AUTHORS' ACCEPTED VERSION

Exploring digital corporate social responsibility communications on Twitter

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To cite this article:

Okazaki S., Plangger, K., West, D., & Menendez, H. (2019) Exploring digital corporate social responsibility communications on Twitter, *Journal of Business Research*, volume and pages forthcoming.

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ABSTRACT

Many brands utilize social media to communicate with consumers, but are they taking advantage of these media's potential for co-creation? We explore this in the corporate social responsibility (CSR) context where online CSR dialogs form as brands interact with consumers using social media. Study 1 examines eight brands' digital CSR communications on Twitter and suggests these dialogs are present but are rarely part of the process with most interactions between their consumers. Study 2 assesses the brands' CSR relevant tweets' content and finds that most are not relevant to CSR and, moreover, are predominantly one-way. Therefore, both studies reveal that brands are not tapping into the potential for co-creation that is inherent in social media. Thus, we recommend that social media messages should be engaging to the minimum extent that they include (a) mentions of individual consumers, (b) audience specific and relevant message content, and (c) opportunities for consumers to co-create value with the relevant brands.

KEYWORDS

Corporate Social Responsibility; Consumer Engagement; Online CSR dialog; Social Media; Twitter; Web 2.0

HIGHLIGHTS

- Online CSR dialogs have the potential to create much value for stakeholders
- Network analysis metrics can measure CSR dialog engagement and characteristics
- Study 1 suggests that consumers are engaging with each other but rarely with brands
- Study 2 finds that studied brands' CSR communications lack engagement opportunities
- Brands should consider the engagement potential of social media to create value

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1. Introduction

Advertising and marketing scholars have written much about the ability and benefits of new media to have two-way, participatory interactions or dialogs with consumers, and thereby create additional value for firms and consumers alike (Vargo & Lusch, 2004, 2016, 2017; Parent, Plangger, & Bal, 2011). However, the evidence is scant whether these theories, frameworks, and models have been fully acted upon by advertising and marketing practitioners (Korschun & Du, 2013). This work explores eight leading brands' digital corporate social responsibility (CSR) communications on Twitter and examines dialogs created around their CSR-related tweets and retweets. CSR refers to "a company's activities and status related to its perceived societal or stakeholder obligations" (Luo & Bhattacharya, 2006, p. 6). CSR programs enable brands to go beyond their economic interests and legal obligations by employing a set of actions that are beneficial to society, which are expected by key stakeholders especially after the 2008 banking sector collapse (Lacey, Kennett-Hensel, & Manolis, 2014). Why do brands conduct CSR? Well, mention brands such as BP, Enron, Phillip Morris, or Volkswagen, and there is a strong chance that the conversation will turn to their social policies. This may not be good news for the brands concerned, because the evidence suggests that a poor corporate reputation makes brand building and development difficult (Foroudi, Melewar, & Gupta, 2014). Furthermore, superior reputations have been found to increase shareholder value (Raithel & Schwaiger, 2015), so poor practice may well result in lost brand equity.

For brands to realize their reputational benefits, they clearly need to communicate their CSR activities with key stakeholder groups such as customers and employees (Ali, Lynch, Melewar, & Jin, 2015). Moreover, social media platforms have received considerable attention from both scholars and practitioners. This has been due to their ability to not only broadcast for, but also to create bilateral dialogs with consumers through, for example, generating ideas, receiving feedback, and soliciting their participation (Rahman, 2011; Lee, Oh, & Kim, 2013). We view this dialog creation capability as a tool of value co-creation with consumers, which involves a role shift of the consumer from a receiver to a co-producer of product or service value (Payne, Storbacka, & Frow, 2008; Lusch & Vargo 2004, 2016, 2017). Nevertheless, *digital* CSR communications on social media and its potential for value co-creation has rarely been examined empirically, which leads us to the following question: "To what extent do brands that lead their industries in CSR programs use social media to broadcast their CSR efforts and establish relational and participative environments with consumers?" This work addresses this question by examining whether: (1) brands are using Twitter to create online CSR dialogs, and (2) if consumers proactively collaborate with brands in such dialogs. Our findings suggest that studied brands generally treat their Twitter platforms as "broadcast media," such as television or print magazines, and rarely take full advantage of the potential of online dialogs created by their digital CSR communications.

This study contributes to the advertising literature and practice in three ways. First, despite the widespread use of social media in advertising practice, their role in digital CSR communications has not been well documented, with a few interesting exceptions (Burton, Soboleva, Daellenbach, Basil, Beckman & Deshpande, 2017; Soboleva, Burton, & Khan, 2015; Soboleva, Burton, Mallik, & Khan, 2017). This work builds upon these studies and extends them by further examining digital CSR communication on social media and the potential to co-create value. Second, this work provides an interdisciplinary view of practices related to digital CSR communications by deriving insights from the fields of advertising, marketing, management, and computer science that culminate in two studies of eight brands' digital CSR communications on Twitter. Study 1 quantitatively evaluates the level of "connectedness" observed in the brand's online CSR dialogs with consumers by using network analysis

algorithms. Study 2 qualitatively examines the relevance and communication styles of the brands' online CSR dialogs. Third, based on these findings, we provide managerial implications within the online CSR engagement framework for advertising managers to take better advantage of the potential for social media to provide increased value for both the brand and consumers.

In what follows, we outline a theoretical framework of online CSR dialogs on social media and explore its potential for online CSR engagement, which leads to formal research questions related to the measurement and the nature of consumer engagement on social media. Then, Study 1 analyzes the level of interaction in eight brands' CSR Twitter dialogs and Study 2 investigates the reason for the observed level of interaction. The paper closes by discussing the academic and practical implications of the findings along with suggestions for future research.

2. Online CSR dialogs

While there is evidence that some consumers are skeptical about a brand's motives for investing in CSR programs, CSR communications have been conclusively found to have a measurable and positive impact on brand reputation (Nan & Heo, 2007; Du & Vieira, 2012). There is also evidence suggesting that online CSR may influence consumer support for a brand (Green & Peloza, 2011). For example, during recession or times of uncertain economic outlook, CSR has been found to generate emotional, social, and functional value for consumers each of which strengthens or weakens the overall impact of CSR (Green & Peloza, 2011). However, these positive attitudes toward socially responsible companies are seldom related to purchasing behavior (Oberseder, Schlegelmilch, & Gruber, 2011; Schwaiger, Rennhak, Taylor, & Cannon, 2007). Furthermore, these results have limited (or at least uncertain) application to social media, as they are based upon the evidence of the effects of offline CSR communication and, therefore, do not allow for consumer participation or collaboration inherent with social media.

Unlike offline channels, *digital CSR communications* employ Web 2.0 enabled social networking sites (e.g., Facebook, Twitter, Instagram, etc.) that empower consumers to create dialogs between themselves, brands, and brands' CSR programs (Parent et al., 2011; Okazaki et al., 2015). *Online CSR dialogs* are likely to enable the creation of consumer-centric CSR programs that are more salient and relevant to consumers, as they would be co-created by informal partnerships resulting from interactions between brands and their customers (Visser, 2011). Such partnerships are generally the result of the service-dominant logic perspective's "prosumption behavior," whereby informed consumers act as market drivers igniting chains of electronic word-of-mouth (eWOM) and actively participating in value co-creation (Vargo & Lusch, 2004, 2016, 2017; Okazaki et. al., 2012). Another term for this consumer interactivity with brands is "brand engagement." This term has yet to be definitively defined but is defined here following Mollen and Wilson (2010, p.5) as, "the cognitive and affective commitment to an active relationship with the brand as personified by the website or other computer-mediated entities designed to communicate brand value." From this definition, we propose *online CSR dialog engagement* or consumers' cognitive and affective commitment to brands' CSR programs that is stimulated by online CSR dialog interactions. Thus, online CSR dialogs with this type of engagement enables brands to unlock committed consumers in order to co-create CSR programs in collaboration with brands using social media.

While information transmission within online communities can be routed via eWOM (c.f., Brown et al., 2007), the evidence suggests that online CSR dialog engagement cannot be solely controlled by a small group of (online) opinion leaders (Kiss & Bichler, 2008). With eWOM, a limited number of influencers exercise their authority to deliver messages quickly and reliably through a network, whereas in online CSR dialog engagement, *any* consumers can proactively participate, collaborate, and co-create with brands. Their motivation is most likely

the pursuit of socially sustainable and responsible activities on the back of the accessibility, ease of use, and simplicity of social media channels compared to more traditional offline channels.

3. Engaging consumers with online CSR dialogs

The value of CSR is in allocating resources effectively and efficiently when communicating CSR programs and activities to stakeholders (Bhattacharya & Sen, 2003; Luo & Bhattacharya, 2006). Online communication channels, such as social media, offer the potential for additional value to be created by engaging stakeholders in partnership with the brand. For example, a brand with an engaged stakeholder community can create, or modify, that brand's CSR programs, strategies, and activities to better fit stakeholders' needs and wants. However, this stakeholder engagement can only happen if that brand also engages in a two-way dialog with consumers in addition to allowing, encouraging, and listening to dialogs among consumers.

In light of the above, there are two necessary but not sufficient conditions that must be satisfied to promote CSR co-creation in online CSR dialogs: (1) the communication platform allows for self-presentation and (2) the independence of participating consumers (Korschun & Du, 2013). The first condition ensures that the platform allows consumers to create content that expresses their personal beliefs and opinions, to form the basis for debate, and discussion in dialogs with other consumers and the brand (Korschun & Du, 2013). The second allows for a sustainable, continuing dialog among consumers and with the brand regardless of whether the online environment is open or closed (i.e., participation is either unrestricted or limited) (Korschun & Du, 2013). Thus, if the communication platform is appropriate and consumer participation is autonomous, value co-creation can be stimulated by the brand by soliciting consumers' collaboration and actively responding to their content. However, if the brand uses online communication platforms as a broadcast (i.e., one-way communication) channel without any active brand response to consumer content, that brand's CSR program's value will be limited to what the brand creates itself and it will be unable to capitalize on the potential value of consumer collaboration as a result.

In the short run, consumers that engage in a two-way dialog surrounding a brand's CSR program are likely to identify with the related stakeholder community and do so possibly with the intent to shape the strategy or tactics of the program (Korschun & Du, 2013). Furthermore, due to the personal nature of CSR causes, consumers who participate in these dialogs are likely to identify with other like-minded, participating individuals (Schau, Muñiz, & Arnould, 2009; Bhattacharya & Sen, 2003). Simultaneously, CSR expectations will likely be created in the minds of participating consumers, involving how the brand will, and should, behave in the future and the scope of CSR programs (Korschun & Du, 2013). If the brand is proactive and implements, or at the very least responds to the suggestions and directives of the stakeholder community, and thus fulfills the expectations of participating consumers, the brand will likely benefit from an enhanced reputation and increases in consumers' identification with the brand.

This research looks at online CSR dialogs on Twitter, which is an important social media platform where brands specifically communicate directly with consumers about their CSR programs. Twitter permits consumers and brands to communicate directly with other Twitter users about any general or specific topic (Xu & Feng, 2014). Twitter is a commonly used social media platform for brands to communicate with their stakeholders about their CSR programs, as not only does it offer an opportunity to create a specific channel about a brand's CSR program, but it allows for two-way dialogs, consumer collaboration, and potentially, co-created value. Some basic 2016 statistics illustrate its popularity: 58% of top brands have over 100,000 followers on Twitter; 92% of companies Tweet more than once a day, 42% Tweet 1-5 times a day, and 19% Tweet 6-10 times a day; 80% of Twitter users have mentioned a brand in

a Tweet (Brandwatch, 2016). These confirm that Twitter is an important and influential social media platform in brand communications.

Having made the points above, it remains the case that marketing researchers and practitioners face difficult problems in both the measurement of consumer engagement on social media and understanding the reasons behind such engagement, or lack thereof (Hudson et al., 2017; Guesalaga, 2016; Hoffman & Fodor, 2010). Therefore, we present the following research questions that guide the rest of the investigation:

RQ1a: How do companies and consumers interact each other on Twitter? How can we measure such interactions?

RQ1b: Are there any cross-industry differences?

RQ2a: How can we observe online CSR engagement manifested on Twitter?

RQ2b: What are the characteristics of successful and unsuccessful execution of online CSR engagement on Twitter?

To address these research questions, the paper examines online CSR dialogs in two stages. The first study measures consumer engagement in dialogs using network analysis. These findings are then complemented by a second study that explores the underlying levels of consumer engagement by using a content analysis.

4. Study 1

4.1. Method

Study 1 explores online CSR dialogs using machine learning approaches, including text mining, clustering, and network analysis. These techniques have been widely accepted as a useful analytical approach in marketing (e.g., see Malthouse & Li, 2017). In an attempt to provide insight into the issue, we chose eight global brands' corporate or news tweets, with two brands chosen from the four top industries based on their contribution to global GDP (both industries represent more than 50% of world GDP; e.g., Investopedia, 2015). All the selected brands at the time of the research both among the most active on Twitter in their industry and renowned for their CSR programs, according to leading industry reports (e.g., Salterbaxter MSL, 2015). Specifically, the sample includes eight well-known and leading international brands: two pharmaceutical brands (Merck and Pfizer), two banking brands (Barclays and Citibank), two food brands (Nestle and Danone), and two beauty brands (L'Oreal and Nivea).

Using a scraping algorithm, we extracted just over 428,000 tweets over a six-month period, between September 2013 and March 2014. The selected brands did not have CSR Twitter handles at the time of data collection.[2] Consequently our sample tweets are either from the brands' corporate handles, news handles, or are tweets that mention or directly reply to these tweets.

With each brand, we then divided these tweets into two dialog groups: (1) dialogs between the brand and consumers, and (2), dialogs only among consumers. This dual perspective allows the observation and comparison of the intensity and propensity of consumer engagement within both groups. The tweets were saved in the MySQL database system.[3] Using MySQL's query mechanism, we performed "text mining"—"the discovery by computer or new, previously unknown information by automatically extracting information from different written sources" (Fan et al., 2006, p. 78)—to filter CSR-related tweets. This research assumed that a CSR dialog was related to tweets that contained any of the following CSR-related keywords

[2] For example, @Barclays_cship started in January 2014 and @LOrealCommitted started in January 2016, and therefore, they were not included in our sample.

[3] MySQL is an open source relational database management system (RDBMS) based on Structured Query Language (SQL) (Bulger, Greenspan, & Wall, 2003).

based on the literature review: economic (financial aid, financial support, foreign aid, microfinance, credit, microcredit, entrepreneurship, monetary aid, donation, charity, scholarship, etc.); ethical (sustainability, responsibility, socially responsible, fair trade, transparency, government, corruption, prevention, human rights, ethics, etc.); social (philanthropy, working conditions, health, safety, customer voice, consumer protection, labor standard, volunteering, collaboration, solidarity, social exclusion, equality, discrimination, education, community, cultural projects, food security, sponsorship, foundations, poverty, elderly, children, etc.). The use of these keywords was essential for text mining as a large-scale information retrieval utilizes word frequency distributions in the database (Chowdhury, 2010).

Once collated, the tweets were pre-processed to reduce noise and outliers, using standard text mining standardization and clearing procedures (Gupta & Lehal, 2009). This consisted of two steps: (1) Tweet standardization (i.e., tweets were broken into simpler words) and (2) Tweet cleaning (i.e., special characters, punctuation symbols, stop words, URLs, and numerical words were removed).

Next, we applied clustering to find the CSR dialogs by combining text mining and network analysis. Clustering is a technique used to assemble similar or relevant documents (Fan et al., 2006). The logic here is that we tried to find how networks were formed around the most frequent terms for the companies' dialogues. This process (1) A term-document (TF-IDF) matrix was generated to remove infrequent terms, and prepare clustering; (2) Four iterative clustering algorithms—hierarchical, K-means, Partition Around Medoids (PAM), and Self Organizing Maps (SOM)—were applied to the tweets. These clustering algorithms enabled (after 100 iterations) the definition of online CSR dialogs, which were envisaged as social networks created in the extracted tweets or, in other words, a set of interactions among Twitter users.

Once all the online CSR dialogs were identified, network analysis metrics were used as indicators that operationalize CSR dialog characteristics and CSR dialog engagement. Since the goal is to compare CSR dialog engagement within dialogs that either include or exclude the brand, dialog characteristics that act as a bridge that allows for the correspondence between dialog members must be understood.

CSR dialog characteristics can be represented by three network analysis metrics: Closeness, Density, and PageRank (these technical terms are summarized in Table 1). *Closeness* is an average measure of messages' "spreadability" within the dialog (Kiss & Bichler, 2008), that is, the average likelihood of a tweet being shared (i.e., retweet) with others in the CSR dialog. *Density* measures the degree of connectivity of dialog members by reporting the average amount of connections a dialog member has with other members (Hoppe & Reinelt, 2010; Wang et al., 2013; Hong et al., 2015). *PageRank* represents the influence of the most influential dialog member or, what might be more simply put as the interactions involving the dialog member that has the most interactions with other members (Yang & Ding, 2009). This could be the brand, but equally it could be any other influential dialog member. Together these dialog characteristics provide the structure that underpins any CSR dialog engagement.

Next, CSR dialog engagement can be represented by three network analysis metrics: "Betweenness," "Clustering Coefficient," and "Average Path Length." *Betweenness* is a measure of centrality or control over the dialog. High levels of betweenness indicate that there are important influencers in that dialog (Freemann, 1977). The *Clustering Coefficient* is an average measure of interactivity between any three-dialog members. A low clustering coefficient shows that dialog members do interact with several other members, but they are not well connected to many other members (Smith et al., 2009). *Average Path Length* illustrates the efficiency of a dialog to carry a message between dialog members (Kiss & Bichler, 2008). Jointly, these three CSR dialog engagement indicators provide a representation of the level of engagement present in a dialog.

4.2. Results

While there are some differences, our comparison between two types of the online CSR dialogs, brand-generated dialogs (dialogs that include the brand) and consumer-generated dialogs (dialogs that exclude the brand), resulted in the conclusion that, in all cases, CSR dialog engagement was possible as there were consumer-generated dialogs, but this was not the case for brand-generated dialogs (see Table 2).

Closeness was noticeably smaller in consumer-generated dialogs, yet still present, which indicates that message spreadability is less in consumer-generated dialogs. Density does not seem to follow a trend and is similar for both types of dialogs in some brands, which signifies that there is not a noticeable difference between amounts of the connections each dialog member has. For example, the Density scores for Pfizer and Nivea are similar between consumer-generated dialogs and brand-generated dialogs. The Nivea's Density scores are relatively high, meaning that there is active relationship between the dialog members. PageRank scores are generally smaller in brand-generated dialogs than consumer-generated dialogs, implying the failure of the brand to dominate or influence the dialog with its consumers. Thus, it can be concluded that none of these dialog characteristics, collectively or individually, preclude CSR dialog engagement.

Moving onto the CSR dialog engagement indictors: Betweenness, Clustering Coefficient, and Average Path Length all indicated that there is none (or very little) CSR dialog engagement (see Table 2). Yet, these indicators vary considerably when looking at consumer-generated dialogs. Thus, it is suggested that while consumers are engaging with each other concerning a brand's digital CSR communications, there is little engagement with the relevant brand.

In Table 3, we can observe that the range of dialog topics was quite narrow. For example, in Nestlé, the brand-consumer dialog had only two main dialog topics, "social" and "new." These qualitative results confirm the network analysis results that these brands rarely engage consumers in a "true" dialog on Twitter over the time studied and instead are using this channel as a broadcast medium to share their CSR communications.

4.3. Discussion

These results indicate that brands' digital CSR communications inspire a sizeable response from consumers (as indicated by the sheer number of consumer tweets, and well-structured dialogs), yet do not represent full CSR dialog engagement in meaningful two-way dialogs with their consumer audiences. The results are particularly noteworthy because these brands lead their respective industries in terms of their CSR programs. They are primarily using Twitter to broadcast CSR messages rather than capitalizing on potential CSR co-production. The studied brands' CSR dialog engagement indicators were consistently null; suggesting no bilateral or engagement activity. Such interaction is a prerequisite for CSR co-creation. Therefore, we conclude that these brands are providing information on Twitter much like a traditional advertising channel and this motivates the next investigation.

5. Study 2

5.1. Method

Study 2 seeks to uncover possible reasons for this lack of engagement in the studied CSR dialogs. This study applies a content analysis of each brand's CSR relevant tweets in terms of their relevance to CSR and, where relevant, whether the message was a one-way, broadcast communication with consumers or whether it invited consumers to participate in a three-way dialog with each other and the brand. Here, we refer "CSR relevant tweets" to the brands' tweets retrieved in Study 1. As we applied text-mining techniques to a large sample, it can be reliably assumed that these tweets reasonably represent the typical tweets the brands sent out for CSR

purposes at the time of the data collection. Under this assumption, we randomly selected 2,440 tweets with a margin of error of 5% from each brand (see Table 4 for sample sizes).

Following influential Twitter content analysis research (Adam & McCorkindale, 2013; Lovejoy & Saxton, 2012; Waters & Jamal, 2011), a coding booklet was developed in order to guide coders to sort tweets into specific coding categories (see the Appendix). The booklet instructed two independent researchers to code each tweet for mentions, tweet content, and digital CSR communications. First, *mentions* asked the coders to identify other users' CSR relevant tweets that might indicate a dialog, as well as coding whether the tweet was a "retweet" (a simple way to broadcast another's tweet to their Twitter followers). Second, *tweet content* involves the coders assessing the subject matter of the tweets' message, which was broken down into the categories of CSR, advertisements, sales promotion, public relations, investor relations, general information, and other. Finally, *digital CSR communications* required coders to classify only the CSR relevant tweets into one-way, broadcast communication or two-way, social communication (e.g., feedback seeking, call for ideas, joining or votes, calls for help or volunteers, fundraising or donations, or other participatory categories; Lovejoy & Saxton 2012). Two graduate students were recruited for coding and were trained using 40 tweets that were not used for the final analysis. The independent coders had an inter-coder reliability of 95%, which was deemed acceptable (Rust & Cooil, 1994). Then any coding discrepancies were reconciled at a meeting of the coders and one of the authors.

5.2. Results

The mention results indicated that just over 30% of the total tweets had mentions of or were responding to other twitter accounts indicating that there was some intention to make tweets spreadable by adding mentions. The beauty industry was the most active industry with nearly 70% of the brands' tweets being mentioned or responses, followed by pharmaceuticals with just under 30%, food with just over 20%, and banking at just below 10%.

The tweet content results provide a relevance measure, that is, whether the subject matter of the brands' tweets was CSR or not. To simplify the results, they are presented in Table 4 in the content categories of CSR, marketing (advertising, sales promotion, public relations codes), investor, and miscellaneous (general and other codes) communication. Overall, the findings paint a somewhat bleak picture where just over 3% of coded brand tweets involved digital CSR communications. Relevant CSR tweets ranged from Nivea with none to Merck with just over 9%. Then looking for closely at the CSR relevant tweets, nearly 90% of these tweets were coded as one-way communication indicating a broadcast digital CSR communication strategy. L'Oréal bucked this pattern as slightly over 80% were coded as tweets that created or were a part of a dialog, however, despite this promising figure, only slightly under 2% of their coded tweets were about CSR.

5.3. Discussion

Study 2's findings indicate most of the studied brands' tweets (96.9%) were not relevant to CSR. Looking deeper into the small number of CSR relevant tweets, only just over 13% on average encouraged dialog between the brand and consumers and the rest being coded as *broadcasting* unidirectional CSR announcements. These results are consistent with those of Study 1, and therefore corroborate that these brands with industry leading CSR programs are primarily using Twitter as a *broadcast* medium. In other words, these brands are not capitalizing on the use of Twitter as a platform to encourage online CSR engagement with consumers and exploit the full reputational benefits of their CSR programs.

These brands are potentially putting their reputations at risk in two ways. First, consumers on Twitter expect responses to their tweets and Study 1's results indicate the studied brands are not always meeting these expectations. Second, consumers most likely follow the brands' tweets and other social media outlets to find specific information about a topic. Study 2's results show the studied brands are not taking full advantage of the power of Twitter and

use it to broadcast general announcements. Thus, these brands that are not communicating the kind of relevant information that consumers expect and also by not actively responding to consumers' tweets they are failing their audiences. If brands seek online CSR engagement via Twitter and call for consumers' participation and collaboration, they need to develop and invest in a social media communications strategy. Then, when brands invest in relevant content and receive responses from consumers, consumers actually receive a timely and relevant response. Thus, online CSR engagement has significant resourcing implications—doing it well requires a large capacity for constant and continuous monitoring and response to consumers' participation and collaboration.

At the same time, such low engagement may not be too far from social media's reality. An Ehrenberg-Bass Institute study found that only about 1% of fans of the top 200 brand pages on Facebook engaged with their pages (Creamer, 2012); thus Study 1's results confirm low CSR dialog engagement. Study 2's findings suggest this is then compounded by brands failing to use Twitter's potential by sending out focused communications that actively encourage consumers to interact with the brand. Because Twitter's capacity to both broadcast to and create social dialogs with consumers, Twitter may potentially be a better medium than Facebook for brands to engage with their consumers.

6. Implications

At the risk of an over-generalization, our findings may suggest that, despite the recommendations by recent interactive marketing thought leaders (Gensler et al., 2013; Malthouse et al., 2013), the brands examined in this study may not have enhanced brand relationships when customers engage with their favorite brand using social media. That is, these brands may not make full use of digital CSR communication on Twitter to actively engage customers in supporting the brands' co-creation activities. While some may argue that higher levels of follower engagement in Twitter may not be always desirable, we believe that such engagement is a crucial prerequisite for the brands to use followers to increase the reach of co-created tweets and promote their CSR efforts and/or those of other partners in the CSR network using their own, co-created, or customer-generated tweets (Burton et al., 2017; Gensler et al., 2013; Hudson et al., 2016; Shmargad & Watts, 2016; Soboleva et al., 2017).

Based on the quantitative and qualitative examination of eight industry-leading global brands, we suggest four guidelines to managers (see below) to better exploit the co-creation potential of social media rather than treating it as an extension of traditional media: listen and interact, cut the noise, create opportunities for co-creation, and improve internal communication:

Listen and interact. Study 1's CSR dialog engagement indicators suggest brand-consumer interactions are scarce compared to the observed interactions among consumers. This may pose a problem as brands create consumer expectations with their digital CSR communication on social media that are different than communication on traditional media. For example, audiences do not expect to be asked for their opinion in a TV commercial or a print advertisement. But when brands communicate using social media, where individuals and collectives have a voice, consumers expect to be invited to provide opinions, ideas, or other content; even if not explicitly asked to do so. For example, a recent study found that over half of American adults, and two thirds of millennials, would like to use social media to engage with brands about their CSR strategies (Cone Communications, 2015). This suggests, in light of Study 1's results, that there might well be considerable frustration among consumers given the lack of current CSR dialog engagement by brands. While the brands may indeed be listening to these online CSR dialogs, our evidence shows that they are failing to interact with consumers. By responding to consumers' messages or mentioning them in a Tweet, brands can lead these

online CSR dialogs to create value, not only in the form of CSR strategy feedback, but also by crowdsourcing creative and innovative ideas for future CSR initiatives.

Cut the noise. Some brands may have jumped on the social media wagon without a clear strategy, as Study 2's results show the studied brands are often sending out general, unfocused information on their focused social media channels. Consumers following these specific social media channels expect that brands only transmit information that is carefully tailored to that specific topic. If much of a brand's content is not on this specific topic, it risks either reducing online engagement as the content is regarded as noise, or even potentially losing that consumer totally as they clean up the brands they follow.

Create opportunities for co-creation. Study 2 highlighted not only the lack of relevant CSR content in tweets, but also that brands are not creating many co-creation opportunities. Specifically, Study 2 showed that of the all the brand tweets coded, only about 3% were related to CSR and of this small number only just over 13% encouraged consumers to engage with the brand in CSR co-creation. Thus, CSR-relevant messages from the brands studied were one-way broadcast messages that provided information about their CSR activities, despite evidence that co-creation is linked to increases in brand value (Malthouse et al. 2013; Gensler et al. 2013; Hudson et al. 2016). While some of this CSR information is needed, brands also need to create opportunities for consumers and their communities to capitalize on the potential of this type of media to co-create value. This could involve, for example, calls for volunteers to help with a CSR project, or for feedback on the results of past CSR activities, or for active suggestions for how the brand should conduct CSR in the future. By creating these co-creation opportunities, consumers will likely be more engaged and perhaps gladly provide their feedback, opinions, and ideas. Then, for example, brands could launch new CSR initiatives or modifying current ones to suit the stated needs of the brand's online CSR dialog and their causes. Thus, the resulting CSR strategies and activities would be tightly aligned with their online CSR dialog, as well as likely increasing brand value and reputation.

Improve internal communication. It has to be noted at the outset that this suggestion is not based upon direct evidence from the two studies, but it seems like that a possible reason for the failure to tap into Twitter's co-creation potential is simply that the brands' strategic CSR planning and Twitter communications are not integrated. While it might be the case that the managers of CSR programs understand the importance of CSR engagement, perhaps this understanding is not translated or communicated to those that manage brand communication channels. Thus, brands need to ensure that brand communication managers are aware of and complement the efforts of other elements of the organization (e.g., CSR program managers).

7. Limitations and future research directions

The underlying assumption of the study was that tweets were CSR relevant when they were retrieved by text mining from an unstructured data set. However, text mining, like all data driven research tools, may be subject to a general limitation. Principally the pre-defined keywords in text mining, are symbolic labels with no additional semantics. Thus, additional learning cannot occur unless the data provides the necessary information. Also, in terms of its statistical process, the information extraction is probabilistic rather than deterministic (Chowdhury, 2010). That is, instead of the information extraction approach yielding a single solution describing the outcome of the analysis; the study provides a distribution of the most likely outcomes and thus the findings should be interpreted in this light.

Future research should further explore how network analysis metrics are interrelated in CSR dialog characteristics and CSR dialog engagement. For example, our data do not provide enough evidence to discuss the interrelationships between the Density and the Average Path Length, and thus we refrain from making an inference here. However, this seems an interesting avenue for further exploration. Next, as per Study 2's results, CSR communications were less

likely to be dialog-based than unidirectional marketing or promotional messages. These messages could serve as tools to create dialogs, but the studied companies seem to have chosen not to engage with consumers in this way for some reason. Future research could examine the motivations or latent constraints behind these observed strategies.

8. Conclusions

This paper examined eight global brands' digital CSR communications and found that there is a significant difference between the suggestions emanating from the academic literature on online engagement and the reality of managerial practice. Study 1 suggests that while brands are creating online CSR dialogs among consumer audiences, they are failing to interact with them. Study 2 explores the content of brands' tweets and finds that most are not relevant to CSR and, furthermore, those that are relevant tweets are mostly one-way, broadcast style and offer few opportunities for co-production of value. On this basis, four recommendations for brand communication managers to improve online CSR engagement on Twitter and similar social media were proposed.

These findings identify a gap between theory and management practice in terms of social media consumer engagement. While much academic research accentuates the powerful role of social media in marketing and advertising (e.g., Parent et al. 2011), there appears to be a substantial time-lag in adoption with practice yet to catch-up. This may be partially because of a lack online communication management, as Twitter can be a demanding medium and brands set themselves up for failure without sufficient capability and capacity to monitor, control, and respond to tweets from followers. Consumers expect to receive responses in a timely manner on Twitter and this may lead to complaints, reputational damage, or other negative outcomes. Thus, there are large resource implications for brands to fully capitalize on online CSR engagement.

While this paper's evidence is limited to the eight brands studied, it provided a deep assessment and highlighted that brands clearly use Twitter in a limited capacity. Future researchers might consider investigating a larger sample of brands or undertaking a longitudinal study of how online CSR dialogs evolve and change, as well as developing a numerical indicator of CSR dialog engagement to aid ongoing research and management of CSR dialogs. Researchers could also explore other methods of identifying and assessing online CSR dialogs, as well as assessing what is the optimal level of organizational content relevance for niche CSR dialogs. Additionally, they could employ an experimental approach by manipulating the level of relevance and the type of message strategy in online CSR dialogs to assess CSR engagement, or test how the level of engagement changes with regard to the sender (e.g., a brand or another consumer) of the message. Also, researchers could evaluate the motivations (or lack thereof) to participate and engage with online CSR dialogs.

In sum, it has been argued here that online CSR dialogs have the potential to create immense value for both consumers and brands if brands devote sufficient resources not only broadcast information to consumers, but also engage in a dialog. Consumers expect (and social media such as Twitter provides) tailored, focused messages that invite them to engage with each other and interact with the brand to co-create CSR. The evidence presented here suggests that while there is ample theoretical support for online CSR, in practice it remains in its infancy.

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Table 1
Definitions of the terms used in Study 1

Proposed Concepts	Network analysis metrics	Definition
CSR Dialog Characteristics Indicators	Closeness	A measure to estimate how close a node is to each of the other nodes in the network (Muller & Peres, 2019). As Closeness increases, the distance between two nodes becomes smaller.
	Density	The ratio of overall number of network ties to number of all possible ties (Muller & Peres, 2019). Networks with higher Density are more connected.
	PageRank	The importance of each webpage considering the number and importance of webpages that link to it (Moldovan et al., 2017). It spots most important nodes in the network. As PageRank increases, nodes are more likely to receive responses, retweets, or mentions. In other words, PageRank represents the level of influence of a node over the other nodes in the network.
CSR Dialog Engagement Indicators	Betweenness	The extent to which a node is an important intermediary between other members' connections in the social network (Muller & Peres, 2019). With higher levels of Betweenness, there are more other nodes between the original two nodes.
	Clustering Coefficient	A tendency of neighbors of the same node to be connected themselves, that is, the likelihood that if nodes a and b are connected, and b and c are connected, then a and c are also connected (Muller & Peres, 2019). The greater the Clustering Coefficient, the more a-b-c triangles exist in the network.
	Average Path Length	The efficiency of a dialog to carry a message between dialog members (Kiss & Bichler, 2008). The lower the Average Path Length, the smoother and quicker the dialog.

*

Table 2
Average CSR Dialog Characteristics and Engagement Indicators

Brand	No. of extracted Tweets		CSR Dialog Characteristics Indicators (log)						CSR Dialog Engagement Indicators (log)					
			Closeness		*Density*		*PageRank*		*Betweenness*		*Clustering Coefficient*		*Average Path Length*	
	BGD	CGD	BGD	CGD	BGD	CGD	BGD	CGD	BGD	CGD	BGD	CGD	BGD	CGD
Merck	916	37529	-2.17	-7.52	-2.16	-3.26	-2.15	-1.00	0.00	4.42	0.00	-2.27	1.00	2.87
Pfizer	1783	1800	-2.18	-5.52	*-2.01*	*-2.76*	-2.02	-0.19	0.00	2.81	0.00	-3.67	*1.00*	*1.19*
L'Oreal	15652	109634	-3.84	-8.77	-3.69	-4.03	-3.82	-0.39	0.00	4.65	0.00	-4.27	1.00	2.55
Nivea	2774	4650	-3.03	-6.05	*-3.02*	*-2.81*	-3.03	-0.86	0.00	4.35	0.00	-2.06	1.00	2.55
Barclays	2466	28673	-2.04	-8.89	-1.34	-4.47	-1.45	-0.01	0.00	4.17	0.00	-4.25	1.00	1.94
Citibank	4425	25489	-2.77	-8.58	-2.76	-4.18	-2.76	-0.24	0.00	5.02	0.00	-3.98	1.00	2.05
Nestle	2307	69476	-2.19	-8.69	-2.19	-4.38	-2.17	-0.69	0.00	4.87	0.00	-5.08	1.00	2.00
Danone	1012	3870	-1.86	-5.63	-1.85	-2.89	-1.83	-0.84	0.00	1.40	0.00	-∞	*1.00*	*1.15*

Note: BGD denotes "Brand-Generated Dialogs" and CGD denotes "Consumer-Generated Dialogs."
The numbers in italics were not statistically different at $p < 0.01$.

Table 3
Most representative terms for the companies' dialogues clusters

Company	Cluster	Terms
Merck	1	Check, latest, news
	2	Learn, thanks, Merck, proud, new, us, health, see, merckformothers, today
Pfizer	1	Pfizer
	2	Health, science, check, us, cancer, learn, pfe, new, patients
L'Oreal	1	Hair, thanks, products, worth, win, years, chance, asking, enter
	2	Askhairgenius, serum, help, give, can, us
Nivea	1	Nivea
	2	Niveausa, rt
	3	Love, thanks, giveaway, today, skin, kiss, care, lip, great, favorite, body, lotion
Barclays	1	Barclays, wealth
	2	Rt, wsjwealthreport, rich, report, wsj, new, blog, investment
Citibank	1	Brk, citigroup
	2	Citi, bank, us
Nestle	1	new
	2	Faber, social, nestle, csr, good, campaign, partnership, activia, Shakira, yogurt
Danone	1	Danone
	2	Agm, new, growth, nutrition, sales

Table 4
Brand's Tweet Content and CSR Communication Type

Brand	Tweets Coded	Tweet Content (%)				CSR Communication (%)	
		CSR	Marketing	Investor	Misc.	Broadcast	Dialog
Merck	289	9.3	13.5	4.8	72.4	92.6	7.4
Pfizer	232	3.0	24.1	4.3	68.6	96.2	3.8
L'Oréal	391	1.5	12.3	0.0	86.2	16.7	83.3
Nivea	471	0.0	13.0	0.0	87.0	n/a	n/a
Barclays	218	3.7	12.8	15.6	67.9	100.0	0.0
Citibank	424	3.8	3.5	6.6	86.1	81.3	18.8
Nestle	226	0.9	36.7	16.4	46.0	100.0	0.0
Danone	189	4.8	17.5	9.5	68.3	100.0	0.0
Total / Average	2440	3.1	14.9	5.8	76.2	86.7	13.3

Appendix

Coding book

Retweet?		Record if "**RT**" is contained in the anywhere in tweet (i.e., it's a retweet!)
Mention or Response		Record **ONLY** if the Tweet has an **@** (i.e., tweet is a response or mention).
Non-English Tweet		Record **ONLY** if the Tweet is not English (use Google translate if needed)
Tweet Type	CSR	Tweet has something to do with **CSR** *[CSR describes organizational actions, over and above statutory requirements and self-interests that are intended to promote public goods.*
	Ads	Tweet is **Advertising** *[Advertising is a form of marketing communication used to promote or sell something, usually a business's product or service.]*
	Sales Promotion	Tweet is **Sales promotion** *[Sales promotion is one level or type of marketing aimed either at the consumer or at the distribution channel (in the form of sales-incentives). It is used to introduce new product, clear out inventories, attract traffic, and to lift sales temporarily.]*
	Public Relations	Tweet is **non-CSR Public Relations** *[the professional maintenance of a favorable public image by a company or other organization or a famous person.]*
	Investor Information	Tweet is about **non-CSR investor information** (Quarterly results, CEO reports, etc.)
	General Information	Tweet only reports **non-CSR general information** that is not about the company (e.g., research, external reports, etc.)
	Other	Tweet is about something else that is **not** Promotion, general/investor Information or CSR.
CSR Message Type	One-Way Communication	Tweet displays or links to information, but asks for no interactive response from stakeholders (i.e., 1-way communication)
	Feedback seeking	Tweet asks for stakeholder feedback or comment
	Call for Ideas, Joining or Votes	Tweet asks or solicits for ideas, votes, or membership in some community
	Call for Help or Volunteers	Tweet asks or solicits volunteers or help
	Fundraising or Donation	Tweet asks for financial support, fundraising, or donations
	Other	Tweets asks for some other interactive response from stakeholders