

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

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

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Manuscript ID JPBM-06-2022-4020.R1, entitled “Does Crowdsourcing Necessarily Lead to Brand Engagement? The Role of Crowdsourcing Cues and Relationship Norms on Customer-Brand Relationships”

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:

Benoit, Sabine, Yonggui Wang, Lefa Teng, Daniel P. Hampson, and Xia Li. "Innovation in the sharing economy: A framework and future research agenda." *Journal of Business Research* 149 (2022): 207–216. doi.org/10.1016/j.jbusres.2022.05.020

Chen, Bo, and Niek Althuizen. "The effects of exposure to others' ideas and their ratings on online crowdsourcing platforms on the quantity and novelty of subsequently generated ideas." *Journal of Product Innovation Management* (2022). doi.org/10.1111/jpim.12621

De Keyser, Freya, Nathalie Dens, and Patrick De Pelsmacker. "How and when personalized advertising leads to brand attitude, click, and WOM intention." *Journal of Advertising* 51, no. 1 (2022): 39–56. doi.org/10.1080/00913367.2021.1888339

Liu, Maggie Wenjing, Qichao Zhu, and Xian Wang. "Building consumer connection with new brands through rituals: the role of mindfulness." *Marketing Letters* 33, no. 2 (2022): 237–250. doi.org/10.1007/s11002-021-09583-7

Robiady, Nurlita Devian, Nila Armelia Windasari, and Arfenia Nita. "Customer engagement in online social crowdfunding: The influence of storytelling technique on donation performance." *International Journal of Research in Marketing* 38, no. 2 (2021): 492–500. doi.org/10.1016/j.ijresmar.2020.03.001

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, and Juho Hamari. "How to improve creativity: a study of gamification, money, and punishment." *Behaviour & Information Technology* (2022): 1–15. doi.org/10.1080/0144929X.2022.2133634

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

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Manuscript ID JPBM-06-2022-4020.R1, entitled “Does Crowdsourcing Necessarily Lead to Brand Engagement? The Role of Crowdsourcing Cues and Relationship Norms on Customer-Brand Relationships”

popularity, and success." *Journal of Business Research* 139 (2022): 484–495.

doi.org/10.1016/j.jbusres.2021.09.032

We believe that this version is error free in terms of references (in the paper we had a triple-check procedure with all authors) and cites the most notable and recent papers on the topic.

We hope that we have answered all your questions, and we look forward to hearing back from you at your earliest convenience.

Sincerely,

The authors

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

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4 **Does Crowdsourcing Necessarily Lead to Brand Engagement? The Role of**
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6 **Crowdsourcing Cues and Relationship Norms on Customer-Brand Relationships**
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8
9 **ABSTRACT**

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11 **Purpose:** This research aims to examine how the relationship norms established
12 between customers and brands influence customer perceptions of crowdsourcing (vs.
13 firm-generated) cues.
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19 **Design/methodology/approach:** Four studies ($N=851$) examine the moderating role of
20 relationship norms on product labeling cues (crowdsourcing vs. firm-generated) effects
21 on brand engagement, and the underlying mechanism of self-brand connection.
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26 **Findings:** The findings suggest that crowdsourcing (vs. firm-generated) cues lead to
27 higher brand engagement (Studies 1A–1B), mediated by self-brand connection (Studies
28 2–3). In addition, relationship norms moderate the effects (Study 3), such that under
29 exchange brand relationships crowdsourcing (vs. firm-generated) cues yield higher
30 brand engagement, whereas communal brand relationships reverse such effects.
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38 **Practical implications:** The findings provide valuable managerial implications by
39 highlighting the importance of using relationship norms as diagnostic cues to
40 successfully implement crowdsourcing initiatives.
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46 **Originality and value:** This research adds to the customer-brand relationship literature
47 by revealing an accessibility-diagnostics perspective of consumers' reactions to
48 crowdsourcing (vs. firm-generated) cues.
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53 **Keywords:** crowdsourcing, firm-generated innovation, brand engagement, relationship
54 norms, self-brand connection.
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CROWDSOURCING CUES AND BRAND ENGAGEMENT

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.

CROWDSOURCING CUES AND BRAND ENGAGEMENT

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

CROWDSOURCING CUES AND BRAND ENGAGEMENT

1 theories of customer-brand relationships and relationship norms, providing a new
2
3 perspective of crowdsourcing as diagnostic information (Ahluwalia and Gürhan-Canli,
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5 2000). Importantly, the findings also provide relevant guidelines for companies that
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7 wish to develop new products, highlighting the importance of using relationship norms
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9 as diagnostic cues to successfully implement crowdsourcing initiatives.
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2. Literature Review*2.1. Crowdsourcing and Brand engagement*

21
22 Crowdsourcing is a recent form of open collaboration for new product
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24 development and idea generation (Albors *et al.*, 2008; Jeppesen and Lakhani, 2010;
25
26 Schlagwein and Bjørn-Andersen, 2014; Xu and Hamari, 2022), in which customers are
27
28 challenged to provide a solution for companies (Howe, 2006; Palacios *et al.*, 2016).
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30 Various models of crowdsourcing have emerged, including crowdfunding (e.g.,
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32 Kickstarter and Indiegogo), crowd creation (e.g., Wikipedia and Linux), and crowd
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34 selling (e.g., Etsy, Airbnb, and Uber) (Goodman and Paolacci, 2017; Labrecque *et al.*,
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36 2013). Crowdsourcing is the act of involving customers directly in the product creation
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38 or innovation process, resulting in outcomes that meet customers' expectations (Fuchs
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40 *et al.*, 2013; Nishikawa *et al.*, 2017). It helps organizations innovate and engage
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42 customers in new product development and sales (Howe, 2006, 2009), driving firms'
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44 performance and competitive advantage (Primo *et al.*, 2021).
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51 Prior research shows that crowdsourcing is a successful branding strategy
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53 (Estellés-Arolas and Gonzalez-Ladrón-de-Guevara, 2012; Fuller and Bilgram, 2017;
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55 Poetz and Schreier, 2012). Previous studies have examined the effects of crowdsourcing
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57 in various domains (Gatautis and Vitkauskaitė, 2014; Whitla, 2009), such as product
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CROWDSOURCING CUES AND BRAND ENGAGEMENT

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3 development (Poetz and Schreier, 2012) and sales (Nishikawa *et al.*, 2017), branding
4 (Fuchs *et al.*, 2013), communication (Hempel, 2006; Thompson and Malaviya, 2013),
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6 corporate social responsibility (Kull and Heath, 2016), and exposure to crowdsourcing
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8 ideas (Chen and Althuizen, 2022). For example, Nishikawa *et al.* (2013) demonstrated
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10 that crowdsourced products enjoy higher levels of success compared to firm-generated
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12 ones.
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17 The literature also shows that using customers as a source of innovation might
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19 generate negative effects for brands (e.g., Fuchs *et al.*, 2013; Heidenreich *et al.*, 2015).
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21 Specifically, Fuchs *et al.* (2013) suggest that consumers innovations for luxury products
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23 are perceived to be lower in quality and fail to signal high status, reducing consumers
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25 purchase of crowdsourced products in comparison to the brand designs. Moreover,
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27 Heidenreich *et al.* (2015) explored the service failure context, showing that
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29 crowdsourced services create a greater negative disconfirmation with the expected
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31 service outcome.
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36 This paper focuses on crowdsourcing *observers* (i.e., individuals exposed to
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38 crowdsourcing innovation cues – Fuchs *et al.*, 2013), instead of crowdsourcing
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40 *participants* (i.e., individuals involved in creating and designing a new product or
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42 ideation task – Dahl *et al.*, 2015). Overall, participants in crowdsourcing have a higher
43
44 sense of community (Brabham, 2010), a higher level of psychological ownership
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46 (Yuksel *et al.*, 2019), and higher quality perceptions of the product due to their
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48 involvement (Nishikawa *et al.*, 2017). In contrast, observers' perceptions of
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50 crowdsourcing might be shaped by various factors such as their trust in the company
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52 designs (Song *et al.*, 2021), task popularity (Xu *et al.*, 2022) and product complexity
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CROWDSOURCING CUES AND BRAND ENGAGEMENT

(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-diagnostics 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

CROWDSOURCING CUES AND BRAND ENGAGEMENT

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

CROWDSOURCING CUES AND BRAND ENGAGEMENT

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3 purchase intention (Harrigan *et al.*, 2018). Research further suggests that self-brand
4 connection is associated with various factors such as brand loyalty, brand experience, or
5 brand equity (Dwivedi *et al.*, 2015; Grénman *et al.*, 2019; van der Westhuizen, 2018).
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10 Drawing on the brand management literature (Djelassi and Decoopman, 2013;
11 Escalas, 2004; Nishikawa *et al.*, 2017; Schreier *et al.*, 2012; Tan *et al.*, 2018; van der
12 Westhuizen, 2018), this research suggests that self-brand connection mediates the
13 effects of crowdsourcing (vs. firm-generated) cues on brand engagement.
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19 Crowdsourcing activities provide meaningful, personal brand interactions (Dretsch and
20 Kirmani, 2014; Hsieh and Chang, 2016), strengthening customer-brand relationships
21 (Fedorenko *et al.*, 2017). In line with the conceptual framework, this research predicts
22 that labeling products with crowdsourcing (vs. firm-generated) cues can increase brand
23 engagement, driven by a favorable disposition toward the consumer to build a self-
24 brand connection. In particular, this research postulates that, compared with firm-
25 generated innovation, crowdsourcing cues engender stronger self-brand connections for
26 consumers, mediating the effects of crowdsourcing (vs. firm-generated) cues on brand
27 engagement.
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40 *H₂. Self-brand connection mediates the effects of crowdsourcing cues on*
41 *brand engagement.*
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48 2.3. The Moderating Role of Relationship Norms

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51 This research further theorizes that relationship norms (Aggarwal, 2004; Clark
52 and Mills, 1993; Yang and Aggarwal, 2019) influence the impact of crowdsourcing
53 cues on brand engagement. Specifically, it is proposed that the distinction between
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CROWDSOURCING CUES AND BRAND ENGAGEMENT

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

CROWDSOURCING CUES AND BRAND ENGAGEMENT

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,

H₃. Relationship norms will moderate the effect of crowdsourcing cues on brand engagement.

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

H_{3B}. 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.

Insert Figure 1 about here

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 (H_1), as well as its downstream consequences on purchase intention. Study 2 shows the mediating effect of self-brand connection on brand engagement (H_2), ruling out alternative mechanisms such as self-expression. Finally, Study 3 examines the moderating role of relationship norms (H_3).

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 (H_1), 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

CROWDSOURCING CUES AND BRAND ENGAGEMENT

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

CROWDSOURCING CUES AND BRAND ENGAGEMENT

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 H_1 . 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% CI: .13 to 0.87). The direct effect of crowdsourcing on purchase intentions is insignificant ($b = 0.02$, $p = .91$; 95% CI: -.40 to .45). Thus, the results suggest that crowdsourcing enhances brand engagement, which in turn increases purchase intention.

4.1. Discussion

CROWDSOURCING CUES AND BRAND ENGAGEMENT

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.

CROWDSOURCING CUES AND BRAND ENGAGEMENT

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.

CROWDSOURCING CUES AND BRAND ENGAGEMENT

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 ($b = 0.61; 95\% \text{ CI: } .04 \text{ to } 1.18$). The direct effect of crowdsourcing on purchase intentions was not significant ($b = 0.11, p = .61; 95\% \text{ CI: } -.30 \text{ to } .52$). 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-

CROWDSOURCING CUES AND BRAND ENGAGEMENT

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; $M_{\text{age}} = 42.47$, $SD = 13.70$) 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 ($\alpha = .97$) adapted from Hollebeek *et al.* (2014). Brand engagement (five items; $\alpha = .97$) and purchase intention (three items; $\alpha = .97$) 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

CROWDSOURCING CUES AND BRAND ENGAGEMENT

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 ($M_{crowdsourcing} = 5.94$, $SD = 2.34$ and $M_{firm-generated} = 4.43$, $SD = 2.44$; $F_{(1, 233)} = 23.32$, $p < .001$). Moreover, participants in the firm-generated (vs crowdsourcing) condition indicated a higher agreement that the products were created by the company's development team ($M_{crowdsourcing} = 5.17$, $SD = 2.44$ and $M_{firm-generated} = 6.25$, $SD = 2.09$; $F_{(1, 233)} = 13.18$, $p < .001$). 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 ($M_{crowdsourcing} = 4.85$, $SD = 2.28$ and $M_{firm-generated} = 3.84$, $SD = 2.40$). These results provide additional evidence for the positive impact of crowdsourcing on brand engagement, supporting H₁. 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.

CROWDSOURCING CUES AND BRAND ENGAGEMENT

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% CI: .22 to .93). However, the direct effect of crowdsourcing on purchase intentions was insignificant ($b = -0.05$, $p = .85$; 95% 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% CI: .07 to 1.11), providing support for H₂. The direct effect of crowdsourcing effects on brand engagement was also significant ($b = 0.43$, $p < .01$; 95% 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% 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

CROWDSOURCING CUES AND BRAND ENGAGEMENT

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

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32 Study 3 aims to explore the assumption that consumers rely on communal (vs.
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34 exchange) relationship norms for their evaluation of the source of innovation
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36 (crowdsourcing vs. firm-generated cues). By doing so, Study 3 extends the previous
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38 studies by examining the moderating role of relationship norms (H₃). In particular, this
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40 study proposes that under exchange relationships, crowdsourcing (vs. firm-generated)
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42 cues will have a stronger positive effect on brand engagement (H_{3A}). However, in
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44 contrast, this study expects that consumers with communal relationships will have a
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46 stronger positive effect on brand engagement for firm-generated (vs. crowdsourcing)
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48 cues (H_{3B}).
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7.1. Participants, Design, and Stimuli

CROWDSOURCING CUES AND BRAND ENGAGEMENT

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3 Three hundred and fifty-three U.S. consumers (53% female; $M_{\text{age}} = 43.63$, $SD =$
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5 12.92) were recruited from an online panel and were paid to participate in the study.
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8 Study 3 employed a 2 (relationship norms: communal vs. exchange) \times 2 (crowdsourcing
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10 cues: crowdsourcing vs. firm-generated) between-subjects design.
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14 First, participants were randomly assigned to one of the relationship norms
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16 conditions. To manipulate relationship norms, participants were asked to recall a
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18 friendly restaurant (communal norm condition) or one with a good value for money
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20 (exchange norm condition) that they have used extensively and have been very happy
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22 with. Then, in an open-ended format, participants were instructed to describe their
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24 relationship with the restaurant (You *et al.*, 2021).
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28 Next, participants were randomly assigned to one of the crowdsourcing (vs.
29
30 firm-generated) conditions. Participants were informed that restaurant patrons (vs. the
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32 chef) created different versions of a chocolate cake. Please see Appendix A for the
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34 stimuli used in Study 3.
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37 38 7.2. Measures

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40 Self-brand connection (seven items, $\alpha = .93$; Hollebeek *et al.*, 2014), purchase
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42 intention (three items, $\alpha = .98$; Morwitz, 2014), brand engagement (five items, $\alpha = .94$),
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44 and self-expression (six items, $\alpha = .94$; Rifkin *et al.*, 2021) were captured as in Study 2.
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46 Manipulation checks for relationship norms verified if participants perceived their
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48 relationship with the restaurant as communal or exchange (Wan *et al.*, 2011). The rest
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50 of the measures were identical to Study 2. Please see Appendix B for more information
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52 about the measures used in Study 3.
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56 57 7.3. Findings

CROWDSOURCING CUES AND BRAND ENGAGEMENT

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 ($M_{communal} = 6.38$, $SD = 2.02$ and $M_{exchange} = 5.90$, $SD = 2.24$; $F_{(1, 351)} = 4.44$, $p < .05$). 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 ($M_{communal} = 6.06$, $SD = 2.29$ and $M_{exchange} = 6.72$, $SD = 1.95$; $F_{(1, 351)} = 7.71$, $p < .01$).

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 ($M_{crowdsourcing} = 5.89$, $SD = 2.43$ and $M_{firm-generated} = 3.33$, $SD = 2.64$; $F_{(1, 351)} = 90.08$, $p < .001$). 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 ($M_{crowdsourcing} = 5.55$, $SD = 2.70$ and $M_{firm-generated} = 7.89$, $SD = 1.36$; $F_{(1, 351)} = 103.28$, $p < .001$). 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 H₃. 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,

CROWDSOURCING CUES AND BRAND ENGAGEMENT

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.

 Insert Figure 2 about here

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

CROWDSOURCING CUES AND BRAND ENGAGEMENT

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 ($b = -.24$; 95% CI: $-.52$ to $-.01$) and in the communal relationship condition ($b = .27$; 95% CI: $.04$ to $.54$), 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 CUES AND BRAND ENGAGEMENT

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).

CROWDSOURCING CUES AND BRAND ENGAGEMENT

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3 This research extends the literature by demonstrating that crowdsourcing cues may
4 generate a sense of self-brand connection between customers and brands. Prior studies
5 indicate that participation in crowdsourcing initiatives creates value through identity
6 construction and expression (Fedorenko *et al.*, 2017). Our findings imply that customers
7 tend to have positive reactions to crowdsourcing because they feel that such innovations
8 are more self-relevant, thus leading to higher customer-brand relationship outcomes.
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17 Finally, the current research also explores crowdsourcing effects across
18 relationship norms (e.g., Aggarwal, 2004; Yang and Aggarwal, 2019; Yin *et al.*, 2020).
19 Prior research on relationship norms has mainly focused on information processing
20 (e.g., Aggarwal, 2004), customers' reactions to service providers (e.g., Wan *et al.*,
21 2011), and norm violations under communal vs. exchange relationships (Yang and
22 Aggarwal, 2019). The current research demonstrates that when customers develop
23 exchange (vs. communal) relationships with brands, they exhibit higher levels of
24 customer-brand relations and purchase intention with crowdsourcing (vs. firm-
25 generated) labeling cues. The findings suggest that exchange relationships boost the
26 effects of crowdsourcing cues by fostering self-brand connection and brand engagement
27 once consumers form more positive judgments about the brand. However, communal
28 relationships detriment crowdsourcing positive influence because consumers already
29 established personal and closer interactions with the brand (e.g., Aggarwal, 2004;
30 Costello and Reczek, 2020) relying on its competence to create innovations (i.e., firm-
31 generated; Fuchs *et al.*, 2013). Such findings shed light on the moderating role of
32 relationship norms and might be useful to explain why prior research found
33 inconclusive effects of crowdsourcing from brands (e.g., Fuchs *et al.*, 2013; Thompson
34 and Malaviya, 2013).
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CROWDSOURCING CUES AND BRAND ENGAGEMENT

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

CROWDSOURCING CUES AND BRAND ENGAGEMENT

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3 previous literature inconsistencies (e.g., Santini et al., 2020), fostering clearer
4 managerial guidance on how to improve brand engagement using crowdsourcing.
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8 The findings from Study 3 suggest that exchange (vs. communal) providers
9 should adopt crowdsourcing cues due to its positive outcomes such as enhanced self-
10 brand connection and brand engagement. For instance, the Heineken's initiative of
11 asking consumers to improve the product's aesthetic appearance (Althuizen and Chen,
12 2022) might increase self-brand connection and brand engagement specially for
13 consumers with exchange brand relationship. Moreover, consumers with exchange
14 brand relationships with Starbucks and McDonald's will be particularly affected by the
15 successful campaigns, namely "*The White Cup Is Your Canvas*" and "*My Burger*
16 *Campaign*". They activated self-brand connections among consumers who indicated
17 their preference for identity-relevant crowdsourced products. However, it is essential to
18 highlight that the presence of crowdsourcing cues is not beneficial to stimulate self-
19 brand connection and engagement for small, "communally oriented" brands. Such
20 brands should focus on firm-generated innovations.
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38 *8.3. Limitations and Future Research*

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41 This research has some limitations that might stimulate future research. First,
42 studies focused on the downstream effects of crowdsourcing labeling cues on brand
43 engagement and purchase intention. Future research should verify whether
44 crowdsourcing cues influence purchase behavior over time and for other products of the
45 same company (e.g., cross-selling). It is believed that a stronger self-brand connection
46 should positively influence consumers' search for new products of the same company
47 (Dahl et al., 2015), thus, possibly increasing brand loyalty (Turner et al., 2020). It
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CROWDSOURCING CUES AND BRAND ENGAGEMENT

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

CROWDSOURCING CUES AND BRAND ENGAGEMENT

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3 consumers prefer crowdsourced products, whereas high power distance consumers
4 prefer firm-generated versions. Thus, the present findings cannot be generalized for all
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6 consumers, being limited to those from low power distance cultural backgrounds.
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10 Future research could verify consumers' perception of crowdsourcing innovation for
11 brands with communal (vs. exchange) norms considering different cultural contexts
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13 (i.e., comparing low and high-power distance).
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17 Furthermore, our studies mainly focused on observers of crowdsourcing
18 innovations, which can impact the validity of some of our findings. Previous research
19 explored crowdsourcing observers (e.g., Fuchs *et al.*, 2013), as crowdsourcing
20 participants (e.g., Dahl *et al.*, 2015). Therefore, future research could explore how
21 actively participating in crowdsourcing (vs. observing) can affect the self-brand
22 connection.
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31 Lastly, although this research identified important positive effects of
32 crowdsourcing on brand engagement, such effects might not be universal. Under which
33 conditions will consumers place greater trust in firm-designed (vs. consumer-designed)
34 products? If consumers are passionate about the brand, they might prefer firm
35 employees' design over crowdsourcing (Fuchs *et al.*, 2013), as the present findings
36 indicate in the case of communal (vs. exchange) norms. Furthermore, customer
37 dependence on a supplier might strengthen customer-brand relationships (Najafi-Tavani
38 *et al.*, 2020) and possibly reduce the positive effects of crowdsourcing. Further studies
39 could examine these research streams.
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CROWDSOURCING CUES AND BRAND ENGAGEMENT

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CROWDSOURCING AND CUSTOMER ENGAGEMENT

FIGURES

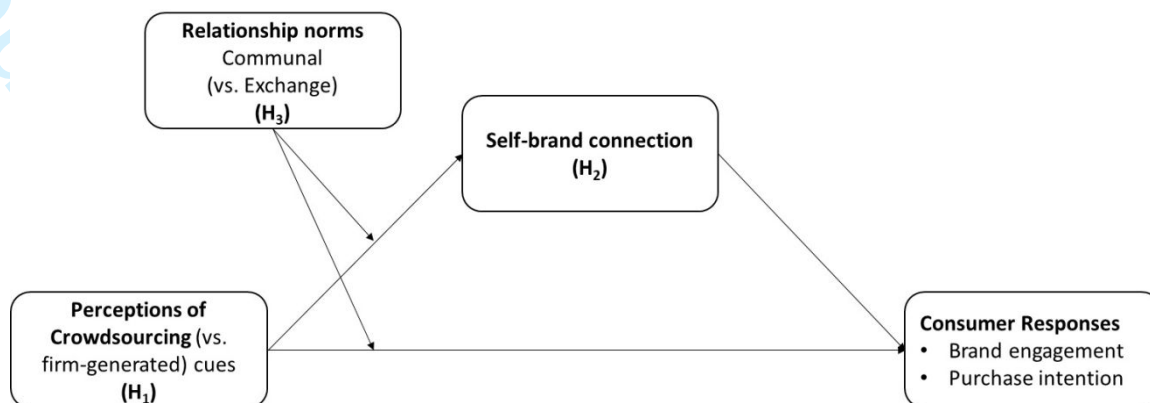


Figure 1. Proposed model and hypotheses.

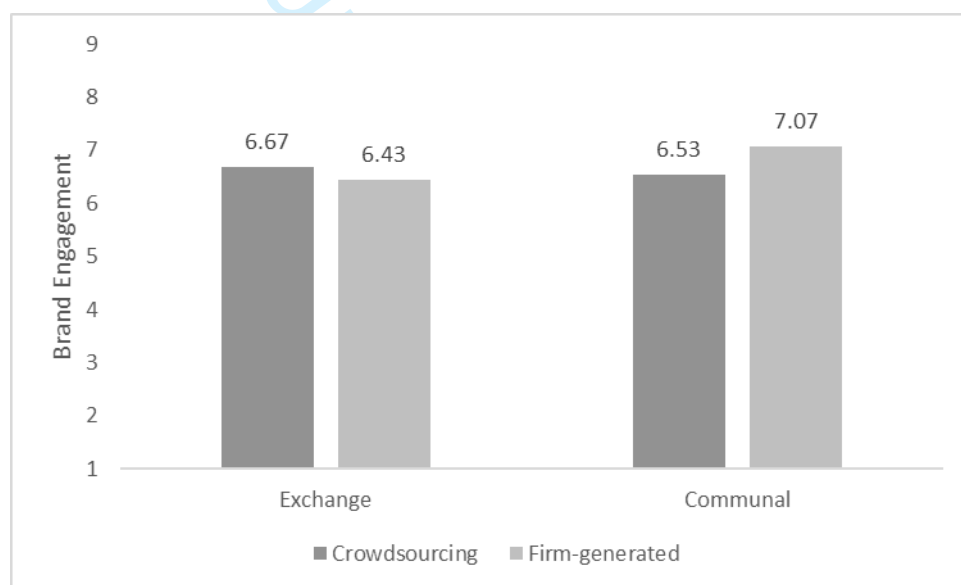


Figure 2. Crowdsourcing and relationship norms moderation effects in Study 3.

CROWDSOURCING AND CUSTOMER ENGAGEMENT

APPENDICES

Appendix A. Stimuli Used in Studies

Study	Condition	Stimuli
Study 1A	Crowdsourcing [Firm-Generated]	<p>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.</p>
		<p>Minimal: The H&M Consumers' Collection [Minimal: The H&M Designers' Collection]</p> <p>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.</p>
Study 2	Crowdsourcing [Firm-Generated]	<p>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.</p>
		<p>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].</p>
Study 3	Communal [Exchange] Relationship Norm	<p>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).</p>
		<p>Crowdsourcing [Firm-Generated]</p>

CROWDSOURCING AND CUSTOMER ENGAGEMENT

Appendix B. Table of Measurements Scales

Study	Scale	Items	Cronbach's Alpha
Studies 1A–3	Brand engagement (adapted from Hollebeek <i>et al.</i> , 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
Studies 1A–3	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 <i>et al.</i> , 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
Studies 2–3	Self-expression (Rifkin <i>et al.</i> , 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 <i>r</i> = .85 S1B <i>r</i> = .82 S2 <i>r</i> = .84 S3 <i>r</i> = .90
Studies 1A–3	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 <i>r</i> = .89 S1B <i>r</i> = .90 S2 <i>r</i> = .75 S3 <i>r</i> = .93
Study 3	Manipulation Checks – Communal (Wan <i>et al.</i> , 2011)	1) I imagine that I have a communal relationship with restaurant.	
Study 3	Manipulation Checks – Exchange (Wan <i>et al.</i> , 2011)	1) I imagine that I have a business relationship with this restaurant.	
Studies 1A–3	Control – Scenario Realism (Yoo <i>et al.</i> , 2000)	1) Very unrealistic/ Very realistic. (<i>Studies 1A and 1B</i>) 1) The scenario presented is realistic. (<i>Studies 2 and 3</i>) 2) The scenario could happen in real life. (<i>Studies 2 and 3</i>)	S2 <i>r</i> = .88 S3 <i>r</i> = .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? (<i>Study 3</i>)	S3 <i>r</i> = .82
Study 2–3	Control – Healthy Eating Involvement	1) How important is healthy eating for you?	