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'If I give you my emotion, what do I get?' Conceptualizing and measuring the co-created emotional value of the brand

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ABSTRACT

The emotional value of interactions is a pillar construct in the brand value co-creation domain. So far, research has neglected the search for a measure adequately considering emotional-based joint interactions. Thanks to a netnographic sentiment analysis of 7605 brand-users' interactions retrieved from 18 Twitter brand profiles, this paper advances knowledge on brand co-creation and introduces a new concept in the marketing domain, the *co-created emotional value of the brand*, operationalised through the Emotional Co-Creation Score (ECCS). The paper reveals that different emotional experiential paths can be generated by the simultaneous interaction between the brand and its consumers. In particular, it shows that some sectors co-create more than others. Furthermore, brands provide more positive emotions than consumers and, when dealing with consumers' extreme polar emotions, they compensate consumers' emotions by calibrating the ECCS, which is not influenced by the frequency of Likes, and only marginally influenced by the frequency of interactions.

1. Introduction

At the beginning of the third millennium, companies must acknowledge the key role of *interactions* in helping the achievement of brand value co-creation (Merz, He, & Vargo, 2009), with seminal studies highlighting the crucial relational exchange occurring during dyadic firm-consumer interactions (e.g., Vargo & Lusch, 2004). As recognized by Prahalad and Ramaswamy (2004, p. 11), "interactions with consumers and consumer communities are critical. Consumer shifts are best understood by being there, *co-creating* [emphasis added] with them". Recent developments on co-creation have argued that to achieve successful co-creation outcomes (e.g., users' commitment, users' engagement) *harmonious interactions* are crucial (Black & Veloutsou, 2017; Gyrd-Jones & Kornum, 2013). In fact, consumers do not ask for monetary incentives to participate in the brand co-creation, but call for social, enjoyable and fun interactions (Füller & Bilgram, 2017). In particular, *emotions* play a key role during brand-consumers relational exchanges and academics and practitioners agree that whilst positive emotions lead to a successful brand value co-creation (Gyrd-Jones & Kornum, 2013; Hatch & Schultz, 2010; Kornum & Mühlbacher, 2013), the reverse is also true (Gebauer, Füller, & Pezzei, 2013; Healy & McDonagh, 2013; Pathak & Pathak-Shelat, 2017; Skålén, Pace, & Cova, 2015). Furthermore, a vast number of brand-consumers relational exchanges occur on digital platforms (Cova & Pace, 2006; Schau, Muñiz, & Arnould, 2009), with tremendous opportunities triggered by *social media*, such as Twitter, Facebook and Instagram (Hajli, Shanmugam, Papagiannidis, Zahay, & Richard, 2017; Smith, Fischer, & Yongjian, 2012; Zhang, Gupta, Sun, & Zou, 2019). Surely, these interactions aim not only to exchange information – thus providing a cognitive value – but often trigger an experiential and emotional-based value that influences consumers' behaviour and their willingness to participate in the co-creation process (Ahn, Lee, Back, & Schmitt, 2019; Ind, Iglesias, & Schultz, 2013). Thus, managers are called to consider the emotional value co-created during brand-users' interactions by carefully designing specific digital encounters, such as brand-owned platforms, the corporate website, and social media (Payne, Storbacka, Frow, & Knox, 2009; Iglesias & Bonet, 2012).

Despite a plethora of conceptual and qualitative studies that consider emotions in the brand domain and their relevance during brand-consumers' interactions and co-creation processes in the digital environment (e.g., Black & Veloutsou, 2017; Vargo & Lusch, 2004), there is a lack of conceptual and quantitative knowledge on the emotional value stemming from dyadic consumer-brand interactions on digital platforms. Thus, the current paper aims to: *conceptually define and quantitatively explore the emotional value of the brand co-created during brand-consumer (user) dyadic interactions*.

To achieve this aim, from April 1st to October 31st 2018 a netnographic study was carried out on 7605 interactions between users and

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brands, related to 18 Twitter brand-owned platforms. In adopting the sentiment analysis, data have been coded through the NRC Word-Emotion Association Lexicon (Mohammad, Zhu, Kiritchenko, & Martin, 2015). This study proposes an original tool to measure the co-created emotional value of the brand – the Emotional Co-Creation Score (ECCS), which can be defined as an experiential (emotional-based) source of the co-created brand value stemming from dyadic interactions between the user and the brand. The current study contributes to deepen scholars' understanding of brand co-creation, shedding light on the emotional value exchanged during online interactions.

The paper proceeds as follows: The first section offers a literature review on brand co-creation, with regard to the conceptual roots and the actual role played by emotions on brand value co-creation. This section also leads the authors to the generation of research questions, corollary to the current paper's aim. The study continues by outlining the methodology, initially addressing its premises on sentiment analysis and then describing the data collection and data analysis. The next section offers the results, and is deliberately structured into sub-sections devoted to each of the presented research questions. Results are discussed in the last section, illustrating the theoretical and practical implications stemming from the present study, also including limitations and related suggestions for future research.

2. Literature background

2.1. Brands and the value of emotions

As far back as Levy (1959) observed that consumers' behaviour is driven not only by functional product features, but also by the feeling, emotions and meaning that consumers ascribe to the selected products. This is also true in the case of brands, which are widely considered as symbols socially constructed by all the stakeholders (Gyrd-Jones & Kornum, 2013; Hatch & Schultz, 2010; Iglesias, Ind, & Alfaro, 2013), who may benefit from a cognitive, self-expressive and emotional experience when entering into a relationship with the brand (Aaker, 1996; de Chernatony, Cottam, & Segal-Horn, 2006). The results are that the brand value "is built not only through rational arguments and tangible manifestations, but also through their impact at the emotional level of feelings" (Iglesias & Bonet, 2012, p. 258).

Sheth, Newman, and Gross (1991, p. 161) define emotional value as "the perceived utility acquired from an alternative's capacity to arouse feelings or affective states. Emotional value is measured on a profile of feelings associated with the alternative". In the brand and, more in general, in the marketing domains, the emotional value is relational and experiential (Bagozzi, Gopinath, & Nyer, 1999; Ding & Tseng, 2015; Holbrook & Hirschman, 1982), thus interactions are a key source of emotional value (Smith & Colgate, 2007). In the service domain, the emotional value is rooted in the experience triggered by dyadic interactions between the customer and the employee (Bailey, Gremler, & McCollough, 2001).

Overall, the pillar role of the emotional value during a brand consumption experience has been widely acknowledged (Holbrook & Hirschman, 1982). Drawing on the above, it can be assumed that the brand value is also generated through the emotions exchanged by the actors involved during a brand relationship. Despite a vast number of studies considering emotions in the brand domain, to date no authors have attempted to define the *emotional value of the brand*, here conceived as "an experiential (emotional-based) source of the brand value".

2.2. The value of emotions in the era of brand co-creation

In the new brand era, brand value is not unilaterally driven but "co-created through network relationships and social interactions among the ecosystem of all the stakeholders" (Merz et al., 2009, p. 338). Going beyond a multistakeholders-based perspective, it is widely acknowledged that value is co-created thanks to the relational exchange occurring during dyadic firm-consumer interactions (e.g., Black & Veloutsou, 2017; Vargo & Lusch, 2004). A number of authors have shed light on the key role of emotional-based interactions (Bailey et al., 2001; Healy & McDonagh, 2013; Pathak & Pathak-Shelat, 2017; Vallaster & von Wallpach, 2013). In particular, the domain of studies considering emotions can be further divided into two sub-streams, namely the stream of scholars considering *successful co-creation* and those who take into account *failure in brand co-creation*.

Successful co-creation occurs when the brand is able to develop emotional ties with its stakeholders by means of feelings of involvement, emotional engagement, experiencing enjoyment (e.g., social, fun, ironic), experiencing power (i.e., perception of brand influence), and the sharing of values (Füller & Bilgram, 2017; Payne et al., 2009; Suomi, Luonila, & Tähtinena, 2018). When brands activate emotional bonding with their stakeholders, the latter transform themselves into active participators in the brand co-creation, as happened with the brands 'Yes Scotland' (Black & Veloutsou, 2017) and 'Lego' (Gyrd-Jones & Kornum, 2013; Hatch & Schultz, 2010). To identify the drivers that trigger proactive stakeholders in the brand value co-creation, Merz, Zarantonello, and Grappi (2018) highlighted the multidimensionality of the construct and provided a co-creation scale based on customer-owned resources and customer motivation, stressing the key role of positive emotions. In this framework, customers' motivation is driven by their passion and emotional attachment towards the brand (Merz et al., 2018). In the case of brand communities, where "connection is primarily emotional", positive emotions represent the necessary premise for joining a community and engaging in brand-supportive practices, which range from the online sharing of emotions with texts, pictures and videos, to the co-design of branded products (Cova & Pace, 2006; Hughes, Bendoni, & Pehlivan, 2016; Kozinets, Hemetsberger, & Schau, 2008; Schau et al., 2009; Schembri, 2009, p. 1307).

In contrast to this "happy" scenario, scholars have investigated failure in co-creation and identified a number of key antecedents that are linked to the experiential value of brand interactions, such as perceived fairness (i.e., fair reciprocity), sense of community and participation (Gebauer et al., 2013; Healy & McDonagh, 2013; Ind et al., 2013; Pathak & Pathak-Shelat, 2017; Skålén et al., 2015; Vallaster & von Wallpach, 2013). In general, stakeholders exhibit negative emotions when these antecedents do not characterise the brand-stakeholders' relationship and experience with consumers and brand communities. This scenario may lead to consumers' resistance-based actions, which may stem from negative comments on digital platforms and social media, as in the case of the Spar Bag design contest (e.g., "Spar idiots", Gebauer et al., 2013, p. 1519), to the stakeholders' decision to retire from the community, as in the case of the Alfisti platform or the Rawk members of an online football forum (Healy & McDonagh, 2013; Skålén et al., 2015). In particular, brand misalignment strongly damages brand value co-creation, leading to negative emotions and stakeholders' overall dissatisfaction (Skålén et al., 2015). According to Healy and McDonagh (2013, p. 1534), managers should pay considerable attention to the 'expectation-experience gap', which must be carefully bridged to "maximise fan agreement, positive emotions". Similarly, the case of the Alfisti brand community shows that engagement practices (i.e., "the emotionally charged purposes and goals that participants associate with a practice") can be misaligned when "firm and community members enact a collaborative practice with different purposes", thus causing failure in co-creation and preventing consumers' active participation (Skålén et al., 2015, p. 612).

On the basis of the above, this study defines the *co-created emotional value of the brand* as an "experiential (emotional-based) source of the brand value generated during brand-consumer interactions". At present, quantitative studies have mainly investigated only the consumers' side by providing measurement scales on consumers' perceptions (Iglesias, Markovic, Bagherzadeh, & Singh, 2018; Kennedy, 2017; Kennedy & Guzmán, 2017; Nysveen & Pedersen, 2014; Ranjan & Read,

2016), with only one contribution including an emotional-based measure (Merz et al., 2018). Thus, there is the need to define an adequate measure to investigate how the emotional value of the brand is co-created during brand-consumers' interactions. It is important to note that this study considers the emotional value co-creation as stemming from direct dyadic brand/consumer (i.e., called user in the digital environment) interactions (Vargo & Lusch, 2004). Therefore the co-created emotional value of the brand is here conceived as "an experiential (emotional-based) source of the brand value generated during dyadic interactions between the user and the brand". From that:

RQ1: How can the co-created emotional value of the brand be measured?

2.3. The value of extreme polar emotions during brand co-creation processes

A number of studies have explored the influence of extreme polar emotions on brand value co-creation (Brodie, Ilic, Juric, & Hollebeek, 2013; Lee & van Dolen, 2015; Merz et al., 2018; Pathak & Pathak-Shelat, 2017; Vallaster & von Wallpach, 2013). For instance, customers' motivation, which acts as an antecedent of brand value co-creation, is driven by their passion and emotional attachment towards the brand, and has been operationally defined as "extremely positive feelings toward the brand" (Merz et al., 2018, p. 82). Furthermore, by offering a discursive analysis of UK Gourmet online dialogues, Vallaster and von Wallpach (2013) suggested that multiple stakeholders contributing to brand meaning creation can be segmented into brand promoters, offenders and neutrals when displaying positive, negative and neutral brand-related emotions, respectively. Similarly, Pathak and Pathak-Shelat (2017) sentiment analysis of virtual communities investigated the positive and negative influence of interactions on the overall brand value co-creation, highlighting that consumer (dis)engagement is driven by members' sharing of (negative) positive emotions strongly influencing the co-created brand value. Interestingly, these authors found that consumers' negative emotion was exhibited with a higher intensity when compared to their positive emotion. In applying a sentiment analysis to explore the role of emotions in innovative co-creating processes, Lee and van Dolen (2015) claimed that negative collective emotion significantly influences brand value co-creation, decreasing consumers' creativity and participation.

Drawing on the above, extreme polar emotions play a key role during brand co-creation processes, influencing the generated outcome stemming from brand-consumers' (more in general, stakeholders') interactions. However, previous studies neglected to quantitatively address the impact of extreme polar emotions on the co-created emotional value of the brand. Accordingly:

RQ2: What are the effects of extreme polar emotions on the co-created emotional value of the brand?

2.4. Additional forms of emotional value on digital platforms

Due to the massive shift from face to face to online interactions, brands and consumers are increasingly meeting each other in virtual conversational spaces (e.g., brand-owned platforms), designed and managed to support the stakeholders' brand experience, which is at the basis of a successful co-creation (Brodie et al., 2013; Füller & Bilgram, 2017; Healy & McDonagh, 2013; Iglesias et al., 2013). Specifically, online platforms are able to support the exchange of emotions and feelings, such as "empathy, concern, affection, love, trust, acceptance, intimacy, encouragement, or caring" (Tajvidi, Richard, Wang, & Hajlia, 2018, p. 3), between internal and external actors participating in the brand value co-creation (Vallaster & von Wallpach, 2013).

Interactive platforms significantly enhance the exchange of diverse forms of emotional-based interactions, such as the "Like" button on social media "which lets users express their instant approval of a specific item" (Ramaswamy & Ozcan, 2018, p. 198; see also Cova & Pace, 2006). Indeed, some authors have claimed that the brand value could be significantly influenced by the frequency of social interactions (Pentina, Gammoh, Zhang, & Mallin, 2013), which positively affect brand co-creation (Gustafsson, Kristensson, & Witell, 2012). These considerations lead to:

RQ3: Is the co-created emotional value of the brand positively correlated with the frequency of online interactions and Likes?

3. Methodology

3.1. Sentiment analysis: a theoretical premise

Sentiment analysis allows the identification, extraction and quantification of feelings and emotions expressed in a text, thus gaining relevance in the marketing domain (Liu, Burns, & Hou, 2017; Pang & Lee, 2008; Rana & Cheah, 2016). To codify emotions, scholars need to select an appropriate lexicon (i.e., the word-feeling association according to a specific codebook) and create an algorithm or use an already existing one (e.g., Lee & van Dolen, 2015; Medhat, Hassan, & Korashy, 2014; Pathak & Pathak-Shelat, 2017). In the present study 'sentiment' is conceived and used only for polarized emotions (Frijda, 1994). More specifically, positive and negative sentiments have been defined as polar emotions (i.e., positive vs. negative, respectively).

According to the comparison of 27 lexicons used for coding emotions on tweets (Nakov et al., 2016), the NRC Word-Emotion Association Lexicon (Mohammad et al., 2015) was selected because it showed the best overall emotions recognition performance. In particular, this instrument: (i) considers 14,182 words associated with eight basic emotions (anger, fear, sadness, disgust, anticipation, trust, surprise and joy; Plutchik, 1980) and two sentiments (positive and negative); (ii) is tailored for texts with fewer than 100 words (such as tweets); (iii) has been validated (e.g., Kiritchenko, Zhu, & Mohammad, 2014) and developed by means of manual annotation that ensures a more reliable measure of sentiment polarity and emotional valence (the intrinsic goodness or badness of a word) with respect to an automatic annotation (Martin, Caridakis, Devillers, Karpouzis, & Abrilian, 2009); and (iv) showed a high degree of reproducibility (Mohammad, 2017).

3.2. Sample selection

In line with the co-creation literature on digital platforms (Tajvidi et al., 2018; Vallaster & von Wallpach, 2013), this study followed a netnography method, selecting data from the Twitter platform, thus making use of "information that is publicly available in online forums to identify and understand the needs and decision influences of relevant online consumer groups […] it provides marketing researchers with a window into naturally occurring behaviors" (Kozinets, 2002, p. 62). Despite Facebook and Instagram representing wide, community-style, social media platforms, the Twitter platform has been purposely selected for three main reasons. *First*, it allows data accessibility to interactions between users and brands – with few restrictions – through the Application Programming Interface (API) downloads (Twitter, 2019), whereas Facebook and Instagram restrict the access for scanning pages, thus impeding the analysis of interactions (Facebook, 2019; Instagram, 2019). *Second*, it allows the precise identification of dyadic interactions in an online environment. The observation of dyadic User-Brand Interactions (UBI hereafter) is possible only when consumers initiate the interaction tagging a brand ("@brand") that answers through the "retweet" function (not present on Facebook and Instagram). This allows having a form of control on what is discussed by the consumers in their tweets about the brand: on the one hand the user tags the brand; his/her communication is therefore supposed to be directed to it. On the other hand, the brand, through the number of tags by which it is daily included within tweets, is supposed to answer only those discussions in which it covers a central role and to which the communication is directed. Thanks to this control, it is ensured that the selected UBI contains only tweets in which consumers express emotions

towards the brand and the latter responds to consumers only when the conversation is in regard to the brand itself.

The API system associates all brands' retweets with the unique Status ID of the user's tweet, stimulating the brand's answer (Twitter, 2019), thus allowing the collection of dyadic UBI. *Third*, thanks to its text limit (text messages are restricted to 240 characters), the platform fits with the NRC lexicon used to perform the sentiment analysis (Mohammad et al., 2015), thus increasing the reliability and validity of the present study.

The brands' sample selection encompassed two stages. *First,* identification and selection of six sectorial clusters from the Global Industry Classification Standard (GICS) (e.g., Liu et al., 2017), which included: (a) food, beverage & tobacco (sub-industries: Soft Drinks (SD)); (b) Distillers & Vintners (DV); (c) information technology (sub-industry: Systems Software (SS)); (d) automobiles & components (sub-industry: Automotive Manufacturers, (AM)); (e) households & personal products (sub-industry: Personal Products, (PP)); and (f) consumer durables & apparel (sub-industry: Consumer Electronics, (CE)). *Second*, identification and selection of three brands for each cluster. Selection criteria, aimed at increasing data representativeness and reliability, have been: (i) brands' presence in the Interbrand Global Ranking (e.g., Chu & Keh, 2006); (ii) brands' relevance to consumers' daily lives (e.g., Liu et al., 2017); (iii) availability of a Twitter account in English (in case of multiple accounts, the Global or the U.S. account has been selected); and (iv) presence of at least one UBI within the experimental timeframe selected for this study.

3.3. The generation of the Emotional Co-Creation Score (ECCS)

The *Emotional Co-Creation Score* (ECCS) aims at measuring the co-created emotional value of the brand, which is here conceived as "an experiential (emotional-based) source of the co-created brand value stemming from dyadic interactions between the user and the brand". Using the R programming language, the authors of the current study have developed an algorithm to achieve an Active Machine-Based ECCS Recognition (AMBER).[1] Fig. 1 presents a flowchart (i.e., a schematic representation) of the ECCS generation.

From April 1st, 2018 to October 1st, 2018, data were collected on the brand-owned Twitter platforms. For each Twitter account and for each day within the experimental timeframe, retrieved data encompassed: (i) all the UBI downloaded from the Twitter API through the "rtweet" package (Kearney, 2018); and (ii) the amount of Likes received by the brand's Twitter account. Table 1 reports the brands grouped in sectorial clusters and their Twitter accounts.

A total of 7605 UBI have been collected, ranging from 31 (Philips) to 1371 (Ford), with an average of 422 (Std. = 429). In particular, the highest average of total daily UBI emerged for the Automotive Manufacturers (M = 882, Std. = 476) and Soft Drinks (M = 878, Std. = 415 UBI) clusters, whereas the lowest average resulted for the Distillers & Vintners cluster (M = 46, Std. = 1 UBI).

The sentiment analysis (Mohammad et al., 2015) has been applied to the collected UBI, thus allowing a qualitative content analysis of tweets and identifying positive emotions (pe) and negative emotions (ne), respectively. The identification of polar emotions was operationalised in two phases: (i) By means of the Syuzhet Package (Jockers, 2017), each tweet has been refined into a 'bag of words', thus avoiding 'stopping words' such as 'the' or 'to' (e.g., Benamara, Taboada, & Mathieu, 2016). Then, each 'bag of words' was split into sentences through the recognition of punctuation and grammatical rules. The use of sentences instead of a 'bag of words' avoided the counting of words not classified by the NRC Word-Emotion Lexicon, which could affect the sensitivity of the quantitative analysis of pe and ne variables in the presence of long tweets; and (ii) the frequency of occurrence of pe and ne was obtained and considered in relation to the total number of sentences. In line with Bailey et al. (2001, p. 4), the emotional value can be operationalised as "the net emotional outcome comprised of the difference between the emotional benefits and emotional costs". From that, the elaboration of the ECCS is the following:

$$\frac{(peUser - neUser) + (peBrand - neBrand)}{\text{total daily UBI}} \times 100$$

According to the proposed formula, the difference between positive and negative emotions of users (net emotional value of the users) – experienced during the interaction with the brand – is added to the difference between positive and negative emotions that the brand conveys (net emotional value of the brand). Thus, the upper part of the formula considers the exchanged emotions during dyadic interactions between the user and the brand, allowing the operationalisation of the emotional benefits and costs of the UBI. In dividing this difference by the number of total UBI occurring in a day and by multiplying by 100, comparisons on different days are allowed.

Therefore, in taking into account both the brand and user's emotions, the ECCS clearly indicates positive and negative scores, which correspond to a positive and negative emotional co-creation of the brand value stemming from dyadic interactions, respectively.

4. Findings

4.1. Results for RQ1

Table 2 shows the calculated ECCS of the brands and the descriptive statistics of the considered variables.

All clusters showed positive ECCS, with the highest value for the Automotive Manufacturers (43.96), thus showing a general tendency of the selected brands to positively co-create an emotional value. However, in looking at the single brands, a negative ECCS (−55.94) emerged only for Sprite, resulting from both consumers' (M = −46.00, Std. = 25.80) and brand's (M = −9.81, Std. = 34.07) negative scores. Of note, this negative result strongly influences the overall ECCS of the Soft Drink industry (7.06) that actually includes brands with a high ECCS (PepsiCo: 32.45; Nescafé: 44.68). Apart from Pepsi, the remaining brands showed positive ECCS, with the highest values for Ford (60.30) and the lowest ones for Heineken (2.92). In particular, the positive ECCS of SAP (3.78) resulted from a higher positive brand's value (M = 8.71, Std. = 27.58) with respect to the negative user's value (M = −4.93, Std. = 38.05), indicating that one actor (i.e., user or brand) could contribute more that another to the brand co-creation emotional value. For this reason, a series of t-tests verified whether actors contributed differently (< 0.05) to the ECCS. Table 3 reports the statistical analysis for the comparisons between brands' and users' polar emotions.

Significant differences emerged for all the Soft Drinks (Pepsi: $t_{(3\ 6\ 4)} = 5.08$, $p < 0.0001$; Nescafé: $t_{(3\ 6\ 4)} = 2.15$, $p = 0.03$; Sprite: $t_{(3\ 6\ 4)} = 10.04$, $p < 0.0001$) and Automotive Manufacturers (Ford: $t_{(3\ 6\ 4)} = 3.39$, < 0.0001; Audi: $t_{(3\ 6\ 4)} = 4.55$, $p < 0.0001$; Volkswagen: $t_{(3\ 6\ 4)} = 4.38$, $p < 0.0001$) brands, for two of the System Software (Salesforce: $t_{(3\ 6\ 4)} = -2.22$, $p < 0.0001$; SAP: $t_{(3\ 6\ 4)} = 3.44$, $p < 0.0001$) and Personal Products (Gillette: $t_{(3\ 6\ 4)} = 5.18$, $p < 0.0001$; Colgate: $t_{(3\ 6\ 4)} = 2.82$, $p < 0.0001$) brands, and for only one of the Consumer Electronics (IBM: $t_{(3\ 6\ 4)} = 3.64$, $p < 0.0001$). Taking into consideration the results of both Tables 2 and 3, with the only exceptions of Salesforce and IBM, all the above brands presented higher mean values with respect to those of the users, thus exchanging more positive emotions with respect to those received and playing a more relevant role in the co-created emotional value of the brand. Conversely, the lack of significant differences for

[1] Available upon request.

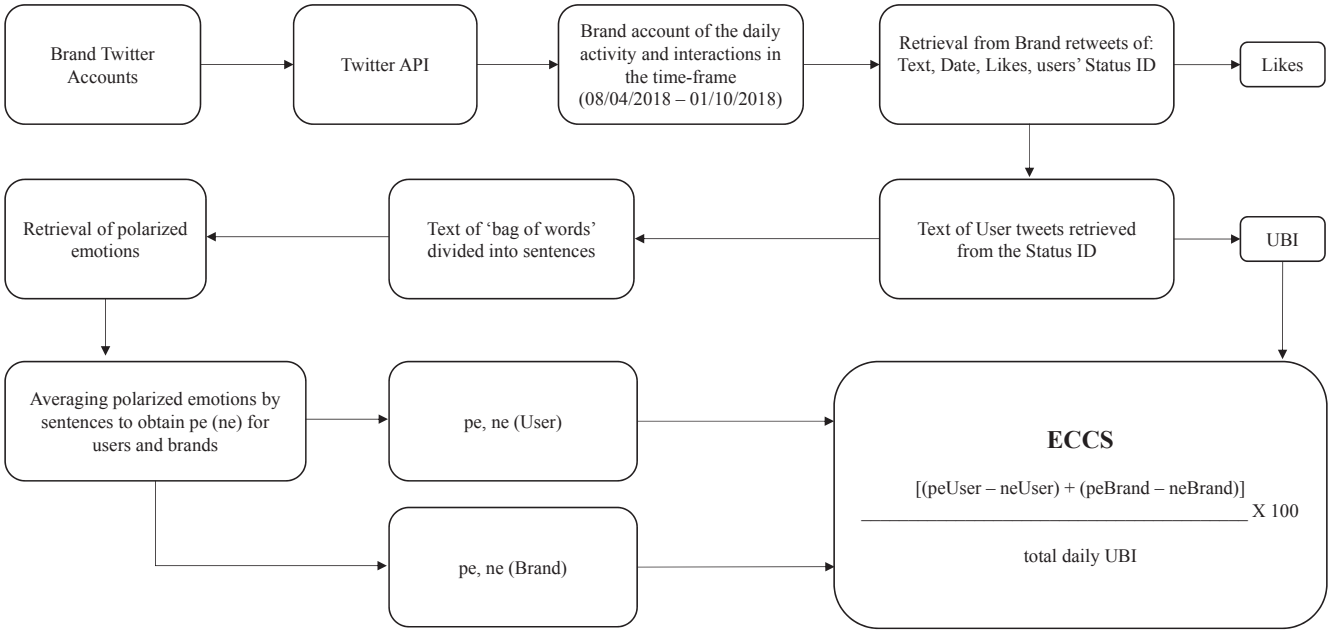

Fig. 1. Flowchart for the generation of the Emotional Co-Creation Score (ECCS). *Note*: pe and ne stand for positive and negative emotions, respectively.

Table 1
Collected sample.

Clusters	Company Name	Account Name	UBI
Soft Drinks (SD)	PepsiCo	@Pepsi	835
	Nescafé	@NESCAFE	486
	Sprite	@Sprite	1.313
Distillers and Vintners (DV)	The Distillers Company	@Johnniewalker_	46
	Hennessy	@HennessyUS	45
	Heineken	@Heineken	47
Systems Software (SS)	Salesforce	@salesforce	263
	Cisco	@Cisco	88
	Sap	@SAP	112
Automotive Manufacturers (AM)	Ford	@Ford	1.371
	Audi	@Audi	854
	Volkswagen	@VW	420
Personal Products (PP)	Gillette	@Gillette	643
	Colgate	@Colgate	514
	L'Oréal	@Loreal	70
Consumer Electronics (CE)	Siemens	@Siemens	189
	Philips	@Philips	31
	IBM	@IBM	278
TOTAL			**7.605**

Note: UBI stands for User-Brand Interactions.

The Distillers Company, Hennessy, Heineken, Cisco, L'Oréal, Siemens, and Philips indicates an aligned emotional value exchange between users and brands, implying that brand and users not only shared the same polar emotion (i.e., in this case positive), but also the same amount of exchanged emotions.

4.2. Results for RQ2

To measure extreme positive and extreme negative emotions, this study used the frequency of occurrence of positive/negative polar emotions in each tweet, considering the lowest (i.e., first) and highest (i.e., fourth) quartiles of the distribution. Of note, in general, this paper conceives emotions at a superordinate level that "distinguishes between positive and negative affect" (Laros & Steenkamp, 2005, p. 1444), representing "the most popular conceptualizations of emotions in consumer research" (Healy & McDonagh, 2013, p. 1533). Thus, the present study ignores the intensity of emotions as commonly conceived. In particular, using the frequency of occurrence of emotions to define extreme emotional polarity during online conversations is done for three main reasons. *Firstly,* the NRC word-emotion lexicon does not consider a hierarchical intensity structure of emotions. In this regard, other scholars recently used the frequency of emotions as a methodological proxy to analyse consumers' "average intensity of sentiment polarity" (Pathak & Pathak-Shelat, 2017, p. 25). *Secondly,* emotions can be culturally specific (Eid & Diener, 2001; Shaver, Wu, & Schwartz, 1992); thus, the absence of an emotional magnitude allows the avoidance of potential cultural differences of word-emotion associations (Matsumoto, 1993). *Thirdly,* the frequency of occurrence of positive and negative emotions in a tweet acts as a reinforcement to the general polarized sentiment that wants to be conveyed to the counterpart.

In addition to a preliminary independent sample *t*-test applied to verify whether differences exist in brand's emotional exchange when answering to extreme emotions of users, three t-tests have been applied to verify significant differences ($p < 0.05$) between: (i) the extreme negative and positive ECCS conditions; (ii) the users' extreme negative expressed emotion and the brand's answers; and (iii) the users' extreme positive expressed emotion and the brand's answers.

To understand what are the effects of extreme polar emotions on the co-created emotional value of the brand, the significant difference ($t_{(952)} = -28.600, p < 0.0001$) for the comparison of ECCSs relative to extreme negative and positive conditions is crucial. The higher values of the positive conditions (M = 8.71; Std. = 6.53) with respect to those of the negative ones (M = −1.87; Std. = 5.53) highlight that a higher ECCS occurs when brands and consumers share extremely positive emotions; this result answers to RQ2.

Significant differences were found with respect to brands' emotional response to extreme negative ($t_{(402)} = -20.33, p < 0.0001$) and positive ($t_{(600)} = 16.45, p = 0.005$) user's emotions. Table 4 presents the comparisons between extreme brand and user emotions.

Significant differences emerged for both negative ($t_{(804)} = -24.43, p < 0.0001$) and positive conditions ($t_{(1200)} = 15.45, p < 0.0001$). Whilst in the negative condition the brands' emotions showed higher values (M = 1.78; Std. = 3.31) with respect to those of users (M = −3.67; Std. = 3.61), in the positive condition the reverse picture emerged (brand's emotions: M = 2.59;

Table 2
Descriptive statistics.

Clusters	Company Name	Brand				Users				
		Mean	Std	Min	Max	Mean	Std	Min	Max	ECCS
Soft Drinks (SD)	PepsiCo	23.78	25.00	−7	106	8.67	32.2	−100	108	32.45
	Nescafé	19.06	34.83	−100	167	12.11	25.62	−100	100	44.68
	Sprite	−9.81	34.07	−113	200	−46.12	25.8	−200	67	−55.94
Industry average		**21.42**	**34.07**	**−73.33**	**157.66**	**10.39**	**27.87**	**−133.33**	**91.66**	**7.06**
Distillers and Vintners (DV)	The Distillers Company	6.97	23.9	−67	133	5.56	28.09	−100	200	12.53
	Hennessy	3.19	15.68	0	150	3.79	20.42	−50	200	6.98
	Heineken	1.49	14.73	−100	100	1.44	18.99	−100	150	2.93
Industry average		**3.88**	**18.10**	**−55.66**	**127.66**	**3.59**	**22.5**	**−83.33**	**183.33**	**7.48**
Systems Software (SS)	Salesforce	10.95	27.07	−50	167	19.16	42.02	−67	200	30.11
	Cisco	5.58	20.49	0	200	10.36	41.55	−100	200	15.94
	Sap	8.71	27.58	−100	200	−4.93	38.05	−150	200	3.78
Industry average		**8.41**	**25.04**	**−50**	**189**	**14.76**	**40.54**	**−105.66**	**200**	**16.61**
Automotive Manufacturers (AM)	Ford	40.24	27.5	−25	175	20.06	30.02	−33	200	60.3
	Audi	31.84	33.73	−100	200	15.85	33.59	−65	200	47.69
	Volkswagen	17.85	22.38	−33	100	6.04	31.22	−142	125	23.89
Industry average		**29.97**	**27.87**	**−52.67**	**158.33**	**13.98**	**31.61**	**−80**	**175**	**43.96**
Personal Products (PP)	Gillette	41.17	45.77	−50	300	16.97	43.85	−200	300	58.14
	Colgate	21.32	33.21	−28	250	9.87	44.27	−133	300	31.19
	L'Oréal	11.68	42.81	−100	350	9.13	46.18	−100	450	20.81
Industry average		**24.72**	**40.59**	**−59.33**	**300**	**300**	**11.99**	**−144.33**	**350**	**36.71**
Consumer Electronics (CE)	Siemens	18.01	41.97	−100	167	29.16	40.94	−200	167	47.16
	Philips	13.96	32.34	−50	200	8.12	42.89	−33	300	22.08
	IBM	4.19	25.9	−75	300	4.6	31.43	−50	300	8.79
Industry average		**12.05**	**222.33**	**−75**	**222.33**	**13.96**	**38.42**	**−94.33**	**255.67**	**26.01**

Std. = 3.83; user's emotions: M = 6.21; Std. = 4.82). Despite in both extreme negative and positive conditions brands always tend to offer positive emotions, these findings highlight that brands tend to soften the extreme positive emotions of users by offering less emotional value than that received.

4.3. Results for RQ3

To verify whether the frequency of Likes and/or UBI positively influence the ECCS, Pearson's correlations have been calculated (see Table 5).

For ECCS, no significant correlation emerged with respect to frequency of Likes, whereas a low ($r = 0.14$) correlation was found between ECCS and UBI frequency, with a statistical significance attributable to the large sample size. A low ($r = 0.25$) significant correlation was also found between UBI and Likes frequency, the latter representing a feedback and a way to express an emotion. Therefore, it could be speculated that the frequency of UBI might affect only marginally the co-created emotional value of the brand.

5. Discussion

5.1. Theoretical contributions

This article contributes to the field of value co-creation by introducing a new concept in the marketing domain, namely the co-created emotional value of the brand, which has been conceptually defined throughout the literature and operationalised thanks to the development of a new measure, the ECCS. In particular, this paper makes three main contributions to the extant literature on brand value co-creation.

The *first* contribution is related to the newly proposed definition – to reiterate, the co-created emotional value of the brand has been defined as "an experiential (emotional-based) source of the brand value generated during brand-consumer interactions" – which highlights a novel area of research, linked to the emotional co-created brand value. Based on the conceptual literature claiming that brand value co-creation stems from interactions between diverse actors (Merz et al., 2009), the offered construct is specifically focused on dyadic interactions between the brand and its consumers (Vargo & Lusch, 2004). In particular, by shedding light on the emotional side of value co-creation, this study confirms that dyadic online interactions and participatory relationships may lead to hedonic and emotional benefits (Ind & Iglesias, 2016; Ind et al., 2013). Thereafter, the present contribution concurs with previous scholars who claim that brands play a strategic role in creating specific "conversational spaces" (Iglesias & Bonet, 2012; Iglesias et al., 2013; Ind et al., 2013; Ind, Iglesias, & Markovic, 2017) by managing emotions during online interactions between the user and the brand, typically performed via brand-owned platforms, such as Twitter, Facebook, and Instagram (e.g., Hughes et al., 2016; Vallaster & von Wallpach, 2013), which must be carefully designed and managed (Payne et al., 2009). These considerations suggest that all levels of the hierarchy help in building the brand value, with social media employees delivering the brand experience conversation by emotionally connecting with users and enhancing brand desire (Ind & Iglesias, 2016).

Building on the above, the novel construct underscores the need to advocate a co-evolutionary process (Ind & Iglesias, 2016; Mingione, Kashif, & Petrescu, 2019), suggesting that the emotional brand value stems from an experiential relationship co-built by the brand and its consumers. Thereafter, this work stresses the importance of experiential value (Brakus, Schmitt, & Zarantonello, 2009; Hirschman & Holbrook, 1982) that emerges from brand-consumer co-creation processes (i.e., in this case, during online dialogues). In particular, it sheds light on the affective side of brand experience (Brakus et al., 2009; Chaudhuri & Holbrook, 2002; Huber, Meyer, & Schmid, 2015) contributing to the overall brand value (Iglesias, Markovic, & Rialp, 2019) co-created during the exchange relationship. Hence, this paper does not focus on the value stemming from consumers' use of a product (Punniyamoorthy & Raj, 2007), but outlines the symbolic intrinsic value of the experience (Huber et al., 2015; Kumar & Nayak, 2014), generated during social exchange relationships, which discard the role of functional and tangible aspects (e.g., financial and physical safety) and emphasize psychological and social consequences (e.g., self-image and status) of an emotional experience (Chaudhuri & Holbrook, 2002). Accordingly, this paper contributes not only to the fields of brand and marketing management, but also provides a valuable contribution to scholars and practitioners belonging to the fields of organisational behaviour,

Table 3
T-test between users' and brands' emotion mean.

Clusters	Brand-User	Equal Variance	Levene's Test for Equality of Variances		Test for Equality of Means	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval	
			F	Sig.	t					Lower	Upper
Soft Drinks (SD)	PepsiCo	Assumed	5353	0.021	5089	364	< 0.0001	1551	0.30496	0.95221	2151
		Not Assumed			5089	341.010	< 0.0001	1551	0.30496	0.95208	2151
	Nescafé	Assumed	8435	0.004	2159	364	0.031	0.70492	0.32649	0.06288	1346
		Not Assumed			2159	341.296	0.032	0.70492	0.32649	0.06288	1346
	Sprite	Assumed	2665	0.103	10,045	364	< 0.0001	3699	0.36830	2975	4423
		Not Assumed			10,045	363.273	< 0.0001	3699	0.36830	2975	4423
Distillers and Vintners (DV)	The Distiller	Assumed	0.169	0.682	−0.581	364	0.561	0.15847	0.27262	−0.37764	0.69458
	Company	Not Assumed			−0.581	355.127	0.561	0.15847	0.27262	−0.37764	0.69458
	Hennessy	Assumed	1165	0.281	−0.341	364	0.734	−0.06557	0.19248	−0.44410	0.31295
		Not Assumed			−0.341	341.420	0.734	−0.06557	0.19248	−0.44410	0.31295
	Heineken	Assumed	0.133	0.716	−0.031	364	0.976	−0.005	0.17788	−0.35527	0.34434
		Not Assumed			−0.031	337.598	0.976	−0.005	0.17788	−0.35527	0.34434
Systems Software (SS)	Salesforce	Assumed	23,914	0.000	−2226	364	0.027	−0.82514	0.37071	−1554	−0.09613
		Not Assumed			−2226	311.830	0.027	−0.82514	0.37071	−1554	−0.09572
	Cisco	Assumed	22,176	0.000	−1.393	364	0.165	−0.48087	0.34526	−1159	0.19808
		Not Assumed			−1.393	266.780	0.165	−0.48087	0.34526	−1159	0.19891
	Sap	Assumed	0.059	0.809	3440	364	0.001	1360	0.39553	0.58284	2138
		Not Assumed			3440	363.957	0.001	1360	0.39553	0.58284	2138
Automotive Manufacturers (AM)	Ford	Assumed	0.003	0.959	3392	364	0.001	1027	0.30283	0.43181	1622
		Not Assumed			3392	361.922	0.001	1027	0.30283	0.43181	1622
	Audi	Assumed	1435	0.232	4555	364	< 0.0001	1622	0.35626	0.92236	2323
		Not Assumed			4555	363.998	< 0.0001	1622	0.35626	0.92236	2323
	Volkswagen	Assumed	0.750	0.387	4288	364	< 0.0001	1240	0.28929	0.67154	1809
		Not Assumed			4288	331.555	< 0.0001	1240	0.28929	0.67154	1809
Personal Products (PP)	Gillette	Assumed	6333	0.012	5187	364	< 0.0001	2459	0.47408	1526	3391
		Not Assumed			5187	363.164	< 0.0001	2459	0.47408	1526	3391
	Colgate	Assumed	0.833	0.362	2829	364	0.005	1163	0.41143	0.35485	1973
		Not Assumed			2829	338.362	0.005	1163	0.41143	0.35464	1973
	L'Oréal	Assumed	0.650	0.421	0.539	364	0.590	0.25137	0.46661	−0.66583	1168
		Not Assumed			0.539	361.985	0.590	0.25137	0.46661	−0.66583	1168
Consumer Electronics (CE)	Siemens	Assumed	9,586	0.002	−0.853	364	0.394	−0.22404	0.26269	−0.74063	0.29254
		Not Assumed			−0.853	344.726	0.394	−0.22404	0.26269	−0.74063	0.29264
	Philips	Assumed	0.751	0.387	−0.797	364	0.426	−0.06011	0.07547	−0.20851	0.08830
		Not Assumed			−0.797	333.016	0.426	−0.06011	0.07547	−0.20851	0.08834
	IBM	Assumed	0.874	0.350	3,648	364	< 0.0001	1737	0.47635	0.80096	2674
		Not Assumed			3,648	363.697	< 0.0001	1737	0.47635	0.80096	2674

Table 4
T-test on users' extreme negative and positive polar emotions and firms' answers.

Comparisons	Equal Variances	Levene's Test for Equality of Variances		*t* test for the Equality of Means	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
		F	Sig.	t					Lower	Upper
ECCSEne - ECCSEpe	Assumed	1945	0.01	−28,600	952	0.000	−10.51	0.35	−11.39	−9.96
	Not Assumed			−29,667	77.17	0.000	−10.51	0.35	−11.37	−9.99
UserEne - BrandEne	Assumed	6.43	0.01	−24,430	804	0.000	−5.43	0.22	−5.91	−5.06
	Not Assumed			−24,430	793.08	0.000	−5.43	0.22	−5.91	−5.04
UserEpe - BrandEpe	Assumed	8.41	0.00	15,454	1200	0.000	3.52	0.22	3.13	4.06
	Not Assumed			15,454	1120.70	0.000	3.52	0.22	3.13	4.03

Note: Ene and Epe stand for extreme negative emotions and extreme positive emotions, respectively.

Table 5
Correlations between ECCS, frequency of UBI and Likes.

		ECCS	UBI frequency	Likes frequency
ECCS	Pearson correlation	1		
	Sig. (2-tailed,			
	N = 183)			
UBI frequency	Pearson correlation	0.14	1	
	Sig. (2-tailed,	0.83*		
	N = 183)			
Likes frequency	Pearson correlation	0.02	0.25	1
	Sig. (2-tailed,	0.20	0.41*	
	N = 183)			

*Significant correlations at 0.05 alpha level (2-tailed).

sociology and social psychology (Cropanzano, Anthony, Daniels, & Hall, 2017; Cropanzano & Mitchell, 2005). In fact, the inclusion of emotions into social exchange processes is at the basis of the Social Exchange Theory (SET), in particular the Affect Theory of Social Exchange (Lawler, 2001; Lawler & Thye, 2006), where diverse actors – such as brands and consumers – jointly share emotional experiences (Harrigan, Evers, Miles, & Daly, 2018; Sierra & McQuitty, 2005).

The *second* contribution to the literature is attributed to the proposal of a measure to investigate how the emotional value of the brand is co-created during brand-consumers' interactions. Specifically, this is the first study that operationalises a measure (i.e., ECCS) that includes both brands and users as actors contributing to the creation of the brand emotional value. In particular, scholars have encompassed emotions during co-creation processes by including measures such as brand attachment, brand passion and brand love (Batra, Ahuvia, & Bagozzi, 2012; Kaufmann, Loureiro, & Manarioti, 2016; Kennedy, 2017; Merz et al., 2018). For instance, Merz et al. (2018, p. 82), suggested that brand passion, defined as "extremely positive feelings toward the brand", contributes to increase the consumers' motivation to co-create. Similarly, Kaufmann et al. (2016) highlighted the role of brand love in determining successful co-creation. However, our measure is unique because it subsumes empirical works on brand value co-creation, which considered only the consumers' side by exploring the antecedents and consequences of co-creation (Kennedy, 2017; Kennedy & Guzmán, 2017; Merz et al., 2018). Moreover, it demonstrates that not only do consumers show and share emotions when co-creating with brands, but also brands can be "endowed with human emotions" (i.e., anthropomorphized) (Aggarwal & McGill, 2011, p. 309).

The *third* contribution to the literature highlights that different emotional experiential paths can be generated by the simultaneous interaction between the brand and its consumers. In particular, diverse interactive paths were observed for the selected industries, with the Automotive and Personal Product industries co-creating more than the others, thus confirming that hedonic brands show a stronger co-creation, in emotional terms, when compared to functional brands triggering a moderate co-creation (Merrilees, 2016). These results can be explained by the fact that brands differently manage the tension between closeness and distance (Ind & Iglesias, 2016) with hedonic brands being more open and emotionally driven, thus building their co-creation strategy on the consumers' emotional involvement through the stimulation of their senses (e.g., by showing touching images/videos). As a consequence, consumers are more prone to expressing their affective states (Brakus et al., 2009; Chaudhuri & Holbrook, 2002) and "to give feedback and *emotionally* participate" (Merrilees, 2016, p. 405; the authors of this paper have added the word in italics).

The presence of different emotional experiential paths also highlighted two main types of emotional exchanges, one related to an alignment between the brand and its consumers sharing not only the same polar emotion, but also the same amount of emotion, the other related to an emotional misalignment, with brands offering more positive emotions with respect to those of users, resulting in a higher contribution of the brands to the ECCS. Despite it being unfeasible that brands could exert a managerial control over consumers in an online environment (Ind et al., 2013; Vallaster & von Wallpach, 2013), managers still try to persuade consumers (Iglesias & Bonet, 2012) by driving their positive emotional response to increase online brand engagement (Hatch & Schultz, 2010) and to trigger consumers' emotional contagion, by transmitting positive emotions to them (Iglesias et al., 2019). Different trends emerged in the case of extreme users' polar emotions. As expected, when users displayed extreme negative emotions brands offered positive values. Conversely, when users showed extreme positive emotions brands offered less positive value than those of users, thus recalibrating the total co-created emotional value generated by the online interactions. These findings support previous studies suggesting the fundamental role of alignment during co-creation processes (Gyrd-Jones & Kornum, 2013; Healy & McDonagh, 2013) and the search for emotional alignment seems to be a key factor in the management consumers' extreme polar emotions to avoid relational collapses. It is also possible to speculate that the anthropomorphized brand attempts to avoid extreme positive answers to increase its credibility and authenticity (Portal, Abratt, & Bendixen, 2018) by conveying a genuine and true relationship with consumers (Ind & Iglesias, 2016). In fact, if we take the theoretical lens of the SET – which suggests considering the exchange context and that an exchange relationship will last over time "if emotions felt and expressed corresponds to contextual norms and actors' identities" (Lawler & Thye, 1999, p. 240) – it is feasible to expect that brands interacting on social media (i.e., this paper's exchange context) may have informal norms to publicly display emotions in alignment with their identities, thus showing a more "tempered" emotional tone than consumers.

5.2. Managerial implications

This paper presents three main managerial implications. *First*, it offers managers a measure to assess and monitor the emotional value co-created over time during online interactions between brands and their consumers, namely the ECCS. Thanks to this tool, brand managers

and their collaborators can track the emotions exchanged with the users to identify the appropriate reactions in terms of emotions expressed. Thereafter, a continuous monitoring of the co-created emotional value of interactions through the proposed ECCS is strongly suggested. To design an effective and reliable monitoring system, particular attention should be given to the algorithm implemented for retrieving text data and to the lexicon used for coding them. In this vein, the NRC lexicon and the AMBER algorithm provide an adequate and reliable tool for the analysis of brand value co-creation. The ECCS, moreover, is not in contrast to artificial intelligence-based software, such as ChatBot (i.e., a software designed to simulate a human conversation). However, artificial intelligence-based tools should be carefully designed to acquire the ability to exchange authentic emotions. In fact, ignoring the role of emotions and considering only cognitive and functional dimensions, can be potentially risky, as demonstrated by the case of Microsoft's Tay, a ChatBot mimicking the language of a 19-year-old American girl created to engage with Twitter users. According to an algorithm based on users' cognitive information, Tay finally answered the users with sentences such as "Hitler was right" and "9/11 was an inside job", amongst others (The Guardian, 2016). It is important to highlight that – at present – an algorithm able to integrate cognitive and emotional empathy has not yet been created, thus reinforcing the key role of employees who daily connect with consumers sharing their emotions in online settings (Ind & Iglesias, 2016).

Second, when managing dyadic relationships, it is recommended that co-creation should not only be harmonious, but also equated in terms of emotional exchange to avoid relational collapses. In particular, managers (or ChatBot) should offer positive emotions when consumers display extreme, negative expressions of emotion. Hence, they do not have to compulsively "follow" their consumers that are exhibiting extreme positive emotions, giving back the same extremely positive emotion. Instead, managers are called on to carefully manage this relationship by trying to maintain calibrated emotional-based interactions (e.g., Cristofaro, 2019a; 2019b).

Third, managers are informed that the co-creation of the emotional value of a brand is not related to frequency of Likes and only marginally to frequency of interaction; thus, they should decrease the attention devoted to brand measures such as Likes and be aware of the co-created emotional value exchanged during their online interactions with users.

5.3. Limitations and directions for future research

Some limitations affect this work. First, it included a limited list of brands (i.e., n = 18) across seven sectorial clusters and only Twitter was considered amongst the social media platforms, thus undermining the generalisability of findings. Second, it disregarded the role of cognitive brand value co-creation, focusing – in line with the present study's aim – on the emotional value of digital-based interactions. In fact, this study conceives the brand-user co-created experience more as a "shared emotion" (Schembri, 2009, p. 1307), rather than linked to cognitive features. Third, if the present quantitative results, on the one hand, substantiate previous qualitative findings on online text analysis, suggesting that positive or negative emotions lead to the success or failure of co-creation processes (Gebauer et al., 2013; Healy & McDonagh, 2013; Vallaster & von Wallpach, 2013), which is the central assumption of the ECCS, on the other hand this work ignores the role of images in the creation and management of the co-created emotional value of the brand. Indeed, recent trends of digital platforms, especially social media-based platforms such as Instagram, demonstrate that visual-based communication represents a powerful brand management tool (Anagnostopoulos, Parganas, Chadwick, & Fenton, 2018; Highfield & Leaver, 2016; Klostermann, Plumeyer, Böger, & Decker, 2018).

Based on the above limitations, this study suggests directions for further reflection on the co-creation of the brand emotional value. Future research can extend this work by enlarging the spectrum of analysis, thus encompassing additional sectorial clusters, brands, and social media platforms. Furthermore, scholars are called to consider the cognitive side of brand value co-creation, by scanning, for instance, the typology of topics triggering consumers' positive or negative emotions and recurring emotions (e.g., by mapping emotions on the basis of product, service, promotion, competitors, etc., see Liu et al., 2017; Pathak & Pathak-Shelat, 2017) and by investigating their impact on the co-created emotional value of the brand. This study also encourages other researchers to examine – through the use of the ECCS – potential relationships and the interplay of emotional and cognitive dimensions affecting interactions between the brand and its multiple stakeholders (Payne et al., 2009; Schau et al., 2009; Skålén et al., 2015). Lastly, scholars are challenged to search for measures that may capture the co-created emotional value of the brand generated on social media platforms as a result of the sharing of visual-based images, such as emoticons, pictures and videos.

Beyond future research dealing with this study's limitations, other research avenues are presented to give a solid ground for scholars interested in this novel area of research. Important further insights could be derived from additional research into the antecedents and consequences of the emotional co-created brand value. In particular, scholars are called to investigate antecedents such as consumers' personal features (e.g., demographic-based, life-style related, intrinsic affective states related to the consumers' momentum). As emotions are culturally specific (Eid & Diener, 2001; Shaver et al., 1992), consumers' culture might play a crucial role in determining the emotional co-created brand value, which would encourage future cross-cultural research. Moreover, consumers-to-consumers' conversations on social media and word-of-mouth (WOM) might affect consumers' emotional states before interacting with a brand, thus acting as an antecedent influencing the overall co-created emotional value that could be further researched. Future studies are also encouraged in order to investigate the potential consequences of the co-created emotional brand value, for instance by exploring if the emotional co-created brand value can predict consumers' behavioural outcomes (e.g., consumers' willingness to participate, consumers' willingness to purchase, consumers' willingness to spread a positive WOM). Thus, scholars are called to understand short-term (e.g., brand engagement, brand sales, brand satisfaction, brand trust) and long-term (e.g., brand loyalty) consequences, as well as moderators and mediators including emotional-based dimensions, such as brand passion, brand affect, brand love and emotional attachment.

Further research is needed in this area to inquire into the strategies underpinned by companies to manage the co-creation of emotional brand value and is probably best pursued by detailed qualitative case studies. In particular, scholars are called to explore the planning, management and tracking of strategies that create, manage and maintain over time the emotional value of the brand co-created with multiple internal and external stakeholders. Regarding external stakeholders, specific attention should be devoted to the relationship with brand communities, especially if we consider that brand practices embraced by communities "operate in the intangible domain of emotions" (Schau et al., 2009, p. 34). Another promising line of inquiry could investigate the role – if any – played by emotions during industrial relationships of the brand with its B2B (Business to Business) stakeholders, such as suppliers, distributors, and industrial clients. Furthermore, scholars should not discard the exploration of internal brand strategies pursued to enhance the co-created emotional value of the brand.

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References

Aaker, D. A. (1996). Building strong brands. New York: The Free Press.

Aggarwal, P., & McGill, A. L. (2011). When brands seem human, do humans act like brands? Automatic behavioral priming effects of brand anthropomorphism. *Journal of Consumer Research, 39*(2), 307–323.

Ahn, J., Lee, C. K., Back, K. J., & Schmitt, A. (2019). Brand experiential value for creating integrated resort customers' co-creation behavior. *International Journal of Hospitality Management, 81*, 104–112.

Anagnostopoulos, C., Parganas, P., Chadwick, S., & Fenton, A. (2018). Branding in pictures: Using Instagram as a brand management tool in professional team sport organisations. *European Sport Management Quarterly, 18*(4), 413–438.

Bagozzi, R. P., Gopinath, M., & Nyer, P. U. (1999). The role of emotions in marketing. *Journal of the Academy of Marketing Science, 27*(2), 184–206.

Bailey, J. J., Gremler, D. D., & McCollough, M. A. (2001). Service encounter emotional value: The dyadic influence of customer and employee emotions. *Services Marketing Quarterly, 23*(1), 1–24.

Batra, R., Ahuvia, A., & Bagozzi, R. P. (2012). Brand love. *Journal of Marketing, 76*(2), 1–16.

Benamara, F., Taboada, M., & Mathieu, Y. (2016). Evaluative language beyond bags of words: Linguistic insights and computational applications. *Computational Linguistics, 43*(1), 201–264.

Black, I., & Veloutsou, C. (2017). Working consumers: Co-creation of brand identity, consumer identity and brand community identity. *Journal of Business Research, 70*(1), 416–429.

Brakus, J., Schmitt, B., & Zarantonello, L. (2009). Brand experience: What is it? How is it measured? Does it affect loyalty?". *Journal of Marketing, 73*(3), 52–78.

Brodie, R. J., Ilic, A., Juric, B., & Hollebeek, L. (2013). Consumer engagement in a virtual brand community: An exploratory analysis. *Journal of Business Research, 66*(1), 105–114.

Chaudhuri, A., & Holbrook, M. B. (2002). Product-class effects on brand commitment and brand outcomes: The role of brand trust and brand affect. *Journal of Brand Management, 10*(1), 33–58.

Chu, S., & Keh, H. T. (2006). Brand value creation: Analysis of the Interbrand-Business week brand value rankings. *Marketing Letters, 17*(4), 323–331.

Cova, B., & Pace, S. (2006). Brand community of convenience products: New forms of customer empowerment–the case "my Nutella The Community". *European Journal of Marketing, 40*(9/10), 1087–1105.

Cristofaro, M. (2019a). The role of affect in management decisions: A systematic review. *European Management Journal, 37*(1), 6–17.

Cristofaro, M. (2019b). "I feel and think, therefore I am": An Affect-Cognitive Theory of management decisions. *European Management Journal*. https://doi.org/10.1016/j.emj.2019.09.003.

Cropanzano, R., & Mitchell, M. S. (2005). Social exchange theory: An interdisciplinary review. *Journal of Management, 31*(6), 874–900.

Cropanzano, R., Anthony, E. L., Daniels, S. R., & Hall, A. V. (2017). Social exchange theory: A critical review with theoretical remedies. *Academy of Management Annals, 11*(1), 479–516.

de Chernatony, L., Cottam, S., & Segal-Horn, M. (2006). Communicating service brands' values internally and externally. *The Service Industries Journal, 26*(8), 819–837.

Ding, C. G., & Tseng, T. H. (2015). On the relationships among brand experience, hedonic emotions, and brand equity. *European Journal of Marketing, 49*(7/8), 994–1015.

Eid, M., & Diener, E. (2001). Norms for experiencing emotions in different cultures: Inter- and intra-national differences. *Journal of Personality and Social Psychology, 81*, 869–885.

Facebook (2019). Facebook for developers, accessible at: https://developers.facebook.com/, accessed on February 27th 2019.

Frijda, N. H. (1994). Varieties of affect: Emotions and episodes, moods, and sentiments. In P. Ekman, & R. J. Davidson (Eds.). *The nature of emotions: Fundamental questions* (pp. 197–202). Oxford: Oxford University Press.

Füller, J., & Bilgram, V. (2017). The moderating effect of personal features on the consequences of an enjoyable co-creation experience. *Journal of Product & Brand Management, 26*(4), 386–401.

Gebauer, J., Füller, J., & Pezzei, R. (2013). The dark and the bright side of co-creation: Triggers of member behavior in online innovation communities. *Journal of Business Research, 66*(9), 1516–1527.

Gustafsson, A., Kristensson, P., & Witell, L. (2012). Customer co-creation in service innovation: A matter of communication? *Journal of Service Management, 23*(3), 311–327.

Gyrd-Jones, R. I., & Kornum, N. (2013). Managing the co-created brand: Value and cultural complementarity in online and offline multi-stakeholder ecosystems. *Journal of Business Research, 66*(9), 1484–1493.

Hajli, N., Shanmugam, M., Papagiannidis, S., Zahay, D., & Richard, M. O. (2017). Branding co-creation with members of online brand communities. *Journal of Business Research, 70*, 136–144.

Harrigan, P., Evers, U., Miles, M. P., & Daly, T. (2018). Customer engagement and the relationship between involvement, engagement, self-brand connection and brand usage intent. *Journal of Business Research, 88*, 388–396.

Hatch, M. J., & Schultz, M. (2010). Toward a theory of brand co-creation with implications for brand governance. *Journal of Brand Management, 17*(8), 590–604.

Healy, J. C., & McDonagh, P. (2013). Consumer roles in brand culture and value co-creation in virtual communities. *Journal of Business Research, 66*(9), 1528–1540.

Highfield, T., & Leaver, T. (2016). Instagrammatics and digital methods: Studying visual social media, from selfies and GIFs to memes and emoji. *Communication Research and Practice, 2*(1), 47–62.

Hirschman, E. C., & Holbrook, M. B. (1982). Hedonic consumption: Emerging concepts, methods and propositions. *Journal of Marketing, 46*(3), 92–101.

Holbrook, M. B., & Hirschman, E. C. (1982). The experiential aspects of consumption: Consumer fantasies, feelings, and fun. *Journal of Consumer Research, 9*(2), 132–140.

Huber, F., Meyer, F., & Schmid, D. A. (2015). Brand love in progress–the interdependence of brand love antecedents in consideration of relationship duration. *Journal of Product & Brand Management, 24*(6), 567–579.

Hughes, M.Ü., Bendoni, W. K., & Pehlivan, E. (2016). Storygiving as a co-creation tool for luxury brands in the age of the internet: A love story by Tiffany and thousands of lovers. *Journal of Product & Brand Management, 25*(4), 357–364.

Iglesias, O., & Bonet, E. (2012). Persuasive brand management: How managers can influence brand meaning when they are losing control over it. *Journal of Organizational Change Management, 25*(2), 251–264.

Iglesias, O., Ind, N., & Alfaro, M. (2013). The organic view of the brand: A brand value co-creation model. *Journal of Brand Management, 20*(8), 670–688.

Iglesias, O., Markovic, S., & Rialp, J. (2019). How does sensory brand experience influence brand equity? Considering the roles of customer satisfaction, customer affective commitment, and employee empathy. *Journal of Business Research, 96*, 343–354.

Iglesias, O., Markovic, S., Bagherzadeh, M., & Singh, J. J. (2018). Co-creation: A key link between corporate social responsibility, customer trust, and customer loyalty. *Journal of Business Ethics,* 1–16.

Ind, N., & Iglesias, O. (2016). *Brand Desire: How to create consumer involvement and inspiration.* London: Bloomsbury Publishing.

Ind, N., Iglesias, O., & Markovic, S. (2017). The co-creation continuum: From tactical market research tool to strategic collaborative innovation method. *Journal of Brand Management, 24*(4), 310–321.

Ind, N., Iglesias, O., & Schultz, M. (2013). Building brands together: Emergence and outcomes of co-creation. *California Management Review, 55*(3), 5–26.

Instagram (2019). Developer, accessible at: https://www.instagram.com/developer/, accessed on February 27th 2019.

Jockers, M. L. (2017). Introduction to the Syuzhet Package. Retrieved from: https://cran.r-project.org/package=syuzhet, accessed on March 14th 2019.

Kaufmann, H. R., Loureiro, S. M. C., & Manarioti, A. (2016). Exploring behavioural branding, brand love and brand co-creation. *Journal of Product & Brand Management, 25*(6), 516–526.

Kearney, M. W. (2018). Rtweet: Collecting Twitter Data. R package version 0.6.7. Retrieved from: https://cran.r-project.org/package=rtweet, accessed on October 16th 2018.

Kennedy, E. (2017). I create, you create, we all create–for whom? *Journal of Product & Brand Management, 26*(1), 68–79.

Kennedy, E., & Guzmán, F. (2017). When perceived ability to influence plays a role: Brand co-creation in Web 2.0. *Journal of Product & Brand Management, 26*(4), 342–350.

Kiritchenko, S., Zhu, X., & Mohammad, S. M. (2014). Sentiment analysis of short informal texts. *Journal of Artificial Intelligence Research, 50*, 723–762.

Klostermann, J., Plumeyer, A., Böger, D., & Decker, R. (2018). Extracting brand information from social networks: Integrating image, text, and social tagging data. *International Journal of Research in Marketing, 35*(4), 538–556.

Kornum, N., & Mühlbacher, H. (2013). Multi-stakeholder virtual dialogue: Introduction to the special issue. *Journal of Business Research, 66*(9), 1460–1464.

Kozinets, R. V. (2002). The field behind the screen: Using netnography for marketing research in online communities. *Journal of Marketing Research, 39*(1), 61–72.

Kozinets, R. V., Hemetsberger, A., & Schau, H. J. (2008). The wisdom of consumer crowds: Collective innovation in the age of networked marketing. *Journal of Macromarketing, 28*(4), 339–354.

Kumar, V., & Nayak, J. K. (2014). The measurement & conceptualization of destination personality. *Tourism Management Perspectives, 12*, 88–93.

Laros, F. J., & Steenkamp, J. B. E. (2005). Emotions in consumer behavior: A hierarchical approach. *Journal of Business Research, 58*(10), 1437–1445.

Lawler, E. J. (2001). An affect theory of social exchange. *American Journal of Sociology, 107*(2), 321–352.

Lawler, E. J., & Thye, S. R. (1999). Bringing emotions into social exchange theory. *Annual Review of Sociology, 25*(1), 217–244.

Lawler, E. J., & Thye, S. R. (2006). Social exchange theory of emotions. *Handbook of the sociology of emotions* (pp. 295–320). Boston, MA: Springer.

Lee, H. H. M., & van Dolen, W. (2015). Creative participation: Collective sentiment in online co-creation communities. *Information & Management, 52*(8), 951–964.

Levy, S. J. (1959). Symbols for sale. *Harvard Business Review, 37*(4), 117–124.

Liu, X., Burns, A. C., & Hou, Y. (2017). An investigation of brand-related user-generated content on Twitter. *Journal of Advertising, 46*(2), 236–247.

Martin, J. C., Caridakis, G., Devillers, L., Karpouzis, K., & Abrilian, S. (2009). Manual annotation and automatic image processing of multimodal emotional behaviors: Validating the annotation of TV interviews. *Personal and Ubiquitous Computing, 13*(1), 69–76.

Matsumoto, D. (1993). Ethnic differences in affect intensity, emotion judgments, display rule attitudes, and self-reported emotional expression in an American sample. *Motivation and Emotion, 17*(2), 107–123.

Medhat, W., Hassan, A., & Korashy, H. (2014). Sentiment analysis algorithms and applications: A survey. *Ain Shams Engineering Journal, 5*(4), 1093–1113.

Merrilees, B. (2016). Interactive brand experience pathways to customer-brand engagement and value co-creation. *Journal of Product & Brand Management, 25*(5), 402–408.

Merz, M. A., He, Y., & Vargo, S. L. (2009). The evolving brand logic: A service-dominant logic perspective. *Journal of the Academy of Marketing Science, 37*(3), 328–344.

Merz, M. A., Zarantonello, L., & Grappi, S. (2018). How valuable are your customers in the brand value co-creation process? The development of a Customer Co-Creation Value (CCCV) scale. *Journal of Business Research, 82*(1), 79–89.

Mingione, M., Kashif, M., & Petrescu, M. (2019). Brand power relationships: A co-

evolutionary conceptual framework. *Journal of Relationship Marketing*. https://doi.org/10.1080/15332667.2019.2648937.
Mohammad, S. M. (2017). Word affect intensities, arXiv preprint arXiv:1704.08798.
Mohammad, S. M., Zhu, X., Kiritchenko, S., & Martin, J. (2015). Sentiment, emotion, purpose, and style in electoral tweets. *Information Processing & Management, 51*(4), 480–499.
Nakov, P., Rosenthal, S., Kiritchenko, S., Mohammad, S. M., Kozareva, Z., Ritter, A., ... Zhu, X. (2016). Developing a successful SemEval task in sentiment analysis of Twitter and other social media texts. *Language Resources and Evaluation, 50*(1), 35–65.
Nysveen, H., & Pedersen, P. E. (2014). Influences of co-creation on brand experience. *International Journal of Market Research, 56*(6), 807–832.
Pang, B., & Lee, L. (2008). Opinion mining and sentiment analysis. *Foundations and Trends® Information Retrieval, 2*(1–2), 1–135.
Pathak, X., & Pathak-Shelat, M. (2017). Sentiment analysis of virtual brand communities for effective tribal marketing. *Journal of Research in Interactive Marketing, 11*(1), 16–38.
Payne, A., Storbacka, K., Frow, P., & Knox, S. (2009). Co-creating brands: Diagnosing and designing the relationship experience. *Journal of Business Research, 62*(3), 379–389.
Pentina, I., Gammoh, B. S., Zhang, L., & Mallin, M. (2013). Drivers and outcomes of brand relationship quality in the context of online social networks. *International Journal of Electronic Commerce, 17*(3), 63–86.
Plutchik, R. (1980). A general psychoevolutionary theory of emotion. In R. Plutchik & H. Kellerman (Eds.), Emotion: Theory, research, and experience. Theories of emotion (Vol. 1, pp. 3–31). New York: Academic Press.
Portal, S., Abratt, R., & Bendixen, M. (2018). Building a human brand: Brand anthropomorphism unravelled. *Business Horizons, 61*(3), 367–374.
Prahalad, C. K., & Ramaswamy, V. (2004). Co-creation experiences: The next practice in value creation. *Journal of Interactive Marketing, 18*(3), 5–14.
Punniyamoorthy, M., & Raj, M. P. M. (2007). An empirical model for brand loyalty measurement. *Journal of Targeting, Measurement and Analysis for Marketing, 15*(4), 222–233.
Ramaswamy, V., & Ozcan, K. (2018). What is co-creation? An interactional creation framework and its implications for value creation. *Journal of Business Research, 84*(3), 196–205.
Rana, T. A., & Cheah, Y. N. (2016). Aspect extraction in sentiment analysis: Comparative analysis and survey. *Artificial Intelligence Review, 46*(4), 459–483.
Ranjan, K. R., & Read, S. (2016). Value co-creation: Concept and measurement. *Journal of the Academy of Marketing Science, 44*(3), 290–315.
Schau, H. J., Muñiz, A. M., Jr, & Arnould, E. J. (2009). How brand community practices create value. *Journal of Marketing, 73*(5), 30–51.
Schembri, S. (2009). Reframing brand experience: The experiential meaning of Harley-Davidson. *Journal of Business Research, 62*(12), 1299–1310.
Shaver, P. R., Wu, S., & Schwartz, J. C. (1992). Cross-cultural similarities and differences in emotion and its representation: A prototype approach. In M. S. Clark (Ed.). *Review of personality and social psychology* (pp. 175–212). Newbury Park, CA: Sage.
Sheth, J. N., Newman, B. I., & Gross, B. L. (1991). Why we buy what we buy: A theory of consumption values. *Journal of Business Research, 22*(2), 159–170.
Sierra, J. J., & McQuitty, S. (2005). Service providers and customers: Social exchange theory and service loyalty. *Journal of Services Marketing, 19*(6), 392–400.
Skålén, P., Pace, S., & Cova, B. (2015). Firm-brand community value co-creation as alignment of practices. *European Journal of Marketing, 49*(3/4), 596–620.
Smith, A. N., Fischer, E., & Yongjian, C. (2012). How does brand-related user-generated content differ across YouTube, Facebook, and Twitter? *Journal of Interactive Marketing, 26*(2), 102–113.
Smith, J. B., & Colgate, M. (2007). Customer value creation: A practical framework. *Journal of Marketing Theory and Practice, 15*(1), 7–23.
Suomi, K., Luonila, M., & Tähtinena, J. (2018). Ironic festival brand co-creation. *Journal of Business Research*. https://doi.org/10.1016/j.jbusres.2018.08.039.
Tajvidi, M., Richard, M.-O., Wang, Y., & Hajlia, N. (2018). Brand co-creation through social commerce information sharing: The role of social media. *Journal of Business Research*. https://doi.org/10.1016/j.jbusres.2018.06.008.
The Guardian (2016). Tay, Microsoft's AI chatbot, gets a crash course in racism from Twitter, Retrieved from: https://www.theguardian.com/technology/2016/mar/24/tay-microsofts-ai-chatbot-gets-a-crash-course-in-racism-from-twitter, accessed on November 17th 2018.
Twitter (2019). "Twitter Business developer", accessible at: https://business.twitter.com, accessed on February 2019.
Vallaster, C., & von Wallpach, S. (2013). An online discursive inquiry into the social dynamics of multi-stakeholder brand meaning co-creation. *Journal of Business Research, 66*(9), 1505–1515.
Vargo, S., & Lusch, R. F. (2004). Evolving to a new dominant logic for marketing. *Journal of Marketing, 68*(1), 1–17.
Zhang, H., Gupta, S., Sun, W., & Zou, Y. (2019). How Social-Media-Enabled Co-Creation between Customers and the Firm Drives Business Value? The Perspective of Organizational Learning and Social Capital. Information & Management, https://doi.org/10.1016/j.im.2019.103200.

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