Driving consumer–brand engagement and co-creation by brand interactivity

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Abstract

Purpose – This paper investigates the impact of brand interactivity within social media on consumer–brand engagement and its related outcomes, including consumers’ intention of co-creating brand value and future repurchase of the same brand.

Design/methodology/approach – The theoretical framework is tested for a durable technology product, a smartphone. Data was collected in Brazil from 408 users utilizing a self-administered online survey. Data analysis uses partial least squares–structural equation modelling (PLS-SEM).

Findings – Entertainment interactivity, cognitive information-transfer interaction and cognitive up-to-date information interactivity are the key elements directly influencing consumer–brand engagement, enhancing consumers’ intention to co-create brand value and to repurchase the brand. Importantly, the impact of interactivity ease of use and customization interactivity on consumer–brand engagement and its related outcomes is non-significant. This is inconsistent with previous studies on consumer–brand engagement.

Research limitations/implications – The research contributes to the literature by providing an understanding of how to use brand interactivity elements on social-media platforms to strengthen consumer–brand engagement for durable technology products, such as smartphones in Brazil. However, this study is cross-sectional in nature and focus is solely on smartphones in Brazil. Future research might consider a longitudinal design and include comparisons between countries with diverse cultures as well as other industries and product types to enhance the generalizability of the findings.

Practical implications – Marketers may heighten consumer–brand engagement by using content that is entertaining, current and trendy. Incorporating positive referrals on social-media platforms encourages consumers to co-create brand value and to repurchase the same brand in the future.

Originality/value – Examination of the role of social-media marketing in the marketing literature largely overlooks the impact of elements of brand interactivity within social media on consumer–brand engagement. This article contributes to social-media marketing and consumer–brand engagement research by empirically testing a theoretical model, confirming that specific elements of brand interactivity within social media – including entertainment interactivity, cognitive information-transfer interaction and cognitive up-to-date information interactivity – are critical drivers in the process of strengthening consumer–brand engagement in Brazil.

Keywords Brand interactivity, Engagement, Co-creation, Repurchase intention, Social media, Brazil

We are grateful for constructive comments offered by the anonymous reviewers.
1. Introduction
Consumer–brand engagement (CBE) is deemed a critical factor for building firms’ competitive advantage within markets (Nysveen and Pedersen, 2014). Regarded as a key marketing research priority (MSI, 2018), CBE refers to “consumers’ brand-related cognitive, emotional and behavioural activity related to focal brand interactions” (Hollebeek et al., 2014, p. 149). CBE is conceptualized as a psychological state that involves consumers’ passion for the brand, arising from the strength of consumer–brand interactions (Brodie et al., 2011).

The need to manage CBE strategically justifies attention on how CBE is formed, nurtured and sustained (Calder et al., 2016) and on its implications for behavioural outcomes (Hollebeek et al., 2014), namely consumer co-creation and repurchase intention. Co-creation involves consumers’ potential to help shape the brand (France et al., 2015), seen as critical for brand success (Ind and Coates, 2013) by strengthening repurchase intention. The importance of repurchase intention is second only to actual purchase (Cobb-Walgren et al., 1995; Morrison, 1979).

Notwithstanding, intelligence on how to facilitate consumer–brand interactions, hence strengthening consumers’ psychological engagement with the brand and their co-creation intention, remains mostly undeveloped (France et al., 2018). With the advancement of social media, marketers increasingly use social-media brand communication to evoke consumer–brand interaction to achieve positive business outcomes (Cheung et al., 2019). Growing awareness about the potential brand-building benefits of using social media calls for more research to guide marketers in a digital world (Hudson et al., 2016), strengthening the importance of enhanced brand interactivity on social-media platforms (Kim and Lee, 2019; Ramadan et al., 2018). This study answers Bolton’s (2011) call for empirical research on how firms should facilitate brand interactivity to strengthen CBE, value co-creation and repurchase intention. Bolton’s call warrants scholarly attention to brand interactivity within social media, regarded as one of the most useful platforms in facilitating brand interactivity, driving CBE and strengthening consumers’ value co-creation and repurchase intention (Kim and Lee, 2019; Merrilees, 2016).

Brand interactivity within social media is an important but relatively new marketing-strategy area, and understanding of how it influences CBE and co-creation is limited (Dessart et al., 2015; Galvagno and Dalli, 2014). Accordingly, this study examines the role of brand interactivity within social media on CBE, value co-creation and repurchase intention. The paper proceeds by critically reviewing the relevant literature to identify research gaps. This leads to developing a theoretical model, where brand interactivity within social-media elements acts as a driver of CBE, itself driving value co-creation and repurchase intention. The paper then discusses the methodology used and the results of the empirical analysis, followed by implications for theory and practice, limitations and future research directions.

2. Conceptual foundations and hypotheses
A critical review of the literature dealing with CBE, brand interactivity within social media, co-creation and repurchase intention underpins the subsequent development of the theoretical framework and associated hypotheses used to guide the empirical research reported in this paper.

2.1 Consumer–brand engagement (CBE)
The focus of CBE is on consumers’ specific level of cognitive, emotional and behavioural activity in brand interactions (Hollebeek et al., 2014). CBE is considered critical in affecting consumer behaviours (Bowden, 2009; Wong and Merrilees, 2015), including self-brand connection, brand attitude, purchase intention and brand loyalty (France et al., 2016; Harrigan et al., 2017; Luo et al., 2015; Yang et al., 2017). Its importance justifies the extensive literature
examining CBE’s antecedents and consequents, including recent interest on the potential impact of brand interactivity on social-media platforms on CBE and subsequent behaviours (De Vries et al., 2012; Hollebeek and Macky, 2019; Nisar and Whitehead, 2016).

The notion that firms can enhance CBE by strengthening consumer–brand interactions on social-media platforms (De Vries and Carlson, 2014; Dessart et al., 2015; Ibrahim et al., 2017) highlights the importance of consumer–brand interactions in building CBE (Bento et al., 2018; Kim et al., 2014). In doing so, they create brand experiences by using different forms of brand interactivity (Barger et al., 2016; Merrilees, 2016).

2.2 Brand interactivity within social media
Conceptualized as a firm-level antecedent of CBE and value co-creation, brand interactivity refers to consumers’ perception of authentic preference for a brand in interacting with the brand (France et al., 2016). Brand interactivity reflects two-way communication between consumers and brands (Fiore et al., 2005; Merrilees and Miller, 2001). It is deemed critical in driving positive consumer–brand experiences (Merrilees and Miller, 1996), as well as being conducive to building effective relationships (Merrilees, 2002; Ou et al., 2014) and generating consumer e-trust in the brand (Merrilees and Fry, 2003). Brand interactivity is facilitated by social media (Al-Htibat and Garanti, 2019; Prasad et al., 2019), due to its ability in promoting collaboration and content sharing between community members (Valos et al., 2016), and the use of online applications, platforms, Web tools or technological systems (Kaplan and Haenlein, 2010).

In a social-media context, interactivity refers to the interaction between the social-media platforms and consumers that facilitates the development of trust and relationship amongst the communicating parties (Chan and Guillet, 2011; Dennis et al., 2009; Merrilees and Fry, 2003). France et al. (2016) conceptualize brand interactivity within social media at two levels, namely the facilitation of consumer–brand connections and the technical facilitation of consumer–brand interactions. The former involves consumers’ overall evaluation of whether brands are willing to listen to what they are saying in two-way communication. The latter refers to whether the online interactive features of the brand provide an effective and convenient means for direct, bilateral brand–consumer communications (France et al., 2015). Arguably, brands can strengthen the consumer–brand relationship by communicating with consumers using social-media platforms, thus encouraging consumer participation in brand-related activities, such as sharing their usage experience and participating in competitions and in the development of new ideas for products and services (Gómez et al., 2019). This supports the view that brand interactivity is positively associated with consumers’ willingness to participate in brand-related activities, suggesting that CBE is the outcome of repeated interactions between consumers and brands (Mollen and Wilson, 2010).

Given its influential role in driving CBE, how to facilitate interactions in a social-media setting developed into a fundamental matter of interest for business and marketers (Chan and Guillet, 2011; France et al., 2016; Merrilees, 2016). The first step in addressing this matter is to realize that brand interactivity within social media can involve several tactics depending on which elements are deployed. Drawing upon the brand-interactivity literature (see, e.g. Dessart et al., 2015; France et al., 2016; Merrilees and Fry, 2003; Merrilees, 2016), these elements are entertainment interactivity (EI), customization interactivity (CI), interactivity ease of use (IEOU), cognitive information-transfer interaction (CITI) and cognitive up-to-date information interactivity (CII). Each element is discussed further.

2.2.1 Entertainment interactivity (EI). Brands can facilitate brand interactivity by using entertaining content that is perceived as fun and playful when using social-media platforms (Agichtein et al., 2008; Manthiou et al., 2013; Merrilees and Fry, 2002). Dessart et al. (2015) assert that brand posts with funny stories, photo postings and exciting experiences are useful in facilitating consumer–brand interactions, thereby driving consumers’ attention and
intention to participate in social-media brand communities. Similarly, Merrilees (2016) argues that entertaining content, such as games, multi-media videos and entertaining demonstrations available on social-media platforms are perceived by consumers to be interactive and useful in strengthening their intention to seek brand-related information and to provide feedback. More recently, Hollebeek and Macky (2019) emphasize the tactical importance of content marketing on social-media platforms, arguing that entertaining content plays an essential role in driving interactivity, thus promoting consumers’ engagement by exerting greater cognitive effort to understand more about the brand. The argument is that fun and playful experiences ultimately build a sense of intimacy with the brand. This strengthens consumer–brand interactions, building consumers’ affection toward the brand (Ashley and Tuten, 2015; Frasquet-Deltoro et al., 2019) and strengthening their intention to engage with the brand as their primary consumption choice (France et al., 2016). Thus, we hypothesize that:

**H1.** The level of entertainment interactivity has a positive effect on CBE.

### 2.2.2 Customization interactivity (CI).

Utilizing the technological features of social-media platforms, brands can facilitate interactivity by offering customized information to consumers. Regarded as an effective means in driving brand interactivity (Fiore et al., 2005; Merrilees, 2016), customization refers to the extent to which services are tailored to satisfy consumers’ personal preferences (Godey et al., 2016). Social-media marketing technologies permit marketers to customize their messages and to maintain a personalized dialogue with customers (Miller and Lammas, 2010), being useful in developing a close and personalized relationship with consumers, hence facilitating brand interactivity (Hollebeek and Macky, 2019; Merrilees and Fry, 2003).

CI may be achieved by adapting services, marketing efforts and messages to create value for a specific consumer or consumer group (Zhu and Chen, 2015), creating enjoyable experiences and motivating consumers to read brand-related information on social-media platforms (Mishra, 2019). Indeed, customized and personalized messaging enhances interactivity, improving consumers’ understanding of the brand and their cognitive brand recognition (Merrilees, 2016).

Schulze et al. (2015) argue that consumers are more willing to read relevant information that is available on social-media platforms, endorsing the notion that when marketers provide information that fits consumers’ needs, consumers are more willing to visit the sites because of higher enjoyment levels (Fiore et al., 2005). Thus, when brands offer customized messages and services according to consumers’ preferences, this positively influences consumers’ perceptions of the benefits offered to them by the brand, enhancing their affection for the brand (Fiore et al., 2005; Hollebeek and Macky, 2019; Phan et al., 2011). When consumers’ cognitive experience and affection for a brand are enhanced, consumers are more willing to consider the focal brand as their primary choice, as reflected in their activation (Harrigan et al., 2017). Thus, we hypothesize that:

**H2.** The level of customization interactivity has a positive effect on CBE.

### 2.2.3 Interactivity ease of use (IEOU).

Inextricably linked with the interactivity on social media, perceived ease of use draws from Davis’s (1989) technology acceptance model (TAM), being “the degree to which a person believes that using a particular system would be free of effort” (Davis, 1989, p. 320). Perceived ease of use is widely employed as an antecedent of users’ intention to adopt information-technology platforms (Featherman et al., 2010) and of engagement (Frasquet-Deltoro et al., 2019; Yang et al., 2017).

Applied to the social-media context, consumer–brand interaction is strengthened when consumers are more familiar with the interactive features of social-media platforms (Frasquet-Deltoro et al., 2019; Fry and Merrilees, 2001). Arguably, marketers can enhance IEOU on
social-media platforms by guiding consumers to participate in collaborative activities (Chung and Koo, 2015; Pai and Yeh, 2014), along with messages encouraging the sharing and dissemination of brand-related information amongst consumers (Manthiou et al., 2014).

As consumers vary in their competence in using the interactive features of social-media platforms to interact with brands, their socialization and training in communicating with brands help improve their interactional proficiency using social-media platforms (Frasquet-Deltoro et al., 2019; Groth, 2005). Thus, consumers’ familiarization with the brand-related interactive content on social-media platforms strengthens consumer–brand interaction, improving consumers’ cognitive understanding of the product attributes and brand benefits (Ballantine, 2005; De Vries et al., 2012; Hudson et al., 2016). That is, higher perceived ease of use of brands’ interactive features on social-media platforms acts as an intrinsic motivation for consumers to engage in information sharing with their brands of interest and other like-minded users (Frasquet-Deltoro et al., 2019), thereby resulting in higher levels of enthusiasm and subsequent development of affection (Vivek et al., 2012). Enhanced affection is deemed to strengthen consumers’ activation and subsequent development of CBE (Harrigan et al., 2017). Thus, we hypothesize that:

**H3.** Interactivity ease of use has a positive effect on CBE.

2.2.4 Cognitive information-transfer interaction (CITI). CITI occurs when consumers use other consumers’ reviews and referrals to get ideas and opinions about products and services offered by their brands of interest (Merrilees, 2016), such as electronic referrals related to tourism information (Al-Htibat and Garanti, 2019). Product reviews are like electronic word-of-mouth (EWOM), and communications are made by potential, actual or former customers about a product, brand or company using social-media platforms (Hennig-Thurau et al., 2004).

Arguably, consumers increasingly generate and share unconstrained brand-related information with other social-media users – including friends, peers and the general public – by two-way interaction, because this information is perceived to be credible and trustworthy (Reza Jalivand and Samiei, 2012). Thus, CITI motivates consumers to read and share brand-related information, strengthening their understanding of the focal brands and positively affecting their product evaluations (Gómez et al., 2019; Krishnamurthy and Kumar, 2018). The creation and sharing of cognitive brand information amongst consumers build a sense of closeness and emotional relationship between brands and consumers (Brodie et al., 2013; Chae et al., 2015), generating positive feelings (De Vries et al., 2012) and strengthening the consumer–brand relationship. Importantly, consumers who actively obtain information through interactions with other consumers, such as reviews and referrals, become familiar with the brand, thus strengthening their intention to choose the focal brand as their primary choice, as reflected in their purchase intention (Hajli et al., 2017). Thus, we hypothesize that:

**H4.** Cognitive information-transfer interaction has a positive effect on CBE.

2.2.5 Cognitive up-to-date information interactivity (CII). CII refers to the extent to which consumers interact with brands on social-media platforms to obtain the latest news and updates about their brands of interest, driving their cognitive engagement (Dessart et al., 2015; Hollebeek and Macky, 2019). Arguably, CII includes updates of trendiness information, current discussion topics and novel ideas about brands initiated by both marketers and consumers (Gallaugher and Ransbotham, 2010; Seo and Park, 2018).

When consumers are motivated to exert their cognitive presence in brand-related interactions related to trendiness topics, repeated interactions develop positive brand perceptions in their minds (Chan et al., 2014). Therefore, the trendier the information carried by social-media brand pages is, then the more effective brands are in engaging consumers (Mishra, 2019). Thus, we hypothesize that:
2.3 CBE and value co-creation

Value co-creation implies that consumers play an active role as participants in brand experiences and brand value creation, rather than being passive receivers of brand-related information and purchasers of the brand (Prahalad and Ramaswamy, 2004). Particularly with the emergence of a customer-centric logic combined with service-dominant logic (Brodie et al., 2006; Vargo and Lusch, 2004), consumers are regarded as co-creators of brand value when they engage in interaction activities with brands, with brand value considered as one of the most essential sources of a firm’s competitive advantage (Tajvidi et al., 2018).

Brand value is also co-created when consumers directly or indirectly share their brand experience with other consumers (France et al., 2015; Rosenthal and Brito, 2017), either when collaborating in the new product development process to develop new product ideas (Bharti et al., 2014) or when co-creating the design of products (Galvagno and Dalli, 2014; Hsieh and Chang, 2016). In these cases, co-creation allows consumers to be active partners working with a brand, hence playing a significant role in determining brand success (Cowan and Ketron, 2018; Juntunen, 2012; Tajvidi et al., 2017).

The intertwining of engagement and value co-creation (France et al., 2015) sustains the argument that CBE positively influences consumer–brand relationships (Hollebeek, 2011), empirically supported by research findings showing that engagement is a relational antecedent with a direct effect on consumers’ propensity to co-create, strengthening consumers’ perceived brand value (France et al., 2018; Thompson and Malaviya, 2013). Thus, we hypothesize that:

\[
H6. \text{ CBE has a positive effect on co-creation.}
\]

2.4 CBE and repurchase intention

Acting as a proxy for purchase behaviour (Morwitz et al., 2007), repurchase intention refers to consumers’ intention to buy the same product or service from the same firm on more than one occasion (Hellier et al., 2003) or to engage in future activities with the brand (Curtis et al., 2011; Hume et al., 2007). Consumers’ attention, understanding and positive affection develop from brand-interactivity elements on social media through the engagement process, driving repurchase intention (Kuo et al., 2009; Lee et al., 2019; Wu et al., 2014). Therefore, CBE positively affects brand-loyalty outcomes, including repurchase intention (Dwivedi, 2015; Hollebeek et al., 2014; Leckie et al., 2016). Thus, we hypothesize that:

\[
H7. \text{ CBE has a positive effect on repurchase intention.}
\]

3. Methodology

3.1 Design

A self-administered, online survey in Portuguese was used to collect data from a convenience sample of consumers with a Facebook account in Brazil. The survey was drafted in English and successfully back-translated into Portuguese (Brislin, 1970). The choice of Brazil for this research is justified given its 66 per cent social-media penetration rate at the start of 2019 (Chaffey, 2019), with the number of social media users expected to increase to 114 million by 2021 (Statista, 2019a). With a daily usage in excess of 214 min, Brazilians rank second in terms of daily time spent on social-media platforms (PagBrasil, 2019), compared to 136 min
global average (Statista, 2019b). Brazilians increasingly engage with brands on social-media platforms, searching for information, interacting with brands and like-minded users and co-creating brand value (Lima et al., 2019).

Following recent studies on branding and engagement (e.g. Djatmiko and Pradana, 2016; Hsu et al., 2018; Kudeshia and Kumar, 2017), this research used smartphones as the focal product. A smartphone is a high-technology product that allows consumers to use their imagination to meet their needs, enjoying unique brand experiences during the co-creation process. For example, Nokia initiated co-creative marketing activities by inviting consumers to contribute to the design of smartphones for themselves, aiming at strengthening CBE and brand loyalty (Vivek et al., 2012). Hence, a smartphone is deemed an appropriate focal product for this study.

3.2 Measures

The questionnaire featured seven-point Likert scales (1 = strongly disagree, 7 = strongly agree), using measurement items adopted from previous studies (see Table I). For brand interactivity within social media, 19 items covering five elements (EI, CI, IEOU, CIF and CII) were adapted from Kim and Ko (2010). Ten items adopted from Leckie et al. (2016) tapped the cognitive processing (three items), affection (four items) and activation (three items) dimensions. Five items from Nysveen and Pedersen (2014) measured co-creation. Lastly, three items from Wu et al. (2014) measured repurchase intention.

Conceptualized as a three-dimensional construct, CBE was operationalized as a second-order, reflective-reflective construct. The cognitive processing, affection and activation dimensions are justified for two reasons. One reason is that CBE studies assert a positive correlation between these three second-order dimensions (Dwivedi, 2015; Harrigan et al., 2017; So et al., 2016). For example, when consumers invest cognitive efforts in understanding more about their favourite brands, their cognitive efforts are expected to correlate positively with their positive emotions (i.e. affection) and attitude towards the brand as the first choice in their decision-making process (i.e. activation). Since the three second-order dimensions are positively correlated, a reflective-reflective, second-order operationalization is justified (Jarvis et al., 2003). The second reason is that prior CBE studies with reflective-reflective operationalization have reported satisfactory results (Hinson et al., 2019; Islam et al., 2018).

3.3 Data collection and sample

Promoted by the research team on social media, including Facebook, LinkedIn and WhatsApp groups, along with an email sent to an extended network of Brazilian contacts, data collection tallied 408 useable responses.

All respondents were Brazilians, over 18 years old, experienced users of social-media and Facebook – as well as Google +, Twitter, Instagram and YouTube – who owned the focal product at the time of data collection. Comprising males (37 per cent), the majority of respondents (80.1 per cent) was aged between 18 and 40 (mean = 26–30 years), with 35 per cent engaged in full-time employment. Most respondents (36.9 per cent) nominated Apple as their most familiar smartphone brand, followed by Samsung (36.7 per cent) and Motorola (17.6 per cent), with the remainder being LG, Sony, Asus and Nokia. In terms of reported daily usage of Facebook, one-third of respondents used it an average 2–5 times per day and 17.1 per cent used it 6–10 times a day, while 23.2 per cent signed into Facebook all the time. Since respondents are recognized by their extensive usage of social media (Pfeil et al., 2009), the sample is suitable for addressing the data requirements for testing the hypotheses of the model (Zadeh et al., 2019).
<table>
<thead>
<tr>
<th>Construct</th>
<th>Loading</th>
<th>t-value</th>
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</thead>
<tbody>
<tr>
<td><strong>Entertainment interactivity (EI)</strong></td>
<td></td>
<td></td>
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<tr>
<td>The content found in brand X’s social media seems interesting</td>
<td>0.85</td>
<td>50.59</td>
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<tr>
<td>It is exciting to use brand X’s social media</td>
<td>0.91</td>
<td>80.42</td>
</tr>
<tr>
<td>It is fun to collect information on products through brand X’s social media</td>
<td>0.90</td>
<td>79.42</td>
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<tr>
<td><strong>Customization interactivity (CI)</strong></td>
<td></td>
<td></td>
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<tr>
<td>It is possible to search for customized information on brand X’s social media</td>
<td>0.86</td>
<td>47.31</td>
</tr>
<tr>
<td>Brand X’s social media provide customized services</td>
<td>0.91</td>
<td>62.69</td>
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<tr>
<td>Brand X’s social media provide lively feed information i am interested in</td>
<td>0.89</td>
<td>60.38</td>
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<tr>
<td><strong>Interactive ease of use (IEOU)</strong></td>
<td></td>
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<tr>
<td>It is easy to use brand X’s social media</td>
<td>0.85</td>
<td>45.76</td>
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<tr>
<td>Brand X’s social media can be used anytime, anywhere</td>
<td>0.87</td>
<td>45.39</td>
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<tr>
<td>It is easy to convey my opinions or conversation with other users through brand X’s social media</td>
<td>0.90</td>
<td>70.03</td>
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<tr>
<td>It is possible to have two-way interaction through brand X’s social media</td>
<td>0.87</td>
<td>47.88</td>
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<tr>
<td><strong>Cognitive information-transfer interaction (CITI)</strong></td>
<td></td>
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<tr>
<td>I would like to pass information on brands, products or services from brand X’s social media to my friends</td>
<td>0.88</td>
<td>59.26</td>
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<tr>
<td>I would like to upload content from brand X’s social media on my Facebook page or my blog</td>
<td>0.89</td>
<td>54.49</td>
</tr>
<tr>
<td>I would like to share opinions on brands, items or services acquired from brand X’s social media with my friends</td>
<td>0.90</td>
<td>60.17</td>
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<tr>
<td><strong>Cognitive up-to-date information interactivity (CII)</strong></td>
<td></td>
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<tr>
<td>Content found on brand X’s social media are up-to-date</td>
<td>0.91</td>
<td>62.33</td>
</tr>
<tr>
<td>Using brand X’s social media is very trendy</td>
<td>0.89</td>
<td>59.36</td>
</tr>
<tr>
<td>The content on brand X’s social media is the newest information</td>
<td>0.93</td>
<td>92.72</td>
</tr>
<tr>
<td><strong>Consumer–brand engagement – cognitive processing</strong></td>
<td></td>
<td></td>
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<tr>
<td>Using this brand gets me to think about brand X</td>
<td>0.93</td>
<td>108.58</td>
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<tr>
<td>I think about brand X a lot when I am using it</td>
<td>0.95</td>
<td>174.44</td>
</tr>
<tr>
<td>Using this brand stimulates my interest to learn more about brand X</td>
<td>0.88</td>
<td>62.52</td>
</tr>
<tr>
<td><strong>Consumer–brand engagement – affection</strong></td>
<td></td>
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<tr>
<td>I feel very positive when I use brand X</td>
<td>0.92</td>
<td>73.17</td>
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<tr>
<td>Using brand X makes me happy</td>
<td>0.95</td>
<td>129.66</td>
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<tr>
<td>I feel good when I use brand X</td>
<td>0.96</td>
<td>166.38</td>
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<tr>
<td><strong>Consumer–brand engagement – activation</strong></td>
<td></td>
<td></td>
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<tr>
<td>I spent a lot of time using brand X compared with other brands</td>
<td>0.93</td>
<td>97.01</td>
</tr>
<tr>
<td>Whenever I am using smartphones, I usually use brand X</td>
<td>0.88</td>
<td>54.15</td>
</tr>
<tr>
<td>I use brand X the most</td>
<td>0.93</td>
<td>100.39</td>
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<tr>
<td><strong>Co-creation</strong></td>
<td></td>
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<tr>
<td>I often suggest how brand X can improve its products and services</td>
<td>0.77</td>
<td>28.88</td>
</tr>
<tr>
<td>I often express my personal needs to brand X</td>
<td>0.85</td>
<td>41.68</td>
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<tr>
<td>I often find solutions to my problems together with brand X</td>
<td>0.85</td>
<td>50.68</td>
</tr>
<tr>
<td>I am actively involved when brand X develops new products</td>
<td>0.86</td>
<td>59.36</td>
</tr>
<tr>
<td>Brand X encourages consumers to create solutions together</td>
<td>0.81</td>
<td>36.04</td>
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<tr>
<td><strong>Repurchase intention</strong></td>
<td></td>
<td></td>
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<tr>
<td>The probability that I will use brand X again is high</td>
<td>0.90</td>
<td>89.97</td>
</tr>
<tr>
<td>I consider myself a loyal customer of brand X</td>
<td>0.90</td>
<td>71.78</td>
</tr>
<tr>
<td>If I had to do it over again, I would choose brand X</td>
<td>0.92</td>
<td>78.25</td>
</tr>
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Table 1. Outer model results
4. Results
The analysis featured partial least squares–structural equation modelling (PLS-SEM) using SmartPLS v3.2.8 (Ringle et al., 2015) and adopting the 5,000-bootstrap procedure. Assessment of the measurement (outer) model and of the structural (inner) model, using two-tailed test, is detailed further.

4.1 Outer (measurement) model results
For the measurement model, all item loadings were > 0.77 and significant (see Table I). Using Cronbach’s alpha and composite reliability to assess internal consistency, all values > 0.86, well above the recommended 0.70 threshold (see Table II). Average variance extracted (AVE) was used next to assess the convergent validity of the model, with all scores higher than the recommended 0.50 threshold (see Table II). Discriminant validity was assessed using the Fornell–Larcker (1981) criterion, with the AVE square roots larger than the corresponding correlations (Hair et al., 2014).

Relative to assessment of the hierarchical nature of the CBE construct, the first-order loadings of the CBE dimensions were strong (≥ 0.812) and significant (p = 0.000) for the three first-order dimensions of cognitive recognition, affection and activation, supporting CBE’s modelling as a second-order construct. All three first-order CBE dimensions were positively correlated (average r = 0.644), further supporting CBE’s modelling as a second-order construct.

4.2 Inner (structural) model results
The hypotheses were assessed using the inner (structural) model results, by examining the t-values, standardized coefficient beta values and coefficient of determination (R² value). The results (see Figure 1) support five of the seven hypotheses. Regarding the relationship between brand interactivity within social media and CBE, the impact of CII on CBE was the strongest (β = 0.349, p = 0.000), followed by EI (β = 0.318, p = 0.000) and CITI (β = 0.130, p = 0.026). Thus, H1, H4 and H5 were supported. However, the impact of IEOU on CBE was negative and non-significant (β = −0.086, p = 0.235), rejecting H3, whilst the effect of CI (β = −0.023, p = 0.719) on CBE was non-significant, and thus H2 was not supported. Lastly, the influence of CBE on co-creation (β = 0.585, p = 0.000) and repurchase intention (β = 0.722, p = 0.000) was strong and significant, supporting H6 and H7.

The R² values were reviewed to evaluate the model’s explanatory power. The R² values for CBE (R² = 0.363), co-creation (R² = 0.341) and repurchase intention (R² = 0.520), along with an AVA (average variance accounted for) = 0.408, all exceed the recommended criterion benchmark in being greater than 0.10 (Chin, 1998), with a value of 0.20 considered high for consumer-behaviour studies (Vock et al., 2013). This suggests that the model performs well in explaining variation in the target (endogenous) variables.

<table>
<thead>
<tr>
<th>V1</th>
<th>V2</th>
<th>V3</th>
<th>V4</th>
<th>V5</th>
<th>V6</th>
<th>V7</th>
<th>Alpha</th>
<th>AVE</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Entertainment interactivity</td>
<td>1</td>
<td>0.92</td>
<td>0.78</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2. Customization interactivity</td>
<td>0.76</td>
<td>1</td>
<td>0.86</td>
<td>0.78</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3. Interactivity ease of use</td>
<td>0.63</td>
<td>0.70</td>
<td>1</td>
<td>0.90</td>
<td>0.76</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4. Cognitive information-transfer interaction</td>
<td>0.61</td>
<td>0.57</td>
<td>0.50</td>
<td>1</td>
<td>0.87</td>
<td>0.79</td>
<td></td>
<td></td>
</tr>
<tr>
<td>5. Cognitive up-to-date information interactivity</td>
<td>0.62</td>
<td>0.64</td>
<td>0.76</td>
<td>0.52</td>
<td>1</td>
<td>0.89</td>
<td>0.82</td>
<td></td>
</tr>
<tr>
<td>6. Consumer–brand engagement</td>
<td>0.54</td>
<td>0.45</td>
<td>0.43</td>
<td>0.45</td>
<td>0.54</td>
<td>1</td>
<td>0.94</td>
<td>0.66</td>
</tr>
<tr>
<td>7. Co-creation</td>
<td>0.54</td>
<td>0.50</td>
<td>0.39</td>
<td>0.53</td>
<td>0.47</td>
<td>0.59</td>
<td>1</td>
<td>0.89</td>
</tr>
<tr>
<td>8. Repurchase intention</td>
<td>0.39</td>
<td>0.34</td>
<td>0.35</td>
<td>0.28</td>
<td>0.41</td>
<td>0.72</td>
<td>0.49</td>
<td>0.89</td>
</tr>
</tbody>
</table>

Table II. Construct correlation matrix and AVE
Figure 1. Conceptual model results

Entertainment: Interactivity
β = 0.318***

Customization Interactivity
β = -0.023

Interactivity ease of use
β = -0.086

Cognitive information transfer interaction
β = 0.130*

Cognitive up-to-date information interactivity
β = 0.349***

Cognitive processing
β = 0.864***

Affection
β = 0.938***

Activation
β = 0.812***

Consumer-brand engagement
$R^2 = 0.363$

Co-creation
$R^2 = 0.341$

Repurchase intention
$R^2 = 0.520$

Note(s): paths significant at * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$; First-order CBE loadings shown
5. Theoretical implications
An increasing number of empirical studies examine the theoretical and practical implications of social-media marketing for brand building (Ismail, 2017; Liu et al., 2019; Seo and Park, 2018). Notwithstanding, the influence of different constructs related to brand interactivity within social media, along with examining their importance in building CBE, co-creation and repurchase intention. Thus, this study contributes to the literature by identifying and assessing individual brand-building factors amongst the five elements of brand interactivity within social media. The results reveal that EI, CITI and CII should be thought of as means for facilitating CBE, justifying the importance of using social-media featuring entertainment content, along with positive cognitive information and trendiness posts, in the brand-building process (Harmeling et al., 2017; Islam and Rahman, 2016; Vale and Fernandes, 2018).

Inconsistent with previous studies’ findings, the impact of IEOU on CBE was negative and non-significant (e.g. Frasquet-Deltoro et al., 2019; Yang et al., 2017). This result can be explained in several ways. One explanation is related to consumers’ enduring involvement with online platforms (Gómez et al., 2019; Shen and Chio, 2010). Arguably, when consumers’ enduring involvement is high, as in our sample (with an average 5.67 category-involvement score), the perceived ease of use of social-media platforms is less relevant to consumers’ intention to engage with products and brands, because they are seeking to acquire information about their brands of interest (Shen and Chio, 2010). Another possible explanation is related to consumers’ familiarity in using social-media platforms. Yang et al. (2017) found a non-significant relationship between perceived ease of use and customer engagement in the context of online marketing with gamification, because perceived ease of use does not affect consumers’ attitude for a long time, since young consumers are willing to learn and become familiar with using online platforms in the long run. Similarly, Bailey et al. (2018) found that because consumers (in Latin America) are familiar with using social-media platforms, ease of use has no impact on consumers’ attitude towards social media. In our study, most of our Brazilian respondents were young and active users of social-media platforms; thus, they would not regard social-media platforms as being challenging to use, checking the relevance of IEOU for CBE.

The non-significant relationship found between CI and CBE also contrasts with previous findings in the literature (Ko and Megehee, 2012; Schulze et al., 2015; Zhu and Chen, 2015). The contrast may be explained by Holbrook’s (2000) arguments about customer experience, where the impact of customized and standardized experience on consumers’ satisfaction is similar because both are useful in building consumers’ positive perceptions in their minds.

Finally, this study also contributes the finding that CBE has a significant and robust effect on co-creation and repurchase intention, suggesting that engagement between consumers and their brands is effective in building the consumer–brand relationship (Luo et al., 2015), ultimately strengthening consumers’ intention to co-create brand value (Tajvidi et al., 2017) and repurchase intentions (Park and Ha, 2016). Indeed, the intertwined nature of CBE and co-creation has been discussed in prior studies (France et al., 2015; Hollebeek et al., 2014). However, limited empirical studies have demonstrated a relationship between them. Thus, our findings reinforce France et al’s (2018) arguments that CBE and co-creation are two distinct concepts by empirically demonstrating CBE’s strategic role in driving co-creation and repurchase intention. In other words, CBE is a motivational brand-related psychological state that helps drive consumers’ intention to co-create brand value (France et al., 2015; Hollebeek, 2011). This explains why CBE is regarded as one of the most critical constructs in brand-building processes, thereby warranting marketers’ attention.
6. Managerial implications

From a managerial perspective, our findings call on marketers to consider using brand interactivity within social media in the formation of CBE, co-creation and repurchase intention. Particularly, marketers should consider engaging with consumers by using interactive content that is entertaining, current and trendy to encourage positive cognitive information sharing amongst consumers. The aim is to stimulate consumers’ cognitive processing, affection and activation (i.e. CBE), ultimately strengthening their intention to co-create brand value and to repurchase the same brand in the future.

Marketers should particularly assist consumers in obtaining and sharing comprehensive information about their brands of interest on social-media platforms. This facilitates brand interactivity, such as consumer referrals of particular products and incorporating the latest news and updates, and offers entertaining content. The aim is to increase consumers’ cognitive understanding of the focal brands, thus driving their satisfaction with and positive perceptions of those brands.

It is further recommended that marketers should regard brand interactivity within social media as an important strategy for driving consumers’ intention to co-create brand value and to repurchase the brand. In particular, marketers can facilitate consumer–brand interactions by encouraging consumers to create, like and share interactive brand content with other consumers, along with using (and diffusing) hashtags. The aim is to contribute to driving consumers’ intention to co-create brand value on social-media platforms (Aichner, 2019; Algharabat et al., 2019), hence strengthening repurchase intention (Chen and Chen, 2017).

Finally, marketers may consider encouraging experienced consumers to share their accumulated brand experience regarding brand-interactivity elements with brands and other users of social-media platforms, thus helping brands to improve the quality of their products, as well as helping other consumers enhance their cognitive understanding about the attributes and benefits of the focal brands (Chathoth et al., 2016). This interaction is deemed useful in co-creating brand value and in driving consumers’ attitudinal and behavioural loyalty (France et al., 2018; Gligor et al., 2019).

Overall, this study contributes to the discussion of the effectiveness of social-media marketing strategies in highlighting the usefulness of brand-interactivity elements. In Brazil, marketers should focus on providing entertaining, trendy information, along with consumers’ referrals to strengthen CBE, consumers’ intention to co-create brand value and repurchase the brand.

7. Limitations and directions for future research

This study adopted a cross-sectional design conducted in Brazil only, thus limiting the generalizability of the findings. Accordingly, future research should consider longitudinal studies and comparisons between countries with diverse cultures. The study’s scope is also limited by its focus on smartphones alone, a durable technology product, limiting the application of the findings, with future research needed to consider other product categories and different sectors, such as services.

A further limitation arises because of the focus on the impact of brand interactivity within social media on CBE and its related outcomes; thus, future research could also consider the influence of other constructs or potential moderators that may affect the brand-interactivity elements and/or the relationships investigated in this study. Finally, as this study focused on the effectiveness of brand interactivity within social media, the impact of traditional marketing elements was not considered. Future research may compare the relative impact of brand interactivity within social-media versus traditional marketing activities, such as traditional advertising, sales promotion and distribution intensity.
References


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