Impact of Global Brand CMOs’ CSR and Socio-Political Activism Communication on Twitter

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Abstract
This research studies two global trends that have rarely been studied together, especially from the perspective of marketing leaders – Chief Marketing Officers (CMOs): Brands’ engagement in socio-political practices (Corporate Social Responsibility [CSR] and socio-political activism) and the digitization trend. This poses the following research questions: (1) How central are CSR or socio-political activism in the communication of global brands’ CMOs? (2) Does CMOs’ communication about CSR or socio-political activism have digital impact? And (3) how brand origin i.e., the geographical location of its headquarter (HQ) and CMO nationality (US vs. non-US i.e., international, for both variables) influence the CSR or socio-political activism communication effectiveness? This research (N_tweets = 18,038) finds that CMOs rarely publish CSR or socio-political activism tweets (3.1% and 3.2%). While CSR tweets have a positive impact on re-tweets (with no significant impact on likes), socio-political activism tweets impact both re-tweets and likes negatively. Non-US HQ and CMO nationality improve these effects.

Key words
Corporate social responsibility, CSR, socio-political activism, CMO, social media, global brands

Küresel Marka CMO'larının KSS ve Sosyo-Politik Aktivizm İletişiminin Twitter'da Etkisi

Özet
Bu araştırma, pazarlama liderlerinin bakış açısından nadiren birlikte incelenen iki küresel eğilimi incelemedektedir: Markaların sosyo-politik uygulamalarına katılmış (Kurumsal Sosyal Sorumluluk [KSS] ve sosyo-politik aktivizm) ve dijitalleşme eğilimi. Bu, aşağıdaki araştırma sorularını ortaya çıkarmaktadır: (1) Küresel markaların CMO’larının iletişiminde KSS veya sosyo-politik aktivizm ne kadar merkezidir? (2) CMO’ların KSS veya sosyo-politik aktivizm hakkındaki iletişiminin dijital etkisi var mı? Ve (3) marka menşei, yani genel merkezin coğrafi konumu ile CMO uyruğu (her iki değişken için de ABD veya ABD dışı, yani uluslararası) KSS veya sosyo-politik aktivizm iletişimin etkinliğini nasıl etkiler? Bu araştırmada (N_tweet = 18.038), CMO’ların nadiren KSS veya sosyo-politik aktivizm tweetleri yayılanlığı (% 3,1 ve % 3,2) ortaya koymaktadır. KSS tweetlerinin re-tweetler üzerinde olumu etkisi (ancak beğeniler üzerinde istatistik anlamda önemli hiçbir etkisi), sosyo-politik aktivizm tweetlerinin ise hem re-tweetlerde hem de beğenilerde olumsuz etkisi bulunmaktadır. ABD dışı Genel Merkez ve CMO uyruğu bu etkileri iyileştirir.

Anahtar kelimeler
Kurumsal sosyal sorumluluk, KSS, sosyo-politik aktivizm, CMO, sosyal medya, küresel markalar

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Introduction

Two central trends have been significantly impacting global firms in recent years: Brands’ engagement in socio-political practices and the digitalization trend. First, there is a growing global trend of engagement of businesses in societal issues – either through socially responsible practices, often labeled Corporate Social Responsibility (CSR) or through taking a stand on socio-political controversies often labeled as brand or management activism (Ailawadi, Neslin, Luan, and Taylor, 2014; Choi, Chang, Li, and Jang, 2016; Moorman, 2020). Second, the digital world has enabled firms to engage in international marketing strategies despite geographic and psychological distance, the usual impediments overseas (Gielens and Steenkamp, 2019; Katsikeas, Leonidou, Zeriti, 2020). The constant interaction between brands and marketers with various stakeholders on social media platforms accelerates the international spread and impact of brands (Sheth, 2020).

These two trends bring new opportunities. Social media platforms such as Twitter, Facebook and LinkedIn offer brands and marketers an opportunity to engage various stakeholders around socio-political topics and to create positive impact within their networks and potentially for their brands (Babić Rosario, Sotgiu, De Valck, and Bijmolt, 2016; Okazaki, Plangger, West, and Menéndez, 2020).

Given the novelty of these trends the current research may offer multiple contributions. First, this research is one of the first to study the above trends in tandem with a focus on global brands and the marketing leadership – Chief Marketing Officers (CMOs). CMOs are critical given their strategic importance to the firm as well as their centrality for communication with external stakeholders (Germann, Ebbes, and Grewal, 2015; Nath and Mahajan, 2011) especially around socially responsible activities (Benett and Welch, 2009; Mishra and Modi, 2016). On the role of CMOs, practice is in line with the view that they need “to consistently understand and connect to the brand they represent” (Dietz, 2020), “align their external identity to match their brand” and “engage authentically with their community” (Douillet Guzmán, 2020).

Second, this research sheds light on (i) the degree to which marketers – specifically CMOs – in global brands apply CSR- and socio-political activism-related communication on social media, and (ii) whether these have digital impact. Third, this research is one of the first to compare the impact of CSR communication with socio-political activism communication. Finally, from an international marketing perspective, this research examines moderators that might shape the impact of CSR- and socio-political activism-related communication by CMOs. Two factors – the global brands’ origin i.e., their headquarters’ geographical location – whether in the US or not, as well as the CMOs’ nationality – whether American or not are studied.

Noteworthy to mention somewhat related recent work and how the current research is different. Especially, Okazaki et al. (2020) studied only CSR communication (not socio-political activism), had a descriptive intent by focusing mostly on the content of the communication (not its impact) and did not include any distinction between origins of global brands or their CMOs, which is at the core any international marketing perspective (hence part of our theorizing).

Overall, the following research questions are asked: (1) How central are CSR or socio-political activism in the communication of CMOs of global brands? (2) Does CMOs’ communication about CSR or socio-political activism have digital impact (i.e., likes, re-tweets)? And (3) how brand origin i.e., the geographical location of its headquarters (HQ) and CMO nationality influence the CSR or socio-political activism communication effectiveness?

Theoretical Background & Hypotheses Development

There are multiple differences between CSR and socio-political activism. CSR typically concerns generally-accepted, non-divisive, pro-social issues such as supporting education or disaster relief. Further, CSR is often part of a company’s strategic plan (Mukherjee and Althuizen, 2020). Conversely, socio-political activism addresses controversial and divisive topics such as LGBTQ rights or gun control and is often ad-
hoc or accidental (Vredenburg, Kapitan, Spry, and Kemper, 2020). As a result, many CSR efforts and communications, are unlikely to elicit a negative response from stakeholders (Mukherjee and Althuizen, 2020). However, given the nature of socio-political activism by brands or the management team, they are likely to create a polarized stakeholders’ response (Bhagwat, Warren, Beck, and Watson, 2020; Gürhan-Canli, Sarial-Abi, and Hayran, 2018; Hambrick and Wowak, 2021). That said, socio-political activism can certainly benefit a brand by demonstrating its values, and thereby satisfying some consumer segments and employees (Gaines-Ross, 2017). Multiple anecdotal examples highlight the mixed views of the public on global brands that take a stand (Vredenburg et al., 2020) and how that turns into negative impact. For example, Gillette’s toxic masculinity campaign went viral in 2019, with 900k dislikes and around 500k likes on YouTube in its first few weeks alone. Many criticized the activism in the message, questioning whether the brand was “virtue signaling,” since it still charged higher prices for women’s products (Al-Musl 2019, Ritschel 2019). Two recent empirical studies revealed a negative effect with consumers (Mukherjee and Althuizen, 2020) and investors (Bhagwat et al., 2020). Since our focus is in the digital space and digital impact, i.e., the online engagement developed through the communication messages (Eelen, Ozturan, and Verlegh, 2017), we overall hypothesize:

**H1: Global brand CMOs’ CSR communication is positively related to digital impact.**

**H2: Global brand CMOs’ socio-political activism communication is negatively related to digital impact.**

The CSR and socio-political activism trends had originated in the US and gradually globalized (Becker-Olsen, Taylor, Hill, and Yalcinkaya 2011; Eteokleous, Leonidou, and Katsikeas 2016). One implication is that for non-US global brands and CMOs these practices are newer, more exciting and thus can still be a source of differentiation, and contribute to the brand’s credibility (Matten and Moon 2008; Nikolaeva and Bico 2011) compared to their US-based counterparts. In addition, in some key societal topics – e.g., sustainability – US brands are lagging non-US ones in their view of how important is the topic (Harper Ho 2020). Finally, and specifically with respect to socio-political activism tweets, given they often refer to locally embedded controversial issues (and in our empirical case, mostly in the US), an international experience triggered by non-US global brands and CMOs may bring a more detached, less polarizing approach allowing more open conversation about ways these socio-political issues are handled in other countries (Bhagwat et al. 2020; Matten and Moon 2008). We thus expect non-US brands and CMOs to have a positive impact on the influence of CMOs’ CSR and socio-political activism tweets. Formally, we hypothesize:

**H3: The positive relationship between CSR communication by global brand CMOs and digital impact is strengthened for (a) non-US brands and (b) non-US CMOs, compared to their US counterparts.**

**H4: The negative relationship between socio-political activism communication by global brand CMOs and digital impact is weakened by (a) non-US brands and (b) non-US CMOs, compared to their US counterparts.**

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3 The literature has studied some conditions under which stakeholders are more suspicious of the brand’s CSR efforts and motive, which then can lead to a negative reaction (e.g., Yoon, Gürhan-Canli, and Schwarz, 2006).
Empirical Study

The study is based on an examination of Twitter data (N\textsubscript{tweets} = 18,038 by CMOs of the top global brands) to find how ubiquitous is digital CSR and socio-political activism communication by CMOs in global brands, what is the digital impact of this communication (re-tweets and likes) and what may be some moderating factors (brand origin and CMO nationality).

Sample. Data were extracted from publicly available Twitter feeds of CMOs leading the marketing function among the top global brands ranking in Interbrand’s 2016 Global 100 and Brand Finance’s Global 500 lists.\textsuperscript{4} Given these lists, 214 global brands had senior marketing executives who are more readily identifiable in the Internet. Corporate web pages, LinkedIn profiles, and the Internet were checked to identify the related brands’ global (or if nonexistent, the U.S.) head of marketing function with titles such as Chief Marketing Officer and Vice President of Marketing, following earlier work (e.g., Germann et al., 2015). The personal Twitter accounts of these executives (N=109) were under study and not the firm/brand accounts following similar marketing strategy studies using top executives’ communication (e.g., Yadav, Prabhu, and Chandy, 2007). This enables for a more heterogeneous content (not only brand mandated) that – given the CMO is viewed as associated with the brand – tells a more holistic story of impact on the CMOs’ network and potentially spills over to the brand itself. Anecdotal examples from the data reveal how some of the CMOs tweets directly relates to the brand they represent\textsuperscript{5} while others reflect their own personal views.\textsuperscript{6} The executives that actively tweeted at least once during a period of two years were identified, making it possible to source data from a smaller sub-sample (N=81). Data collection took place in late November 2017. For both the independent and dependent variables, the Twitter activity of these CMOs was tracked for a period of two years between November 2015 and November 2017. A research assistant identified the CMOs, and another used a Python code to extract the Twitter data and checked the results of the coding (i.e., making sure the search indeed refers to CSR and socio-political activism communication rather than a mere word mismatch e.g., CRM in the context of Customer Relationship Management and not Cause Related Marketing). Table 1 provides descriptive statistics and the raw data with the Python code are available upon request.

--- Insert Table 1 about here ---

Analysis and Results

A tweet was coded as a CSR communication (CSR tweet dummy = 1, M=3.1% and a total of 566 tweets) or a socio-political activism communication (activism tweet dummy = 1, M=3.2% and a total of 586 tweets) if it contained terms from a designated list. Building on the keywords used by Peloza and Shang’s (2011) literature review, the CSR list involved the search terms such as Cause Related Marketing, conservation, corporate social responsibility, environmental, equality, ethical, and well-being. The socio-political activism tweets dictionary included keywords such as politics, democrat, republican, conservative, liberal, immigration, LGBT, and gun control and was built based on earlier work (i.e., Bhagwat et al., 2020; Milfeld

\textsuperscript{4} http://interbrand.com/best-brands/best-global-brands/2016/ranking/;

\textsuperscript{5} E.g., for CSR: “So proud to work @Accenture - we have a strong commitment to inclusion & diversity for all. #PrideMonth”; for socio-political activism: “Today our CEO Lowell McAdam sent a letter to Congress pledging Verizon’s full support for finding a permanent, bi-partisan solution that protects the recipients of the Deferred Action for Childhood Arrivals (DACA) program, as well as for comprehensive immigration reform more broadly”

\textsuperscript{6} E.g., for CSR: “#CMOs can and should make an impact that matters on gender equality”; for socio-political activism: “Demagoguery at its finest: Trump Wants War Declared on ISIS and ‘Extreme Vetting’ of Immigrants, via @nytimes”
and Flint, 2020; Moorman, 2020; Nalick et al., 2016; Vredenburg et al., 2020). The full lists are available upon request. eWOM was measured with total re-tweets (M= 5.67) and measured online engagement with total likes (M=17.18), based on prior research (Eelen et al., 2017). Both measures were log-transformed to overcome skewness (before log-transformation, 1 is added to avoid missing values for non-re-tweets or likes in the estimations). Yet both variables, even after these transformations, were not normally distributed and we therefore preferred to use dummy variables (Cohen, Cohen, and West, 2003) i.e., to like vs. not to like and to re-tweet vs. not to re-tweet as our focal dependent variables.

The valence of tweets (measured through the widely used Textblob sentiment analysis, which rates a tweet from negative (-1) to positive (+1), (M=.21), length of tweet (log-transformed, M=4.44), use of video (a dummy variable coded as 1 for a tweet having a video, M=.02), and use of images (a dummy variable coded 1 for a tweet having a photo or a picture, M=.21) were controlled for.

Since there could be omitted variables that determine re-tweets and likes that are potentially correlated to the CSR and socio-political activism tweet variables, we decided to endogenize these communication variables. Specifically, we regressed the CSR and socio-political activism tweet variables on a number of variables i.e., CMO’s number of followers (log-transformed, M=8.67), gender (a dummy variable coded as 1 for female, M=.51), the type of degree earned (a dummy variable coded as 1 for business and economics, and 0 for the rest, M=.56), and the highest degree earned (an ordinal variable coded as 1 for bachelor, 2 for master, and 3 for Ph.D., M=1.47), and perceived social responsibility (PCSR) of the brand. This latter variable was included since research suggests responsible leadership (and thereby business leaders’ related communications) may positively correlate with organizational engagement in CSR (Maak, Pless, and Voegtlin, 2016). A separate study in Amazon Mechanical Turk (N = 190) was conducted, where each respondent (44.7% between 25 and 34 years old and 64.2% were male) was randomly assigned five of the brands included in the main Twitter study. PCSR was measured using eight items, “Contributing to the well-being of customers is a high priority at this company” and “This company achieves its short-term goals while staying focused on its impact on the environment,” from Glavas and Kelley (2014, α = .94).

A research assistant checked company websites and manager LinkedIn profiles to identify our moderating variables. Brand origin is measured by the geographical location of the headquarters of the firm that owns the brand (Samiee, 2011). Following previous work (Stremersch and Verhoef, 2005), country of undergraduate studies was used to designate the CMO’s country of origin. Out of these 81 global brands, 15% were headquartered outside the U.S. and 27% had non-American CMOs. The CSR- and socio-political activism tweet variables and the moderating firm headquarters and CMO nationality dummy variables (for both, 1 indicated non-US) were standardized to reduce nonessential multicollinearity (Cohen et al., 2003).

In the analysis, simultaneous moderated regressions were used, based on weighted least squares estimators to test our moderated mediation hypotheses and analyzed the CSR tweet variable and socio-political activism tweet variables’ effects on the probability of likes and re-tweets (binary variables) by running two probit regressions. The model as a whole is statistically significant $\chi^2(67) = 9381.2, p < .001$ and R-square values were used as fit measures (Table 2). The R-square of re-tweets was .230 and that of likes was .135. The findings suggest that the higher the socially responsible content shared by CMOs, the higher their predicted probability of re-tweets ($\beta=.034, p < .001$). Yet the relationship with likes is not significant ($\beta=-.002, p = .839$). Moreover, the higher the socio-political activism content shared by CMOs, the lower their predicted probability of re-tweets and likes ($\beta=-.049$ and $\beta=-.101$, respectively, $p < .001$ for both).

Next, we report on the interaction effects between our focal communication variables and international factors on digital outcomes, presented in Table 2. Whereas geographical location of the brand’s HQ has a positive effect on predicted probability of re-tweets ($\beta=.057, p < .001$). Yet the relationship with likes is not significant ($\beta=-.016, p = .175$), nationality background of CMO exerts positive effect on both digital outcomes ($\beta = .079$, and $\beta = .141$, respectively for re-tweets and likes, both, $p < .001$). Since non-US is coded with 1, interaction effects and hence comparisons with US counterparts are interpreted as follows: In line with our theoretical arguments, non-US CMOs enables higher digital CSR communication
effectiveness for both re-tweets (β=.018, p = .036; row#11) and likes (β=.047, p < .001; Table 2 row#11) compared to their US counterparts while for non-US brands, the higher effectiveness comes only for likes (β=.026, p = .020; row#10) yet not for re-tweets (β = .008, p = .466; row#10). Thus, H3a is partially and H3b is fully supported. Regarding the moderation impact on digital outcomes of socio-political communication by global brands, we see the negative predicted probabilities are weakened by (a) non-US brands only for likes (β = .078, p < .001; row#12) yet not for re-tweets (β = .008, p = .529; row#12) and (b) non-US CMOs (β=.038 and β=.048, respectively for re-tweets and likes and both, p = .001; row#13). Thus, H4a is partially and H4b is fully supported.  

--- Insert Table 2 about here ---

**Discussion and Implications**

The key finding in this research is that when marketing executives communicate in the digital space, they achieve positive digital impact (partially) if the content is based on CSR, yet negative digital impact if the content is based on socio-political activism. Our study with its exploratory nature has results consistent with this idea at the marketing function’s leadership and tweet level. We specifically show that if marketing executives share CSR content in social media, they are able to achieve higher re-tweets yet not likes. Retweets are viewed as a stronger indication of digital impact than likes (Vargo, 2016; see also⁸), although they may at times deviate in their intention from likes since likes are a form of endorsement and some retweets can create eWOM even when one disagrees or make the opposite argument (Guerra et al., 2017; Vargo, 2016).

The digital impact holds differently across socio-political activism tweets. That is, they create mixed opinions and polarize so much that they have a clear negative association with likelihood to be re-tweeted and liked. These outcomes implicitly demonstrate the external legitimacy value i.e., higher acceptance and fit in one’s community and network from CSR-related marketing practices and risks of socio-political activism practices since these are associated with controversy in one’s community and network. Further, such outcomes at the digital world have been shown to have spillover effects and hence critical for sales growth when done at the firm level (Babić Rosario et al., 2016). The study shows that, on average, marketing executives are involved in communicating about CSR and socio-political activism practices to a very limited degree; yet when they do, have higher returns with CSR content and lower returns with socio-political activism content compared to regular tweets. Finally, the moderation analysis suggests that no matter the type of brand (with or without US origin), CSR and socio-political activism communications are creating eWOM (retweets) while this effectiveness is *more positive* for CSR content and becoming *less negative* for socio-political activism content when the CMO is international (non US). For online engagement (likes), the fact that both the brand and the CMO have an international origin works well for both CSR and socio-political activism content. Overall, considering the message content in relation with the CMO’s nationality

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7 The findings we report here are consistent with those when we (i) perform simultaneous moderated regressions using log-transformed (rather than binary) digital outcomes and (ii) test for endogeneity following Wooldridge (2009), via a 2SLS analysis with auxiliary regressions on the CSR and socio-political activism variables. The predicted values of CSR and socio-political activism tweet variables from the auxiliary regressions represent appropriate instruments (as they correlate significantly with the original regressors while being unrelated to the error term). The Hausman test indicates that endogeneity is indeed in effect for re-tweets and likes i.e., a joint test of statistical significance based on the change in the R-square was insignificant (respectively, F(2, 18022) = 969.32 and F(2, 18022) = 1600.57, for both p < .001).

8 https://medium.com/@Encore/favorites-vs-retweets-and-why-one-is-more-important-than-the-other-ba12ee20e9ba
and brand origin offers more impact than a mere CSR- or socio-political activism communication with no clear linkage to the CMO or the global brand.

The research carries multiple implications for marketers in global firms, of global brands, and for international marketing strategies. First, as we mentioned, it is valuable to study especially CMOs in the context of digital CSR and socio-political activism communication (compared with studying brands or other top executives). A key reason comes from the centrality of marketers’ in external and especially social responsibility communication and given marketing is responsible for identifying leading trends in the global environment (Benett and Welch, 2009; Jaworski, 2011; Rooney, 2019). Nevertheless, in some global brands (e.g., Unilever) other executives and functions are leading CSR communication (Weed, 2016) or are engaging in calculated socio-political activism strategies to sway public policy outcomes (Maks-Solomon, 2020). This will require re-thinking the role of marketers, especially redesigning it in consideration with their own and brand identity e.g., international vs. local origin (in our case US. vs. non-US) in the CSR and socio-political activism communication space as well as studying other functions and executives.

Second, the brands under study operate across the globe and cater to consumers across many countries. The finding that CMOs’ communications have some digital impact within their network, corresponds with the reality that social and sustainable issues are central in shaping people’s decision making and priorities (Malter et al., 2020). This highlights a growing global socially consciousness and activist segment, marketers should pay attention to and how social media and word-of-mouth constitute a topic of “prime interest in understanding marketing effects in a digital era” (Oh et al., 2020 p. 156).

Third, our research relies on text analysis method. The method has enabled us to tackle a multi-disciplinary topic in marketing that cuts across global brands, digital impact, and the role of marketing leadership by integrating different sources of information e.g., Twitter and LinkedIn. Following up on its respectable precedents (e.g., Okazaki et al., 2020, 2021), thereby, this study answers a call by Berger et al. (2020) and showcases a preferable methodology for future researchers to generate marketing insights. In the midst of a global digital transformation due to the COVID-19 pandemic (Deloitte, 2020), managers’ direct communications with customers (Steimer, 2020) and use combinations of classical and social media (Hoekstra and Leeflang, 2020), further increases the importance of digital communication channels and text analysis tool in global branding research and practice.

Limitations and Future Research

Our work has several limitations that can inspire future research. First, our empirical work has focused on an informal communication channel of top marketing executives, not a formal brand channel. Future research should specifically examine how CMOs’ CSR and socio-political activism communication compares to the more formal brand communication (also with each other) in the context of online engagement/eWOM. One useful way to study these linkages are in an experimental setting. In addition, it will be of value to compare CMOs’ CSR and socio-political activism communication to other executives across functions and leadership roles, hence the network effects, especially also considering the size and content of conversation created following up a leader communication to fully understand its digital impact. Finally, it is worth studying the underlying mechanism driving receivers’ behavior in response to an executive’s communication, one of which might be linked to the attention-engagement link (cf. Yadav et al., 2007) while others can be linked to one’s background (e.g., country of origin, culture).

Second, another critical point worth noting is that managers are not equally integrated to their professional roles. That is, some managers may segment personal and professional domains while others prefer to integrate the two, which is more beneficial for managing workplace identity and relationships (Dumas and Sanchez-Burks, 2015). This manager-level characteristic may potentially moderate our key findings, i.e., for some CMOs the levels and the relationships reported in this research are going to be much higher whereas for others lower. Examining this moderator warrants future research.
Finally, our research focused on global brands headquartered mostly in the U.S. and on Twitter data from five years ago. Future work would benefit from studying more recent data that includes global brands from various other geographical areas and testing other social media platforms (e.g., Facebook, LinkedIn) as well as impact on the non-digital space, in the short- and long-term (e.g., stock price, sales; Babić Rosario et al., 2016; Trusov, Bucklin, and Pauwels, 2009). Of further interest is the way consumers in different markets (e.g., developed vs. developing) would react to marketers’ digital CSR and socio-political activism communications, which in general is an invaluable pursuit since “research in international marketing mainly covered the developed parts of the world (especially large and powerful economies), but neglected emerging economies and less-developed countries” (Eteokleous et al., 2016 p. 599). We hope our work encourages further focus on the opportunities that can shape and define the new boundaries and roles of global brands, their marketing leadership, and the channels used for their communications on socially responsible topics.

References


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**Note:** Correlations larger than .015 and smaller than -.015 are significant at *p < .05* (N = 18,038).
### Table 2: Effectiveness of CMO’s Digital CSR and Socio-Political Activism Communications on Twitter

<table>
<thead>
<tr>
<th>Row #, Variable Name</th>
<th>CSR tweets</th>
<th>Activism Tweets</th>
<th>Re-tweets</th>
<th>Likes</th>
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<td>β</td>
<td>SE</td>
<td>p-value</td>
<td>β</td>
<td>SE</td>
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</table>

*Note: p-values are two-tailed, except for hypothesized paths.*