani, 2014; Hsieh and Chang, 2016), strengthening customer-brand relationships (Fedorenko et al., 2017). In line with the conceptual framework, this research predicts that labeling products with crowdsourcing (vs. firm-generated) cues can increase brand engagement, driven by a favorable disposition toward the consumer to build a self-brand connection. In particular, this research postulates that, compared with firm-generated innovation, crowdsourcing cues engender stronger self-brand connections for consumers, mediating the effects of crowdsourcing (vs. firm-generated) cues on brand engagement.

$$H_2. \text{Self-brand connection mediates the effects of crowdsourcing cues on brand engagement.}$$

2.3. The Moderating Role of Relationship Norms

This research further theorizes that relationship norms (Aggarwal, 2004; Clark and Mills, 1993; Yang and Aggarwal, 2019) influence the impact of crowdsourcing cues on brand engagement. Specifically, it is proposed that the distinction between
exchange and communal norms serves as a useful framework for understanding consumers' responses to crowdsourcing cues.

Customers differ in their reactions and evaluations of brands based on exchange versus communal norms (Aggarwal, 2004; Aggarwal and Law, 2005; Yang and Aggarwal, 2019; Wan et al., 2011). While exchange relationships are based on economic factors, communal relationships are linked to social aspects (Clark and Mills, 1979; Li et al., 2020). This research thus proposes that customers' responses to crowdsourcing (vs. firm-generated) innovation might result in higher levels of engagement under exchange (vs. communal) relationships.

When consumers have basic exchange relationships with brands, they expect *quid pro quo* (i.e., get what you pay for) situations and generally involve an ongoing cost-benefit analysis (Clark and Mills, 1993). Under such circumstances, consumers do not have strong bonds with brands (Aggarwal, 2004), causing the enhancement of diagnostic cues and making crowdsourcing cues more accessible. Thus, this research argues that labeling a product as crowdsourcing (vs. firm-generated) innovation might enhance the bond between consumers and brands. That is, for consumers with basic exchange relationships with brands, crowdsourcing might strengthen the self-brand connection, thus fostering engagement. Therefore, it is expected that under exchange norms, crowdsourcing cues might enhance brand engagement compared to firm-generated innovation.

However, communal relationships are fundamental to generating a sense of unconditional social connection between brands and consumers (Clark and Mills, 2012; Shuqair et al., 2021; Zaki et al., 2021), working as stronger cues for customer-brand
relationships and diluting the effect of crowdsourcing cues. Consumers with communal brand relationships view their interactions as more personal and closer (e.g., Aggarwal, 2004; Aggarwal and Larrick, 2012; Clark and Mills, 1993; Costello and Reczek, 2020; Wan et al., 2011). Thus, extending prior research, this research posits that when consumers have communal brand relationships, crowdsourcing cues have a lower impact on consumers, leading them to consider their purchase of firm-generated products as an act of mutual care and reciprocity (Clark and Mils, 1993). Thus, consistent with such theorizing, this research predicts that communal relationships might increase brand engagement in firm-generated (vs. crowdsourcing) innovations. More formally,

\[ H_3. \text{Relationship norms will moderate the effect of crowdsourcing cues on brand engagement.} \]

\[ H_{3A}. \text{Under exchange relationships, crowdsourcing (vs. firm-generated) cues will have a stronger positive effect on brand engagement.} \]

\[ H_{3B}. \text{Under communal relationships, firm-generated (vs. crowdsourcing) cues will have a stronger positive effect on brand engagement.} \]

Figure 1 presents the proposed model bridging the literature on crowdsourcing, customer-brand relationships, and relationship norms.
3. Overview of the Studies

Four experimental studies test the proposed hypotheses across different crowdsourcing contexts. Studies 1A and 1B examine the effect of crowdsourcing cues on brand engagement (H₁), as well as its downstream consequences on purchase intention. Study 2 shows the mediating effect of self-brand connection on brand engagement (H₂), ruling out alternative mechanisms such as self-expression. Finally, Study 3 examines the moderating role of relationship norms (H₃).

4. Study 1A

Study 1A aims to explore the basic effect of crowdsourcing cues on brand engagement suggesting that perceptions of crowdsourcing (vs. firm-generated) innovation improve brand engagement (H₁), thus leading to higher purchase intention.

4.1. Participants and Design

One hundred forty-five U.S. consumers recruited from an online panel participated in the study in exchange for a fee (54.5% male; $M_{\text{age}} = 34.72, SD = 11.43$). Study 1A uses a single-factor between-subjects design with two levels (crowdsourcing vs. firm-generated).

4.1. Procedure and Stimuli

Participants were randomly assigned to one of the two experimental conditions: crowdsourcing (vs. firm-generated). Participants in the crowdsourcing (vs. firm-generated) condition read about the new Kellogg’s Mix Bar created by Kellogg’s
consumers in an online competition (vs. Kellogg’s product development team).

Participants in both conditions received a brief explanation of the product, including information about its taste, name, and nutritional information (amount of salt, preservatives, fat, and sugar). The experimental stimuli are shown in Appendix A.

4.1. Measures

Participants evaluated brand engagement via five items ($\alpha = .92$; adapted from Hollebeek et al., 2014; Paruthi and Kaur, 2017) using a 7-point Likert scale (1 – totally disagree; 7 – totally agree). Purchase intention was measured with three items ($\alpha = .95$) (Morwitz, 2014). As a manipulation check, participants reported if the Kellogg’s Mix Bar was created by consumers during an online competition (two items, $r = .85$, $p < .001$) or by the company’s development team (two items, $r = .89$, $p < .001$) using a 7-point Likert scale.

Perceived scenario realism, brand awareness, brand purchase frequency, and product quality were controlled. Participants rated scenario realism with a single-item scale (Yoo et al., 2000), brand awareness and brand purchase frequency with a single item each, and product quality with three items ($\alpha = .86$) (1 – totally disagree; 7 – totally agree). All the measures are shown in Appendix B.

4.1. Findings

Manipulation checks. Results from a one-way ANOVA show that participants in the crowdsourcing (vs. firm-generated) condition indicated a higher agreement that the Kellogg’s Mix Bar was created by consumers ($M_{\text{crowdsourcing}} = 4.55$, $SD = 1.70$ and $M_{\text{firm-generated}} = 3.05$, $SD = 1.78$; $F_{(1,143)} = 26.72$, $p < .001$). In addition, participants in the firm-generated (vs crowdsourcing) condition indicated a higher agreement that the Kellogg’s
Mix Bar was created by the company’s development team (\(M_{\text{crowdsourcing}} = 4.72, SD = 1.75\) and \(M_{\text{firm-generated}} = 5.74, SD = 1.43; F_{(1, 143)} = 14.93, p < .001\)). Thus, crowdsourcing manipulation was successful.

**Brand Engagement.** One-way ANOVA results reveal the main effect of product labeling: crowdsourcing (vs. firm-generated) on brand engagement (\(F_{(1, 143)} = 6.10, p < .05\)). Specifically, participants in the crowdsourcing condition exhibited higher brand engagement than participants in the firm-generated condition (\(M_{\text{crowdsourcing}} = 3.96, SD = 1.42\) and \(M_{\text{firm-generated}} = 3.33, SD = 1.61\)), supporting H1. Moreover, the ANCOVA analyses indicate that the main effect results remained significant (\(F_{(1, 139)} = 6.76, p < .01\)) after controlling for scenario realism, brand awareness, brand purchase frequency, and product quality.

**Downstream Effect on Purchase Intentions.** To test the mediating effect of brand engagement on purchase intention it was conducted a mediation analysis by using the Hayes (2017) macro processes with 5,000 bootstrapped samples (Model 4). The mediation process verified crowdsourcing (independent variable) effects on purchase intention (dependent variable) through brand engagement (mediator). The bootstrap analysis shows that the indirect effect of crowdsourcing on purchase intentions through brand engagement is significant (\(b = 0.48; 95\% \text{ CI}: .13 \text{ to } .87\)). The direct effect of crowdsourcing on purchase intentions is insignificant (\(b = 0.02, p = .91; 95\% \text{ CI}: -.40 \text{ to } .45\)). Thus, the results suggest that crowdsourcing enhances brand engagement, which in turn increases purchase intention.

**4.1. Discussion**
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This study examined the effects of crowdsourcing (vs. firm-generated) cues on brand engagement and purchase intention. In particular, Study 1A provides empirical evidence of the positive impact of crowdsourcing on brand engagement and purchase intention. Crowdsourcing is increasingly being used by brands to generate new ideas (Fuchs and Schreier, 2011; Nishikawa et al., 2017). While research suggests that the design source positively affects the product’s actual market performance (Fuchs and Schreier, 2011; Nishikawa et al., 2017), this research advances the literature by revealing that brand engagement depends on the cues of product innovation (crowdsourced vs. firm-generated). Specifically, consumers exhibit higher levels of engagement with the brand when the product uses crowdsourcing (vs. firm-generated) cues, and such engagement boosts purchase intentions.

5. Study 1B

The objective of Study 1B is to replicate the effect of crowdsourcing cues on brand engagement ($H_1$) and its downstream effects on purchase intention in a new product category (fashion).

5.1. Participants and Design

One hundred eighteen U.S. consumers recruited from an online panel participated in Study 1B (58% male; $M_{age} = 35.02, SD = 11.89$). Study 1B is a single-factor between-subjects design with two levels: crowdsourcing vs. firm-generated.

5.2. Procedure and Stimuli

Study 1B used the creation of the fall H&M Capsule Collection – which is limited in terms of products and time duration – as a scenario. Participants first saw an image of eight pictures (four female and four male) of H&M’s Capsule Collection.
Next, they received a brief explanation about the collection: its name and its creative concept design. Similar to Study 1A, in the crowdsourcing condition, participants were informed that the collection was created and designed by H&M consumers in an online competition. In the firm-generated condition, participants were informed that the H&M design team developed the collection.

5.3. Measures

Brand engagement (five items; \( \alpha = .96 \)) and purchase intentions (three items; \( \alpha = .96 \)) were measured as in Study 1A. To check the effectiveness of the crowdsourcing manipulation, participants evaluated the four statements used in Study 1A: two related to crowdsourcing (\( r = .82, p < .001 \)) and two to the firm-generated condition (\( r = .90, p < .001 \)). Participants’ perception of scenario realism, brand awareness, brand purchase frequency, and product quality (three items; \( \alpha = .87 \)) were measured as control variables as in Study 1A.

5.4. Findings

Manipulation checks. Results from a one-way ANOVA show that participants in the crowdsourcing (vs. firm-generated) condition indicated a higher agreement that the collection was created by consumers (\( M_{\text{crowdsourcing}} = 5.34, SD = 1.45 \) and \( M_{\text{firm-generated}} = 2.85, SD = 2.00; F(1, 116) = 59.86, p < .001 \)). In addition, participants in the firm-generated (vs crowdsourcing) condition indicated a higher agreement that the products were created by the company’s development team (\( M_{\text{crowdsourcing}} = 3.09, SD = 1.78, \) and \( M_{\text{firm-generated}} = 5.79, SD = 1.57; F(1, 116) = 75.92, p < .001 \)). Thus, crowdsourcing manipulation was successful.
Brand engagement. One-way ANOVA results show the main effect of crowdsourcing on brand engagement ($F_{(1, 116)} = 4.50, p < .05$). Specifically, participants in the crowdsourcing condition exhibited higher levels of brand engagement than their counterparts in the firm-generated condition ($M_{\text{crowdsourcing}} = 4.04, SD = 1.62$ and $M_{\text{firm-generated}} = 3.40, SD = 1.64$). These results provide further evidence for the positive effect of crowdsourcing on brand engagement ($H_1$). In addition, the main effect remained significant ($F_{(1, 112)} = 5.36, p < .05$) after controlling for scenario realism, brand awareness, brand purchase frequency, and product quality.

Downstream Effects on Purchase Intention. Study 1A, it was analyzed the effects of crowdsourcing on purchase intention through brand engagement by the Hayes (2017) macro for SPSS® and 5,000 bootstrapped samples (Model 4). The bootstrap analysis shows that the indirect effect of crowdsourcing on purchase intentions through brand engagement was significant ($b = 0.61; 95\% \text{ CI: .04 to 1.18}$). The direct effect of crowdsourcing on purchase intentions was not significant ($b = 0.11, p = .61; 95\% \text{ CI: -.30 to .52}$). These results demonstrate the downstream effects of brand engagement on purchase intention.

5.5. Discussion

Study 1B provides additional empirical support for the first hypothesis in a different context. The findings reinforce the powerful effect of crowdsourcing in inducing brand engagement, which in turn has a positive impact on purchase intention (Liang et al., 2018; Piyathasanan et al., 2018; Thomson et al., 2005; Park et al., 2010). Notably, the findings imply that crowdsourcing cues provide meaningful brand interactions. But it remains unclear if labeling products with crowdsourcing (vs. firm-
generated) cues can affect the self-brand connection. In Study 2, the self-brand connection was explored as a mediator.

6. Study 2

Study 2 aims to explore self-brand connection as the underlying mechanism for the crowdsourcing effect on brand engagement (H2). Moreover, Study 2 uses a fictional brand thus, avoiding potential brand confounds (e.g., Åkestam et al., 2017). Study 2 also extends the previous studies by ruling out self-expression (e.g., Fedorenko et al., 2017) as an alternative mediator.

6.1. Participants, Design, and Stimuli

Two hundred and thirty-five U.S. consumers (51.9% female; M_age = 42.47, SD = 13.70) were recruited from an online panel to participate in the study for financial payment. Study 2 employed a single-factor of crowdsourcing (vs. firm-generated) between-subjects design. Participants were randomly assigned to the same scenarios as used in Study 1A. But this time this study used a fictional brand, Delight, as stimuli.

6.2. Measures

The self-brand connection was measured with a seven-item, 9-point scale (α = .97) adapted from Hollebeek et al. (2014). Brand engagement (five items; α = .97) and purchase intention (three items; α = .97) were measured as in Study 1A but using a 9-point scale. Prior research suggests that consumers favor crowdsourcing due to self-expression (e.g., Fedorenko et al., 2017). Thus, self-expression was analyzed as an
alternative mediator, and captured by a six-item, 9-point scale ($\alpha = .95$) (adapted from Rifkin et al., 2021).

In addition to the manipulation and realism checks, this study measured product importance and healthy eating involvement as control variables. Please see Appendix B for the measures used in Study 2.

6.3. Findings

**Manipulation Checks.** Results from a one-way ANOVA show that participants in the crowdsourcing (vs. firm-generated) condition indicated a higher agreement that the collection was created by consumers ($M_{\text{crowdsourcing}} = 5.94$, $SD = 2.34$ and $M_{\text{firm-generated}} = 4.43$, $SD = 2.44$; $F_{(1, 233)} = 23.32$, $p < .001$). Moreover, participants in the firm-generated (vs crowdsourcing) condition indicated a higher agreement that the products were created by the company’s development team ($M_{\text{crowdsourcing}} = 5.17$, $SD = 2.44$ and $M_{\text{firm-generated}} = 6.25$, $SD = 2.09$; $F_{(1, 233)} = 13.18$, $p < .001$). Thus, crowdsourcing manipulation was successful.

**Brand Engagement.** One-way ANOVA results show the main effect of crowdsourcing on brand engagement ($F_{(1, 233)} = 10.81$, $p < .001$). Contrasts show that participants in the crowdsourcing condition reported higher brand engagement levels compared to those in the firm-generated condition ($M_{\text{crowdsourcing}} = 4.85$, $SD = 2.28$ and $M_{\text{firm-generated}} = 3.84$, $SD = 2.40$). These results provide additional evidence for the positive impact of crowdsourcing on brand engagement, supporting $H_1$. Moreover, ANCOVA results indicate that the main effect remained significant ($F_{(1, 230)} = 5.65$, $p < .01$) after controlling for scenario realism, product importance, and healthy eating involvement.
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*Downstream Effects on Purchase Intentions.* Mediation analysis (model 4; Hayes 2017) was run to test the downstream effects of brand engagement on purchase intention as in the previous studies. A bootstrap analysis with 5,000 samples tested whether brand engagement mediated the effect of crowdsourcing on consumers’ purchase intentions. Results indicate that the indirect effect of crowdsourcing on purchase intentions via brand engagement was significant ($b = 0.56; 95\% \text{ CI: .22 to .93}$). However, the direct effect of crowdsourcing on purchase intentions was insignificant ($b = -0.05, p = .85; 95\% \text{ CI: -.54 to .45}$).

*Mediation Effect of Self-Brand Connection.* The mediation analysis of the crowdsourcing effects on brand engagement via self-brand connection was examined (model 4 with 5,000 bootstrapped samples: Hayes, 2017). Results reveal that self-brand connection mediates the crowdsourcing effect on brand engagement ($b = 0.58; 95\% \text{ CI: .07 to 1.11}$), providing support for $H_2$. The direct effect of crowdsourcing effects on brand engagement was also significant ($b = 0.43, p < .01; 95\% \text{ CI: .10 to .75}$), indicating partial mediation of self-brand connection.

*Alternative Mediation of Self-expression.* This study analyzed self-expression as an alternative mediator by running Hayes’s (2017) macro for SPSS® and 5,000 bootstrapped samples (Model 4). Results yielded an insignificant indirect effect of self-expression on brand engagement ($b = 0.10; 95\% \text{ CI: -.03 to .28}$), thus ruling out the alternative mediator.

6.4. Discussion

Study 2 provides evidence for the research theorizing that self-brand connection mediates the impact of crowdsourcing on brand engagement. Consistent with the
theorizing, the findings suggest that crowdsourcing (vs. firm-generated) cues indeed enhance consumers’ self-brand connection. This study extends prior research on the self-brand connection (e.g., Dwivedi et al., 2015; Ferraro et al., 2013) suggesting that crowdsourcing affects consumers’ self-brand connection. That is, customers display positive reactions to crowdsourcing (vs. company-generated) cues because they perceive such innovations as more self-relevant. Additionally, this study also ruled out self-expression as a potential mediator underlying crowdsourcing effects on brand engagement research (Fedorenko et al., 2017). Study 3 explores the moderating effect of relationship norms, providing evidence for the proposed full model.

7. Study 3

Study 3 aims to explore the assumption that consumers rely on communal (vs. exchange) relationship norms for their evaluation of the source of innovation (crowdsourcing vs. firm-generated cues). By doing so, Study 3 extends the previous studies by examining the moderating role of relationship norms (H3). In particular, this study proposes that under exchange relationships, crowdsourcing (vs. firm-generated) cues will have a stronger positive effect on brand engagement (H3A). However, in contrast, this study expects that consumers with communal relationships will have a stronger positive effect on brand engagement for firm-generated (vs. crowdsourcing) cues (H3B).

7.1. Participants, Design, and Stimuli
Three hundred and fifty-three U.S. consumers (53% female; \(M_{age} = 43.63, SD = 12.92\)) were recruited from an online panel and were paid to participate in the study. Study 3 employed a 2 (relationship norms: communal vs. exchange) × 2 (crowdsourcing cues: crowdsourcing vs. firm-generated) between-subjects design.

First, participants were randomly assigned to one of the relationship norms conditions. To manipulate relationship norms, participants were asked to recall a friendly restaurant (communal norm condition) or one with a good value for money (exchange norm condition) that they have used extensively and have been very happy with. Then, in an open-ended format, participants were instructed to describe their relationship with the restaurant (You et al., 2021).

Next, participants were randomly assigned to one of the crowdsourcing (vs. firm-generated) conditions. Participants were informed that restaurant patrons (vs. the chef) created different versions of a chocolate cake. Please see Appendix A for the stimuli used in Study 3.

### 7.2. Measures

Self-brand connection (seven items, \(\alpha = .93\); Hollebeek et al., 2014), purchase intention (three items, \(\alpha = .98\); Morwitz, 2014), brand engagement (five items, \(\alpha = .94\)), and self-expression (six items, \(\alpha = .94\); Rifkin et al., 2021) were captured as in Study 2. Manipulation checks for relationship norms verified if participants perceived their relationship with the restaurant as communal or exchange (Wan et al., 2011). The rest of the measures were identical to Study 2. Please see Appendix B for more information about the measures used in Study 3.

### 7.3. Findings
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Manipulation Checks. As expected, participants in the communal relationship condition perceived their relationship with the restaurant as more communal than their counterparts in the exchange condition ($M_{\text{communal}} = 6.38$, $SD = 2.02$ and $M_{\text{exchange}} = 5.90$, $SD = 2.24$; $F_{(1, 351)} = 4.44$, $p < .05$). Further, participants in the exchange relationship condition perceived their relationship with the restaurant higher in terms of exchange norms than those in the communal condition ($M_{\text{communal}} = 6.06$, $SD = 2.29$ and $M_{\text{exchange}} = 6.72$, $SD = 1.95$; $F_{(1, 351)} = 7.71$, $p < .01$).

The study also checked the crowdsourcing manipulation effectiveness. Results suggest that participants in the crowdsourcing condition highly indicated that the chocolate cake was created by consumers than those in the firm-generated condition ($M_{\text{crowdsourcing}} = 5.89$, $SD = 2.43$ and $M_{\text{firm-generated}} = 3.33$, $SD = 2.64$; $F_{(1, 351)} = 90.08$, $p < .001$). Moreover, participants were more likely to perceive that the chocolate cake was created by the restaurant chef in the firm-generated condition in comparison to participants in the crowdsourcing condition ($M_{\text{crowdsourcing}} = 5.55$, $SD = 2.70$ and $M_{\text{firm-generated}} = 7.89$, $SD = 1.36$; $F_{(1, 351)} = 103.28$, $p < .001$). Taken together, manipulation checks were successful.

Moderating Effect of Relationship Norms. A 2x2 ANOVA with relationship norms (communal vs. exchange) and crowdsourcing (crowdsourcing vs. firm-generated) as between-subjects factors, and brand engagement as the dependent variable, showed the predicted interaction (see Figure 2) ($F_{(1, 349)} = 8.79$, $p < .01$), providing support to $H_3$. Simple comparisons show that exchange relationships led to higher brand engagement in the crowdsourcing ($M = 6.88$, $SD = 1.45$) than in the firm-generated condition ($M = 6.38$, $SD = 1.90$; $F_{(1, 349)} = 4.03$, $p < .05$), supporting $H_{3A}$. In contrast,
COMMUNAL RELATIONSHIPS led to higher brand engagement in the firm-generated ($M = 7.08, SD = 1.50$) than in the crowdsourcing condition ($M = 6.53, SD = 1.67; F(1, 349) = 4.77, p < .05$), supporting $H_{3B}$. The main effect of relationship norms ($F(1, 349) = 1.03, ns$) and crowdsourcing ($F(1, 349) = .02, ns$) were insignificant. Moreover, ANCOVA analysis indicates that the 2x2 interaction results remained significant ($F(1, 346) = 5.60, p < .05$) after controlling for scenario realism, product importance, and healthy eating involvement. Figure 2 presents the relationship norms moderation effects.

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Insert Figure 2 about here

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**Moderated Mediation on Brand Engagement.** This study examined the moderating effect of relationship norms on the effect of crowdsourcing (independent variable) on brand engagement (dependent variable) mediated by self-brand connection using the macro for SPSS® with 5,000 bootstrapped samples (Model 8; Hayes, 2017). Results show that the indirect effect of crowdsourcing on brand engagement through self-brand connection was significant in the exchange relationship condition ($b = -.36; 95\% CI: -.74 to -.01$), but insignificant in the communal relationship condition ($b = .14; 95\% CI: -.20 to .49$). The direct effect of crowdsourcing on brand engagement was insignificant in the exchange norm condition ($b = -.13, p = .45; 95\% CI: -.46 to .20$) but significant in the communal relationship condition ($b = .40, p < .05; 95\% CI: .07 to .74$), indicating that the crowdsourcing effect on brand engagement is fully mediated by self-brand connection in the exchange norm condition.

**Downstream Effects on Purchase Intention.** Moreover, the moderation of
relationship norms on crowdsourcing and the downstream effects of brand engagement on purchase intentions was examined via model 8 (Hayes 2017). Results suggest that the indirect effect of crowdsourcing on purchase intention via brand engagement was significant in the exchange relationship \((b = -0.24; 95\% \text{ CI}: -0.52 \text{ to } -0.01)\) and in the communal relationship condition \((b = 0.27; 95\% \text{ CI}: 0.04 \text{ to } 0.54)\), while the direct effects were not significant. As expected, the findings suggest that exchange norms enhance crowdsourcing effects, while communal norms drive firm-generated innovation effects.

7.4. Discussion

Study 3 provides empirical support for the moderating effect of relationship norms. In particular, the findings support our theorizing that crowdsourcing (vs. firm-generated) cues result in greater customer engagement and purchase intention under exchange (vs. communal) relationship norms. In particular, the findings suggest that when consumers have communal brand relationships, crowdsourcing cues have a lower impact on consumers, leading them to consider the firm-generated products as an act of communal bonds increasing self-brand connection. In contrast, under exchange norms, consumers prefer crowdsourcing innovation. In addition, Study 3 further demonstrates that self-brand connection mediates the effects of crowdsourcing cues when consumers develop exchange (vs. communal) relationships with brands.

8. General Discussion

Crowdsourcing has emerged as a profitable format of product innovation (Brunneder et al., 2020; Mickos, 2020; Tsai et al., 2022). Prior research shows that
crowdsourcing enhances brand performance (Boudreau and Lakhani, 2013). Across four studies, this research demonstrates that crowdsourcing initiatives positively impact brand engagement, which in turn influences purchase intention. Self-brand connections drive such effects. The results further reveal the moderating role of relationship norms in influencing the crowdsourcing effect.

8.1. Theoretical Contributions

This research makes important contributions to the brand management literature (e.g., Brodie et al., 2013; Schau et al., 2009) by examining the impact of customer-brand relationships (Alvarez and Fournier, 2016; Escalas, 2004; Ferraro et al., 2013) and relationship norms (Aggarwal, 2004; Shuqair et al., 2022; Yang and Aggarwal, 2019) on consumers' reactions to crowdsourcing (vs. firm-generated) labeling cues. First, the findings demonstrate the positive effect of crowdsourcing on customer-brand relationships, providing a new perspective on the crowdsourcing effect. This research argues that crowdsourcing cues allow consumers to expand their engagement with the company due to self-brand connection, extending previous studies on crowdsourcing (Fuchs et al., 2010; Sawhney et al., 2005; Schau et al., 2009). Prior research has demonstrated the dual effect of crowdsourcing having both positive (e.g., Fuchs and Schreier, 2011; Nishikawa et al., 2017) and negative effects on brands (e.g., Fuchs et al., 2013). The findings of this research demonstrate the positive effect of crowdsourcing cues on customer-brand relationships: brand engagement (Studies 1A–1B) and self-brand connection (Study 2-3).

Second, prior research has focused on how self-brand connection improves customer responses to the brand (e.g., Escalas, 2004; Dwivedi et al., 2015; Ferraro et al., 2013) by facilitating brand engagement (Harrigan et al., 2018; Moliner et al., 2018).
This research extends the literature by demonstrating that crowdsourcing cues may generate a sense of self-brand connection between customers and brands. Prior studies indicate that participation in crowdsourcing initiatives creates value through identity construction and expression (Fedorenko et al., 2017). Our findings imply that customers tend to have positive reactions to crowdsourcing because they feel that such innovations are more self-relevant, thus leading to higher customer-brand relationship outcomes.

Finally, the current research also explores crowdsourcing effects across relationship norms (e.g., Aggarwal, 2004; Yang and Aggarwal, 2019; Yin et al., 2020). Prior research on relationship norms has mainly focused on information processing (e.g., Aggarwal, 2004), customers’ reactions to service providers (e.g., Wan et al., 2011), and norm violations under communal vs. exchange relationships (Yang and Aggarwal, 2019). The current research demonstrates that when customers develop exchange (vs. communal) relationships with brands, they exhibit higher levels of customer-brand relations and purchase intention with crowdsourcing (vs. firm-generated) labeling cues. The findings suggest that exchange relationships boost the effects of crowdsourcing cues by fostering self-brand connection and brand engagement once consumers form more positive judgments about the brand. However, communal relationships detriment crowdsourcing positive influence because consumers already established personal and closer interactions with the brand (e.g., Aggarwal, 2004; Costello and Reczek, 2020) relying on its competence to create innovations (i.e., firm-generated; Fuchs et al., 2013). Such findings shed light on the moderating role of relationship norms and might be useful to explain why prior research found inconclusive effects of crowdsourcing from brands (e.g., Fuchs et al., 2013; Thompson and Malaviya, 2013).
8.2. Managerial Implications

The present findings provide valuable managerial implications for companies wishing to improve customer-brand relationships by adopting crowdsourcing strategies. Our studies demonstrate the positive effect of crowdsourcing labeling cues in different market sectors: food (Study 1A – Kellogg’s and Study 2 - Delight), fashion (Study 1B – H&M), and services (Study 3 – Restaurant). The findings suggest that perceived crowdsourcing cues might be a promising strategy to increase self-brand connection, brand engagement, and purchase intention, especially for exchange norms brands.

In particular, studies 1–2 show that perceptions of crowdsourcing (vs. firm-generated) innovation increased self-brand connection, engagement, and purchase intention. Therefore, brands seeking to increase self-brand connection should adopt crowdsourcing strategies and will, as a consequence, increase consumers engagement and purchase intentions, even from an observers’ perspective. For instance, Nyden (H&M's new brand targeted at millennials), used Instagram influencers and tools on the social media platform to create designs for its collection where the brand's followers had to choose their preferred options (Dua, 2018). According to our findings, this campaign might have positive outcomes fostering brand relationships and sales for those exposed to the crowdsourcing cues. The H&M brand is particularly clever for using a social media platform to perform crowdsourcing innovation, where consumers can create the designs (by choosing between options) and expose this strategy to others (observers) being positively influenced. Moreover, using a social media platform makes it easy to check engagement (e.g., likes, comments) and purchase intentions (e.g., leads).

Engagement is a cornerstone of modern marketing, and our findings help address
previous literature inconsistencies (e.g., Santini et al., 2020), fostering clearer managerial guidance on how to improve brand engagement using crowdsourcing.

The findings from Study 3 suggest that exchange (vs. communal) providers should adopt crowdsourcing cues due to its positive outcomes such as enhanced self-brand connection and brand engagement. For instance, the Heineken’s initiative of asking consumers to improve the product's aesthetic appearance (Althuizen and Chen, 2022) might increase self-brand connection and brand engagement specially for consumers with exchange brand relationship. Moreover, consumers with exchange brand relationships with Starbucks and McDonald's will be particularly affected by the successful campaigns, namely “The White Cup Is Your Canvas” and "My Burger Campaign". They activated self-brand connections among consumers who indicated their preference for identity-relevant crowdsourced products. However, it is essential to highlight that the presence of crowdsourcing cues is not beneficial to stimulate self-brand connection and engagement for small, "commmunally oriented" brands. Such brands should focus on firm-generated innovations.

8.3. Limitations and Future Research

This research has some limitations that might stimulate future research. First, studies focused on the downstream effects of crowdsourcing labeling cues on brand engagement and purchase intention. Future research should verify whether crowdsourcing cues influence purchase behavior over time and for other products of the same company (e.g., cross-selling). It is believed that a stronger self-brand connection should positively influence consumers’ search for new products of the same company (Dahl et al., 2015), thus, possibly increasing brand loyalty (Turner et al., 2020). It
would be interesting to investigate whether crowdsourcing spill-over effects can benefit the company as a whole (not only the specific crowdsourced product).

This research focused on crowdsourcing (vs. firm-generated) innovation cues. However, some campaigns encourage both customers and employees to collaborate together in product development and innovation. For instance, DHL asked customers and employees to collaborate on ways to improve DHL’s supply chain, and further improve its service (Chaordix, 2018). Therefore, future research could explore customer perceptions of such mixed innovations.

The present findings comprehend perceived crowdsourcing innovation impacts for low complexity products (i.e., cereal bar, chocolate cake, and clothes) of mainstream brands (i.e., H&M and Kellogg’s). Product complexity is related to consumers’ perception of the level of difficulty in designing a product (Schreier et al., 2012). Research shows that consumers prefer firm-generated innovation for highly-complex products since they believe that a high level of expertise is required and they lack such qualifications (Schreier et al., 2012; Song et al., 2021). Moreover, previous research suggests that consumers of luxury products indicated a higher preference for firm-generated innovations, viewing them as higher in quality and as signaling high status (Fuchs et al., 2013). Therefore, future research can explore the interplay between consumers’ perception of crowdsourcing (vs. firm-generated) innovation cues and brand relationship norms for high-complexity and luxury products (Allen et al., 2018).

Consumer cultural context is also an important aspect to be considered. This research involved U.S. consumers who tend to be low in power distance. Paharia and Swaminathan (2019) and Song et al. (2021) findings suggest that consumer cultural context moderates the effects of crowdsourcing innovation: low power distance
consumers prefer crowdsourced products, whereas high power distance consumers prefer firm-generated versions. Thus, the present findings cannot be generalized for all consumers, being limited to those from low power distance cultural backgrounds.

Future research could verify consumers' perception of crowdsourcing innovation for brands with communal (vs. exchange) norms considering different cultural contexts (i.e., comparing low and high-power distance).

Furthermore, our studies mainly focused on observers of crowdsourcing innovations, which can impact the validity of some of our findings. Previous research explored crowdsourcing observers (e.g., Fuchs et al., 2013), as crowdsourcing participants (e.g., Dahl et al., 2015). Therefore, future research could explore how actively participating in crowdsourcing (vs. observing) can affect the self-brand connection.

Lastly, although this research identified important positive effects of crowdsourcing on brand engagement, such effects might not be universal. Under which conditions will consumers place greater trust in firm-designed (vs. consumer-designed) products? If consumers are passionate about the brand, they might prefer firm employees’ design over crowdsourcing (Fuchs et al., 2013), as the present findings indicate in the case of communal (vs. exchange) norms. Furthermore, customer dependence on a supplier might strengthen customer-brand relationships (Najafi-Tavani et al., 2020) and possibly reduce the positive effects of crowdsourcing. Further studies could examine these research streams.
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FIGURES

Figure 1. Proposed model and hypotheses.

Figure 2. Crowdsourcing and relationship norms moderation effects in Study 3.
### Appendix A. Stimuli Used in Studies

<table>
<thead>
<tr>
<th>Study</th>
<th>Condition</th>
<th>Stimuli</th>
</tr>
</thead>
</table>
| Study 1A| Crowdsourcing | **Kellogg’s introduces a new energy cereal: Mix Bar!**  
On a specially launched online platform, Kellogg’s consumers [Kellogg’s product development team] created different versions of a new cereal bar. A healthy whole grain cereal with its mix of fruits was the winner option. Kellogg’s Mix Bar is all natural with no sugar, salt or preservatives added and is low in fat. |
| Study 1B| Crowdsourcing | **Minimal: The H&M Consumers’ Collection**  
This is the new H&M capsule collection designed for Autumn and it is called Minimal. The collection has been externally made: the designs were created by H&M consumers through an online contest [The collection has been internally made: the designs were created by H&M development employees]. H&M consumers [H&M designers] joined efforts to create a concept of the collection, to design and sketch all the details of the products. The collection represents minimalist ideas and creates an impression of genderless designs through monochromatic clothes. The outfits will be available in US stores very soon. |
| Study 2 | Crowdsourcing | **Delights introduces a new energy cereal: Mix Bar!**  
On a specially launched online platform, different versions of a new cereal bar were created by Delights’ consumers [Delights’ company's development team]. A healthy whole grain cereal with its mix of fruits was the chosen option. Mix Bar is all-natural with no sugar, salt or preservatives added and is low in fat. |
| Study 3 | Crowdsourcing | **Please remember a restaurant that you have used extensively and have been very happy with the quality of its menu and services. Try to recall a restaurant you feel thrilled and have warm feelings [periodically makes some offers to you that appear to be of great value] when you go there. You have communicated with their staff before, and you have had very pleasant and warm interactions with them [they seem to be quite well trained and smart].**  
Overall, your experience with this restaurant has been memorable [excellent]. When you think of your relationship with this restaurant, it reminds you of your relationship with a close friend/family member [with a business partner].  
**Crowdsourcing**  
Now imagine that this restaurant's consumers created different versions of chocolate cake in a specially launched online platform [restaurant's Chef created different versions of chocolate cake]. A dark chocolate cake with a mix of nuts was chosen to be included in the menu. The dark chocolate cake is all-natural with no refined sugar, or preservatives added and is low in fat (compared to a traditional dessert). |
## Appendix B. Table of Measurements Scales

<table>
<thead>
<tr>
<th>Study</th>
<th>Scale</th>
<th>Items</th>
<th>Cronbach's Alpha</th>
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| Studies 1A–3 | Brand engagement (adapted from Hollebeek et al., 2014, Paruthi and Kaur, 2017) | 1) Engaging with [Brand] has a special meaning for me.  
2) I feel the experience of being part of [Brand]'s community of consumers to be pleasurable.  
3) I have an emotional relationship to [Brand].  
4) [Brand] satisfies me because I identify myself with it.  
5) I feel emotionally involved with [Brand]. | S1A = .92  
S1B = .96  
S2 = .97  
S3 = .94 |
|          |                                                                       |                                                                       |                  |
|          | Purchase Intentions (Morwitz, 2014)                                   | 1) Definitely do not intend to buy / Definitely intend to buy  
2) Very low purchase interest / High purchase interest  
3) Probably not buy it / Probably buy it | S1A = .95  
S1B = .96  
S2 = .97  
S3 = .98 |
| Studies 2–3 | Self-brand Connection (Hollebeek et al., 2014)                       | 1) This brand reflects who I am.  
2) I can identify with this brand.  
3) I feel a personal connection to this brand.  
4) I use this brand to communicate who I am to other people.  
5) I think this brand (could) help(s) me become the type of person I want to be.  
6) I consider this brand to be ‘me’ (It reflects who I consider myself to be or the way that I want to present myself to other(s)).  
7) This brand suits me well. | S2 = .97  
S3 = .93 |
|          |                                                                       |                                                                       |                  |
|          | Self-expression (Rifkin et al., 2021)                                 | 1) This brand allows other people to understand who I am.  
2) This brand helps me represent what kind of person I am.  
3) This brand helps me disclose who I am to the world.  
4) This brand allows me to craft my identity.  
5) This brand lets me express myself.  
6) This brand lets me shape my own identity/personality. | S2 = .95  
S3 = .94 |
| Studies 1A–3 | Manipulation Checks – Crowdsourcing                                  | 1) The product was created and designed by consumers in an online competition.  
2) The product is the result of a consumer creation who has won the competition proposed by the company. | S1A r = .85  
S1B r = .82  
S2 r = .84  
S3 r = .90 |
|          | Manipulation Checks – Firm-generated                                 | 1) The product was created and designed by company employees (restaurant chef).  
2) The product is the result of the company development team (restaurant chef). | S1A r = .89  
S1B r = .90  
S2 r = .75  
S3 r = .93 |
| Study 3  | Manipulation Checks – Communal (Wan et al., 2011)                     | 1) I imagine that I have a communal relationship with restaurant. |                |
| Study 3  | Manipulation Checks – Exchange (Wan et al., 2011)                    | 1) I imagine that I have a business relationship with this restaurant. |                |
| Studies 1A–3 | Control – Scenario Realism (Yoo et al., 2000)                       | 1) Very unrealistic/ Very realistic, (Studies 1A and 1B)  
2) The scenario presented is realistic, (Studies 2 and 3)  
2) The scenario could happen in real life, (Studies 2 and 3) | S2 r = .88  
S3 r = .82 |
| Studies 1A–1B | Control – Brand Awareness                                           | 1) I am aware of this brand. |                |
| Studies 1A–1B | Control – Brand Purchase Frequency                                 | 1) I frequently buy products from this brand. |                |
| Studies 1A–1B | Control – Product Quality                                           | 1) The product is of high quality.  
2) The product appears to be of very good quality.  
3) I consider that the product has quality. | S1A = .86  
S1B = .87 |
| Study 2–3 | Control – Product Importance                                         | 1) How important is [product] in your life?  
2) How important is eating dessert for you? (Study 3) | S3 r = .82 |
| Study 2–3 | Control – Healthy Eating Involvement                                 | 1) How important is healthy eating for you? |                |