Corporate Social Responsibility and Social Media: Comparison between Developing and Developed Countries

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Abstract: Social media allow companies to engage with their interest groups, thus enabling them to solidify corporate social responsibility (CSR) policies. The concept of CSR is now well-established for companies in Western countries, and CSR is becoming an increasingly popular topic in developing countries. This study investigated differences in the perception of the term ‘CSR’ on Instagram between developing and developed countries. We analysed 113,628 Instagram messages from 38,590 unique users worldwide. The data were recorded between 19 November 2017 and 11 December 2018. In both developed and developing countries, charity and social good were common features. On the contrary, a difference was identified in the area of sustainability, which is an important part of communication in developed countries, and the area of education, which is an important part of communication in developing countries. Community analysis revealed four dominant communities in developed countries: (1) philanthropic responsibility, (2) environmental sustainability, (3) pleasure from working and (4) start-ups with CSR; and three in developing countries: (1) social and environmental responsibility, (2) philanthropic responsibility and (3) reputation management. These results could facilitate the strategic management of CSR to adapt communication to local environments and company contexts. Our findings could allow managers to focus CSR activities on relevant issues in developing countries and thus differentiate their CSR communication from competing organizations.

Keywords: corporate social responsibility; developing countries; developed countries; Instagram; social media analysis; charity

1. Introduction

Corporate social responsibility (CSR) refers to the contribution of organisations to wider societal goals through ethical practices, and it is now a global phenomenon [1–3]. The idea of CSR originated in the United States, and was first mentioned in the 1930s [4,5]. The concept then underwent significant development and received far more attention in the second half of the 20th century [6–8], during which time it reached the forefront of the interests of political organisations including the Committee for Economic Development [9], the World Business Council for Sustainable Development [10] and the United Nations Global Compact [11]. In Europe, the concept of CSR stems from the triple bottom line theory (3BL), which is based on the idea that an enterprise bears economic, social and environmental responsibility for its activities [12]; 3BL has also been referred to as the three Ps (people, planet and...
profits) [13]. The 3BL approach was developed in 1994 by Elkington, according to whom a firm becomes sustainable only if it cares equally for all three areas [14].

CSR is currently a commonly used tool in developed countries [15–18]. In developing countries, the concept of CSR was first popularised by extractive industries [19,20]. In recent years, most businesses in developing countries recognise the importance of CSR in ensuring long-term business success [21], and for its strong potential to contribute to solving global social problems [22].

Research has shown that the concept of CSR has many advantages for companies. For example, CSR has positive impacts on firms’ return on equity and on assets [23], and high CSR involvement in a company’s policies reduces the risk of firm-level corruption [24]. Furthermore, CSR has a positive impact on a firm’s performance [25], and adopting CSR policies can enhance the credibility and competitiveness of companies [15].

1.1. CSR Communication and Social Needs

Corporate Social Responsibility primarily manifests in the form of communication with interest groups [26], which is why companies face increased demands from their interest groups concerning information on CSR activities [27]. Stakeholders’ engagement increases companies’ social legitimacy and reputation [28]. Communicating CSR activities is a necessary part of a business’s CSR strategy [29–31]. Many studies have demonstrated the positive effects of reporting CSR activities on consumers’ knowledge, trust and perception of corporate reputation [32]; on the company’s financial performance [31]; and on attracting high-potential employees [33]. Investments in CSR activities that are inadequately communicated to consumers are likely to have poor returns [24,34]. In this context, social media have allowed organizations to communicate in entirely new ways [35]. The use of social media to implement CSR campaigns, thus enabling corporations to communicate their socially responsible activities, has become a standard communication tool for companies worldwide [1,29,32]. Communication via social media is more transparent [36], alleviates interest group skepticism [37] and enables companies to educate interest groups in CSR, which engages them in socially responsible activities [38].

Given that 2.82 billion people use social media [39], this communication mode has immense potential. In contrast to standard methods of CSR communication, such as annual reports [40], CSR reports [41] or websites [42], communication on social networks offers an interactive platform for companies to engage in a dialog with their interest groups [43]. As well as listening to consumers, companies can also hold active dialogs with them [36]. These dialogs have the potential to build trust, understanding and social capital [44]. A study by Benitez et al. [45] also found that, unlike traditional advertising tools, social media communication gives businesses greater visibility and credibility, and improves the employer’s reputation.

In other words, the analysis of social media content offers insights into communication on a global scale. Interest groups have ceased to be passive message recipients, and can actively co-create communication on social networks [46]. Such activities on social media take the form of expressing one’s opinion or the experiences of clients [47], including reviews of purchased products [48]; informing others about research results; and broadcasting realised or planned company activities [49,50]. These activities provide valuable information, and analysing the communicated content can therefore provide important insights that can inform CSR strategies.

Content analysis can be applied to understand key aspects of a discussion, identify the key topic, influence the engagement of interest groups and encourage communication partners to become part of a conversation. However, it is not sufficient to simply acquire data containing messages from a social media communication, and methods from social media analysis and the social network theory need to be employed to understand the main topics of conversation [51]. One such method is to analyse the content of a social media communication using hashtag analysis [49,50], which was adopted in the present study. Social media content analysis based on hashtags is a very valuable analysis tool which has been used in many areas; for example, organic food [49], farmers market [50], sustainability [52]
and gamification [53]. We aimed to characterize the perception of CSR in developing and developed countries using 113,638 interactions of 38,590 users on Instagram. We also used hashtag analysis and methods from social network and social media analysis to identify the main topics on social networks (i.e., Twitter or Instagram) related to the term ‘corporate social responsibility’.

The insights that we have gained by collecting the content of Instagram using hashtag analysis gives a crucial theoretical contribution to CSR literature, improving the understanding of the main differences in terms of values at the basis of sustainable development between developed and developing countries. The study also extends and enriches social media studies as a tool for sustainable business communication [54].

1.2. Specifics of CSR in Developing Countries

In most developing economies, the application of CSR is still in the development phase [55], and the most commonly practiced CSR takes the form of small reactive charitable activities that do not include the involvement of stakeholders [56]. One of the reasons why CSR is still in the development phase in developing countries may be that CSR research and development has been primarily conducted in Western countries; the priorities and concerns inevitably differ between developed and developing countries, so the implementation of CSR in developing countries can therefore be insensitive to local priorities, thus inadvertently damaging their prospects for a sustainable livelihood [57]. Another reason may be the lack of common macroeconomic performance due to the failure of governments in developing countries, which has been reported to have a significant negative impact on the overall performance of the CSR initiatives of multinational corporations [22]. The different societal conditions in developing countries nevertheless create the potential to develop a concept of CSR that is adapted to the local environment and context [7].

In developing countries, most CSR activities are linked to the themes of education, healthcare, child labor and human rights [58,59]. However, CSR is often seen as a way to plug the ‘governance gaps’ left by weak, corrupt or under-resourced governments that fail to adequately provide various social needs (such as housing, roads, electricity, healthcare and education) [60]. Indeed, Valente and Crane reported that, in developing countries, private corporations pursuing CSR strategies engage in activities that are considered to be the responsibility of the state or local governments in developed countries, such as securing healthcare or education for local communities. In many cases, companies with CSR programs assume the role of the state, and make fundamental decisions about public welfare and social provision. Considering the failure rate of local governments in developing regions, private companies can adopt one of the four following strategies: supplementing, supporting, replacing or stimulating [61].

According to Amaeshi et al., CSR in developing countries focuses on solving issues surrounding the socioeconomic development of the country, such as education [62]. This is in stark contrast to many Western CSR priorities, such as green marketing or climate change concerns [58], gender equality, work-life balance or the integration of disadvantaged groups [63].

2. Materials and Methods

Netlytic software was used to obtain messages from communications on the social network Instagram [64]. The data were recorded between 19 November 2017 and 11 December 2018. The software captured messages that used the hashtag #csr. During that period, 113,628 Instagram posts of 38,590 unique users were captured worldwide, and 24,339 (21.42%) hashtags contained geolocations.

The data analysis is based on the Knowledge Discovery in Databases process [65], and was modified to the requirements of social media data analysis with a focus on hashtags (see Figure 1). It is an extension of the research methodology of [52] by segmentation based on geolocation. The process consisted of five steps, as follows:
1. Content filtration: as the analysis only focused on hashtags, all words that were not preceded by the symbol # were removed. This led to a dataset that consisted purely of hashtags (i.e., words beginning with the symbol #).

2. Content segmentation: a total of 24,339 messages contained geolocations in the form of latitude and longitude. Google Maps Geolocation API [66] was used to transform these into addresses (street, city and state). Only the state was used for segmentation. Based on this segmentation, we confirmed that 9712 messages were sent from developed countries and 14,627 from developing countries. Countries were categorised as developing and developed according to the classification established by the International Monetary Fund, which has also been adopted by Herzer [67], Lotz and Blignaut [68], Mendonça and Tiberto [69], and the World Economic Outlook in 2019 [70]. This classification ranks countries into the two following groups: those with advanced economies, which are considered to be developed countries; and those with developing economies and an emerging market, which are considered to be developing countries. Countries are classified according to the three following auxiliary criteria: (1) income per person, (2) the diversification of exports and (3) the degree of integration into the global financial system.

3. Content transformation: subsequently, all letters were transformed to lower-case letters to prevent potential duplicities (e.g., the software might consider #CSR, #Csr or #csr as three different hashtags). A further correction was made to break up strings of connected hashtags, e.g., “#csr#philanthropy” was converted to “#csr #philanthropy”. The dataset was imported into Gephi 0.9.2, where a hashtag network was created based on their interdependence (see Figure 2).

4. Hashtag reduction: to process a hashtag reduction and remove micro-communities, it was first necessary to detect communities. The presence of many communities is caused by an extensive number of hashtags that contained local hashtags and hashtags created by the users themselves.

5. Data mining: the following methods were used to describe the network.

Figure 1. The process of data analysis.

Figure 2. Transformation from Instagram messages to network.
• Frequency: frequency is a value that expresses the hashtag frequency within a network.
• Edge weight: edge weight is a value that indicates the number of connections between two specific hashtags.
• Eigenvector centrality: eigenvector centrality is an extension of degree centrality which measures the influence of hashtags in a network. The value is calculated based on the premise that connections to hashtags with high values (hashtags with a high degree of centrality) have a greater influence than links with hashtags of similar or lower values. A high eigenvector centrality score means that a hashtag is connected to many hashtags with a high value, and is calculated as follows:

\[ x_v = \frac{1}{\lambda} \sum_{t \in M(v)} x_t = \frac{1}{\lambda} \sum_{t \in G} a_{v,t} x_t \quad (1) \]

where \( M(v) \) denotes a set of adjacent nodes and \( \lambda \) is a largest eigenvalue. Eigenvector \( x \) can be expressed by Equation (2), as follows:

\[ Ax = \lambda x \quad (2) \]

• Modularity: the most complex networks contain nodes that are mutually interconnected to a larger extent than they are connected to the rest of the network. Groups of such nodes are called communities [71]. Modularity represents an index that identifies the cohesion of communities within a given network [72]. The idea is to identify node communities that are mutually interconnected to a greater degree than other nodes. Networks with high modularity show strong links between nodes inside modules, but weaker links between nodes in different modules [73]. The component analysis then identifies the number of different components (in the case of community modularity) in the network based on the modularity detection analysis [74], as follows:

\[ \Delta Q = \left[ \frac{\sum_{in} + 2k_i}{2m} - \left( \frac{\sum_{tot} + k_i}{2m} \right)^2 \right] - \left[ \frac{\sum_{in}}{2m} - \left( \frac{\sum_{tot}}{2m} \right)^2 \right] \quad (3) \]

where \( \sum_{in} \) is the sum of weighted links inside community, \( \sum_{tot} \) is the sum of weighted links incident to hashtags in community, \( k_i \) sum of weighted links incident to hashtag \( i \), \( k_i \) is the sum of weighted links going from \( i \) to hashtags in a community and the \( m \) normalizing factor is the sum of weighted links for the whole graph.

3. Results

Table 1 shows the 20 most common hashtags for the developed countries in posts that included the #csr hashtag. The frequency analysis of the use of the individual hashtags revealed that #charity was the most commonly used hashtag in conjunction with the #csr hashtag in developed countries.

<table>
<thead>
<tr>
<th>Hashtag</th>
<th>F</th>
<th>EV</th>
<th>Hashtag</th>
<th>F</th>
<th>EV</th>
</tr>
</thead>
<tbody>
<tr>
<td>#charity</td>
<td>1198</td>
<td>0.976611</td>
<td>#giveback</td>
<td>481</td>
<td>0.881463</td>
</tr>
<tr>
<td>#sustainability</td>
<td>847</td>
<td>1</td>
<td>#education</td>
<td>476</td>
<td>0.906601</td>
</tr>
<tr>
<td>#socialgood</td>
<td>598</td>
<td>0.895748</td>
<td>#dogood</td>
<td>448</td>
<td>0.90359</td>
</tr>
<tr>
<td>#philanthropy</td>
<td>594</td>
<td>0.85258</td>
<td>#marketing</td>
<td>435</td>
<td>0.877589</td>
</tr>
<tr>
<td>#corporatesocialresponsibility</td>
<td>592</td>
<td>0.957848</td>
<td>#donate</td>
<td>427</td>
<td>0.788761</td>
</tr>
<tr>
<td>#socialimpact</td>
<td>552</td>
<td>0.906127</td>
<td>#innovation</td>
<td>372</td>
<td>0.842975</td>
</tr>
<tr>
<td>#fundraising</td>
<td>550</td>
<td>0.859397</td>
<td>#soscrt</td>
<td>349</td>
<td>0.809912</td>
</tr>
<tr>
<td>#community</td>
<td>512</td>
<td>0.94754</td>
<td>#givingback</td>
<td>322</td>
<td>0.772759</td>
</tr>
<tr>
<td>#volunteer</td>
<td>490</td>
<td>0.869003</td>
<td>#business</td>
<td>318</td>
<td>0.963728</td>
</tr>
<tr>
<td>#nonprofit</td>
<td>486</td>
<td>0.865115</td>
<td>#volunteering</td>
<td>312</td>
<td>0.770115</td>
</tr>
</tbody>
</table>

F: frequency; EV: eigenvector centrality.
In developed countries, the hashtag #charity was most commonly linked to the hashtags #philanthropy, #fundraising, #socialgood, #nonprofit and #donate (see Table 2). According to Rabbitts [75], the term philanthropy can be considered a synonym for charity. In contrast, many organisations, such as Giving Compass or Keela, have distinguished these concepts; the authors consider charity to be an emotional impulse to address the short-term problems through donation or volunteering, and consider philanthropy to be a way to deal with long-term problem solving that is based on sophisticated plans [76,77].

Table 2. Interconnectedness of hashtags related to #csr based on edge weight—developed countries.

<table>
<thead>
<tr>
<th>#Charity</th>
<th>Edge Weight</th>
<th>#Sustainability</th>
<th>Edge Weight</th>
<th>#Socialgood</th>
<th>Edge Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>#philanthropy</td>
<td>458</td>
<td>#socialimpact</td>
<td>141</td>
<td>#charity</td>
<td>393</td>
</tr>
<tr>
<td>#fundraising</td>
<td>452</td>
<td>#environment</td>
<td>125</td>
<td>#philanthropy</td>
<td>375</td>
</tr>
<tr>
<td>#socialgood</td>
<td>393</td>
<td>#education</td>
<td>113</td>
<td>#fundraising</td>
<td>331</td>
</tr>
<tr>
<td>#nonprofit</td>
<td>371</td>
<td>#socialgood</td>
<td>106</td>
<td>#socialimpact</td>
<td>330</td>
</tr>
<tr>
<td>#donate</td>
<td>366</td>
<td>#changelakers</td>
<td>102</td>
<td>#dogood</td>
<td>324</td>
</tr>
<tr>
<td>#dogood</td>
<td>318</td>
<td>#ecofriendly</td>
<td>96</td>
<td>#nonprofit</td>
<td>314</td>
</tr>
<tr>
<td>#socialimpact</td>
<td>293</td>
<td>#green</td>
<td>96</td>
<td>#donate</td>
<td>304</td>
</tr>
<tr>
<td>#education</td>
<td>288</td>
<td>#business</td>
<td>93</td>
<td>#socent</td>
<td>276</td>
</tr>
<tr>
<td>#volunteer</td>
<td>270</td>
<td>#recycle</td>
<td>93</td>
<td>#causes</td>
<td>265</td>
</tr>
<tr>
<td>#socent</td>
<td>249</td>
<td>#sustainable</td>
<td>89</td>
<td>#activism</td>
<td>261</td>
</tr>
<tr>
<td>#change</td>
<td>242</td>
<td>#giveback</td>
<td>88</td>
<td>#change</td>
<td>254</td>
</tr>
<tr>
<td>#activism</td>
<td>233</td>
<td>#philanthropy</td>
<td>88</td>
<td>#charity</td>
<td>234</td>
</tr>
<tr>
<td>#charity</td>
<td>224</td>
<td>#community</td>
<td>87</td>
<td>#innovation</td>
<td>230</td>
</tr>
<tr>
<td>#causes</td>
<td>221</td>
<td>#innovation</td>
<td>81</td>
<td>#volunteer</td>
<td>217</td>
</tr>
<tr>
<td>#innovation</td>
<td>200</td>
<td>#activism</td>
<td>80</td>
<td>#nptech</td>
<td>180</td>
</tr>
</tbody>
</table>

Edge weight: the number of connections between hashtags.

In developed countries, the second most frequent hashtag was #sustainability. Sustainability is usually defined as the use of resources to meet present needs without compromising the ability of future generations to meet their own needs [78], and it has been thoroughly discussed by both the scientific community [79] and corporations [80] over the past few decades.

The hashtag #sustainability in developed countries was often connected with hashtags associated with ecology, such as #environment, #ecofriendly, #green and #recycle (see Table 3). This is probably because, initially, the concept of sustainability was linked to environmental issues, and only later adopted the 3BL approach [12], which represents a wider set of economic, environmental and social sustainability values [81,82]. The 3BL approach is the main link between sustainability and the concept of CSR, since the 3Ps are used to categorize CSR [12].

Table 3. Communities in developed countries related to #csr.

<table>
<thead>
<tr>
<th>Name of the Community</th>
<th>Size of the Community</th>
<th>Key Hashtags</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hilanthropic responsibility</td>
<td>31.02</td>
<td>#charity; #socialgood; #philanthropy; #socialimpact; #fundraising; #volunteer; #nonprofit; #giveback; #dogood; #donate</td>
</tr>
<tr>
<td>Environment sustainability</td>
<td>27.35</td>
<td>#corporatesocialresponsibility; #community; #green; #environment; #recycle; #sustainable; #corporate; #socialresponsibility; #eco; #nature</td>
</tr>
<tr>
<td>Pleasure from working</td>
<td>25.71</td>
<td>#business; #love; #instagood; #responsibility; #art; #work; #happy; #social; #travel; #fun</td>
</tr>
<tr>
<td>Start-up with CSR</td>
<td>15.92</td>
<td>#education; #startup; #entrepreneur; #inspiration; #fashion; #leadership; #entrepreneurship; #startuplife; #branding</td>
</tr>
</tbody>
</table>
The third most commonly used hashtag used in conjunction with #csr in developed countries was #socialgood (present in 598 messages). Wakunum, Siwale and Beck describe the concept of social good as the “actions of individuals or small groups that promote greater welfare of the community” [83]. The hashtag #socialgood was most often linked to #charity, #philanthropy, #fundraising, #socialimpact and #donate (see Table 2).

### 3.1. Community Analysis: Developed Countries

Based on community analysis (see Table 3), the following four communities were extrapolated for developed countries: (1) philanthropic responsibility, (2) environment sustainability, (3) pleasure from working and (4) start-up with CSR. The modularity analysis revealed that these were non-polarised communities (modularity value = 0.17). This means that there was a link between hashtags within each community, in that they were not separate or even polarised activities. This finding is important for understanding the behaviour of social network users in relation to CSR. In the context of practical application, this result indicates that entities that publish activities related to charity are not polarised to activities that are related to, for example, environmental sustainability. High polarisation can be found, for example, in politics, where individual activities within the polarisation of opinions are mutually incompatible (for example, social policy’s expression in solving one problem by the Republican or Democratic Party).

The largest community was the community focused on ‘philanthropic responsibility’. This community contained hashtags that were associated with areas such as charity, philanthropy, fundraising, and volunteer and nonprofit activities. The second largest community was the community focused on ‘environment sustainability’, which focuses on sustainability, ecology, recycling and nature, for example.

Visual analysis (see Figure 3) allowed us to identify ‘pleasure from working’ as a community which is between the ‘philanthropic responsibility’ and ‘environment sustainability’ communities. The ‘pleasure from working’ community included aspects that express pleasure from working in connection with CSR. For example, “I love my Job. #love #business #CSR”. It is thus possible to assume that these entities are fulfilled by working in an area that, through elements of the charity community (charity, philanthropy, fundraising, volunteering) support ‘environment sustainability’ (#green, #environment, #recycle, #sustainable, #eco, #nature, etc.), and are thereby professionally fulfilled—‘pleasure from working’ (#business, #love, #responsibility, #work, #happy, #social). The last community can be called ‘Start-up with CSR’, and is focused on businesses, specifically start-ups, which try to connect their brand with CSR through both charity and environmental sustainability, where they are surrounded by elements of the ‘pleasure from working’ community.

![Community polarization on the Instagram social network in the area of CSR in developed countries.](image-url)
3.2. Developing Countries

Table 4 shows the 20 most common hashtags for the developing countries with connection to the hashtag #CSR.

<table>
<thead>
<tr>
<th>Hashtag</th>
<th>F</th>
<th>EV</th>
<th>Hashtag</th>
<th>F</th>
<th>EV</th>
</tr>
</thead>
<tbody>
<tr>
<td>#charity</td>
<td>1253</td>
<td>1</td>
<td>11. #sustainability</td>
<td>568</td>
<td>0.867136</td>
</tr>
<tr>
<td>#socialgood</td>
<td>817</td>
<td>0.84515</td>
<td>12. #philanthropy</td>
<td>550</td>
<td>0.803319</td>
</tr>
<tr>
<td>#education</td>
<td>815</td>
<td>0.9939</td>
<td>13. #activism</td>
<td>536</td>
<td>0.685032</td>
</tr>
<tr>
<td>#love</td>
<td>758</td>
<td>0.95407</td>
<td>14. #fundraising</td>
<td>447</td>
<td>0.777071</td>
</tr>
<tr>
<td>#nonprofit</td>
<td>749</td>
<td>0.855128</td>
<td>15. #giveback</td>
<td>430</td>
<td>0.865403</td>
</tr>
<tr>
<td>#donate</td>
<td>702</td>
<td>0.883272</td>
<td>16. #india</td>
<td>424</td>
<td>0.888853</td>
</tr>
<tr>
<td>#corporatesocialresponsibility</td>
<td>700</td>
<td>0.932505</td>
<td>17. #community</td>
<td>424</td>
<td>0.908422</td>
</tr>
<tr>
<td>#volunteer</td>
<td>679</td>
<td>0.917067</td>
<td>18. #instagood</td>
<td>420</td>
<td>0.944384</td>
</tr>
<tr>
<td>#dogood</td>
<td>639</td>
<td>0.862776</td>
<td>19. #change</td>
<td>411</td>
<td>0.781201</td>
</tr>
<tr>
<td>#ngo</td>
<td>631</td>
<td>0.905223</td>
<td>20. #children</td>
<td>407</td>
<td>0.904628</td>
</tr>
</tbody>
</table>

F: Frequency; EVC: Eigenvector centrality.

The frequency analysis of the use of the individual hashtags revealed that, as for the developed countries, #charity was the most commonly used hashtag in conjunction with the #csr hashtag in developing countries. In developing countries, the hashtag #charity was most often linked to the hashtags #socialgood, #nonprofit, #activism, #dogood and #donate (see Table 5).

Table 5. Interconnectedness of hashtags related to #csr based on edge weight—developing countries.

<table>
<thead>
<tr>
<th>#Charity</th>
<th>Edge Weight</th>
<th>#Socialgood</th>
<th>Edge Weight</th>
<th>#Education</th>
<th>Edge Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>#socialgood</td>
<td>580</td>
<td>#nonprofit</td>
<td>616</td>
<td>#charity</td>
<td>287</td>
</tr>
<tr>
<td>#nonprofit</td>
<td>515</td>
<td>#dogood</td>
<td>590</td>
<td>#donate</td>
<td>258</td>
</tr>
<tr>
<td>#activism</td>
<td>471</td>
<td>#charity</td>
<td>580</td>
<td>#socialgood</td>
<td>232</td>
</tr>
<tr>
<td>#dogood</td>
<td>461</td>
<td>#activism</td>
<td>505</td>
<td>#fundraising</td>
<td>230</td>
</tr>
<tr>
<td>#donate</td>
<td>413</td>
<td>#donate</td>
<td>465</td>
<td>#nonprofit</td>
<td>218</td>
</tr>
<tr>
<td>#fundraising</td>
<td>398</td>
<td>#philanthropy</td>
<td>435</td>
<td>#dogood</td>
<td>203</td>
</tr>
<tr>
<td>#philanthropy</td>
<td>395</td>
<td>#volunteer</td>
<td>382</td>
<td>#giveback</td>
<td>200</td>
</tr>
<tr>
<td>#change</td>
<td>348</td>
<td>#fundraising</td>
<td>373</td>
<td>#children</td>
<td>199</td>
</tr>
<tr>
<td>#volunteer</td>
<td>347</td>
<td>#change</td>
<td>368</td>
<td>#change</td>
<td>197</td>
</tr>
<tr>
<td>#causes</td>
<td>319</td>
<td>#causes</td>
<td>365</td>
<td>#activism</td>
<td>181</td>
</tr>
<tr>
<td>#education</td>
<td>287</td>
<td>#socent</td>
<td>276</td>
<td>#ngo</td>
<td>180</td>
</tr>
<tr>
<td>#socent</td>
<td>257</td>
<td>#cause</td>
<td>262</td>
<td>#philanthropy</td>
<td>160</td>
</tr>
<tr>
<td>#children</td>
<td>220</td>
<td>#socialimpact</td>
<td>261</td>
<td>#volunteer</td>
<td>149</td>
</tr>
<tr>
<td>#socialimpact</td>
<td>216</td>
<td>#impact</td>
<td>248</td>
<td>#fundraiser</td>
<td>148</td>
</tr>
<tr>
<td>#impact</td>
<td>188</td>
<td>#education</td>
<td>232</td>
<td>#socialimpact</td>
<td>131</td>
</tr>
</tbody>
</table>

Edge weight: the number of connections between hashtags.

The second most commonly used hashtag in conjunction with #csr in developing countries was #socialgood, which was most often linked to the hashtag #nonprofit. This hashtag refers to nonprofit organisations (NGOs). The hashtag #socialgood was also linked to #dogood, #charity, #activism and #donate.

The third most frequent hashtag in developing countries was #education (see Table 4). The hashtag #education, in developing countries, was frequently associated with #charity, #donate, #dogood, #children, #change, #activism and #crowdfunding (Table 5). According to a study conducted by Rijanto, using crowdfunding based on donation rapidly expands businesses, and provides managers with the opportunity to implement CSR activities that have transparency, public support and additional funding for social projects [84]. Education is one area that can be supported in this way.
3.3. Community Analysis—Developing Countries

The community analysis extrapolated the following three communities for developing countries: (1) social and environmental responsibility, (2) philanthropic responsibility and (3) reputation management. Modularity analysis (modularity value = 0.15) revealed that these were non-polarised communities (see Figure 4). This means that there was a link between hashtags within each community, which were not separate or even polarised activities, which we also found for developed countries.

Figure 4. Community polarisation on the Instagram social network in the area of CSR in developing countries.

The area of ‘social and environmental responsibility’ was extracted as the largest community (44.79%; see Table 6). This community is focused on supporting the community, the environment and, more generally, ‘giving back’ to society. This community has certain characteristics that, according to previous work, correspond to ‘ethical responsibility’ [60]. The second largest community is the ‘philanthropic responsibility’ community, which focused on charity, philanthropy, non-profit organisations and education, etc. This community has certain characteristics of ‘philanthropic responsibility’, according to [60]. It is the second dominant community to have a size of 41.32% hashtags in the network. The third community is ‘reputation management’, which comprised 13.88% of hashtags; this community perceives CSR as a marketing tool, as reported by previous studies [85,86]. This community is focused on business, marketing and awareness, etc.

<table>
<thead>
<tr>
<th>Name of the Community</th>
<th>Size of the Community</th>
<th>Key Hashtags</th>
</tr>
</thead>
<tbody>
<tr>
<td>Social and environmental responsibility</td>
<td>44.79%</td>
<td>#corporatesocialresponsibility; #community; #instagood; #travel; #environment; #social; #indonesia; #givingback; #socialresponsibility</td>
</tr>
<tr>
<td>Philanthropic responsibility</td>
<td>41.32%</td>
<td>#charity; #socialgood; #education; #nonprofit; #donate; #volunteer; #dogood; #ngo; #sustainability; #philanthropy</td>
</tr>
<tr>
<td>Reputation management</td>
<td>13.88%</td>
<td>#business; #marketing; #awareness; #entrepreneur; #recycle; #sustainable; #corporate; #digitalmarketing; #workshop; #branding; #advertising; #creative; #socialentrepreneur</td>
</tr>
</tbody>
</table>
Visual analysis (see Figure 4) allowed us to identify the boundaries of individual communities, whereby the smallest community of ‘reputation management’ was partially embedded in the community ‘social and environmental responsibility’. This indicates that reputation management can be achieved through social or environmental responsibility incentives [87,88].

4. Discussion and Implication

The frequency analysis revealed that #charity was the most commonly used hashtag in conjunction with the #csr hashtag in both the developing and developed countries. Charity refers to activities carried out for the public good and not for one’s own benefit [89]. Within the concept of CSR, charity is classified as belonging to CSR’s social dimension [90], and it constitutes the historical basis on which the concept is built [1]. Dijk and Holmén claimed that charity increases financial performance by reducing moral hazards in incomplete contract environments [91]. The increasing trend toward charitable activities in developing countries also confirms the Pakistan Centre for Philanthropy’s report from 2006 [56], which reported a significant increase in the philanthropic activities of joint stock companies which mainly focus on health and education in Pakistan. CSR is still considered a form of philanthropy or charity in many developing countries, including Pakistan [92], India [93] and Lebanon [7]. This explains why the #charity hashtag had the highest eigenvector centrality value of all of the monitored hashtags.

In both developed and developing countries, the hashtag #charity was connected with the #nonprofit, #dogood, #donate, #fundraising and #volunteer hashtags, but in different order. The different hashtags occurring in the top ten most frequently linked hashtags to #charity were #activism and #change in developing countries, and #socialimpact and #education in developed countries. However, in both groups, these absent terms closely followed the top ten terms in the respective regions. Thus, communications about charity work and its importance in the context of CSR were very similar in both developed and developing countries.

Another similar result between developed and developing countries was the use of hashtag #socialgood. The hashtag #socialgood was the second most commonly used hashtag in developing countries, and the third most commonly used hashtag in developed countries. Social media has become an important tool for promoting social good by providing public education and a fundraising platform for projects that promote social good [94]. According to Bresciani and Schmeil, the power of social media in connection with the concept of social good benefits not only firms, but also individuals who promote awareness of social problems and build community commitments to address social needs [35]. This was consistent with our finding that the hashtag was primarily connected with #charity, #philanthropy, #fundraising, #socialimpact and #donate in both developed and developing countries, only with different values of edge weight (see Table 2; Table 5). The only main difference was that, in developing countries, #socialgood most often linked to the hashtag #nonprofit. This hashtag refers to nonprofit organisations (NGOs), and was more commonly used in developing countries than in developed countries. NGOs can act as a partner with whom commercial companies operating in developing economies can collaborate. In these cases, NGOs often take on issues that governments are unable to address [95]. NGO-business partnerships are frequently formed in the pursuit of CSR, and take different forms, ranging from corporate foundations to corporate volunteering to joint ventures [96]. Given that companies in developing countries are still at an early stage of CSR policy development, it is largely NGOs that instigate and promote the incorporation of CSR into business policies [56]. NGOs provide information about local experience, knowledge and cultural understanding to international corporations, who often lack these insights, and this encourages funds to be invested in local communities [97]. However, particularly in developing countries, NGOs may play a stakeholder role in helping local communities to enforce responsible behavior on the part of international corporations; for example, by ensuring human rights are respected in working conditions [98].
The clear difference was found in the use of the hashtag #sustainability between developed and developing countries. It was the second most common hashtag in developed countries, with a high eigenvector centrality value (but it appeared only in 11th place in developing countries). Although the topic of sustainability has started to appear in scientific communities in the developing world [99–101], our results indicate that there is a difference in stance on sustainability between developing and developed countries. This was also confirmed by a study conducted by Welford et al. in Hong Kong, a developed economy in which environmental care is a major priority when considering the social responsibility of local businesses [59]. On the other hand, large corporations in developed countries have long been under pressure from their stakeholders to adopt a sustainable approach in their business activities [102], so it is common for them to adopt practices that have a high level of environmental awareness.

Another difference between developed and developing countries was seen in the use of the hashtag #education in conjunction with #csr. In developing countries, #education was the third most frequently used hashtag, and in developed countries, it only appeared in the second top-ten most frequently used hashtags. Higher education promotes economic growth [103], and investments in education should therefore be the main priority for developing countries [104]. Education is also recommended as the best way to raise awareness of the social and environmental role of businesses [105]. The importance of education in the context of CSR activities in developing countries has been further highlighted by Massoud, Daily and Willi [106] in Argentina. In a sample of small and medium-sized businesses, the authors identified employees, community, the natural environment and education as the key elements underlying the perception of CSR commitment. The importance of education has also been underlined by Makka and Nieuwenhuizen, who investigated the CSR priorities for South African multinational enterprises in the banking and finance, manufacturing, mining and service sectors [107]. The authors found that the top-three CSR priorities for South Africa, in order of importance, were education, training and skills development; building and developing local communities; and healthcare and wellness. Chapple and Moon came to a similar conclusion; they explored social responsibility in seven developing Asian countries and found that education was the primary concern [108].

In terms of their eigenvector centrality values, the most significant hashtags in developed countries were #sustainability (EVC = 1.0) and #charity (EVC = 0.97661). In developing countries, the most significant hashtags in terms of eigenvector centrality were #charity (EVC = 1.0) and #education (EVC = 0.954079).

Our study contributes to the theoretical literature by providing empirical evidence about the thematic and community structure of social media (Instagram) communication, based on hashtag analysis. This article aimed to demonstrate the use of big data analysis for future CSR research and business practices. This study has made four important contributions to the literature on CSR and social media, which extend the recent study of corporate social responsibility communication in social media [109–114]:

- A low value of modularity was identified in both developed and developing countries, indicating that these are non-polarized areas of communication. This is a very important finding because based on this value, it can be argued that there are no CSR groups that have been communicated separately and are polarised to another group. On the contrary, these groups showed very low polarisation, which means that the individual areas can be communicated in parallel or subsequently, depending on each other.
- The second most communicated area in developed countries is the area of sustainability. This can be used in the field of cooperation between companies that offer services and products in the field of sustainability (sustainable innovation, the environment, climate change, etc.; for more, see [52]) and companies in developed countries that communicate in the field of sustainability in connection with CSR. In other words, it is possible to prepare sustainability products for these companies, which can then communicate in the field of CSR.
In the developed countries area, the ‘start-up with CSR’ community was extracted. This means that start-up companies that want to be responsible are starting to form in developed countries. This segment includes the opportunity for interested stakeholders and the ‘how to address’ segment, and has a high potential to implement and continuously extend CSR activities in the core value of companies. This segment also represents an opportunity for governments, which should take advantage of start-ups’ interest in responsible business and support it with incentives or tax breaks.

Based on the analysis of communication from both developed and developing countries, it can be said that there is a different style of communication for each area. This must be taken into account in the field of strategic marketing in order to adapt the individual campaigns of global companies based on their targeting by region.

Much like previous studies that have focused on the analysis of social networks [109,115], this study was based on a single social network, namely Instagram. Future studies could extend the same research and methodology to compare the present results with those of other social networks, such as Twitter. Another limitation of the present research is that we only focused on hashtags, which are only one specific part of social media communications.

5. Conclusions

Our study contributes to the discussion on CSR both methodically and conceptually. Our results demonstrate the possibility of using a new method to research CSR; one which focuses on the analysis of social networks. This work also provides fundamental information for the design and use of indicators based on social media metrics.

Our insights also give two crucial theoretical contributions to the CSR literature. Firstly, our work improves the understanding of the main differences in terms of values at the basis of sustainable development between developed and developing countries. Secondly, the study also extends and enriches social media studies as a tool for sustainable businesses. The importance of CSR in developing economies has been supported by numerous scientific publications [57,116,117].

We therefore investigated the perception analyses of CSR in social networks in both developing and developed countries. In both cases, the hashtag #csr was most commonly associated with the hashtag #charity. Likewise, we found that CSR was associated with the concepts of social good, nonprofit and volunteering in both developed and developing countries. However, there was a significant difference in the use of the hashtags #education and #sustainability between developed and developing countries. Currently, the priority for Western countries is environmental protection, as indicated by the large number of Western initiatives in this area [118,119]; this view was supported by our findings of the high frequency and the highest value of eigenvector centrality of hashtags connected to this area. Developing countries do not attach the same significance to sustainability, most likely because they have different priorities and problems. These problems, e.g., healthcare, child labor and human rights, could be solved by increasing the level of education [58]; this interpretation was also supported by our findings on the importance of education for social network users in the context of CSR in developing countries.

Our results could be used for the strategic management of the CSR of emerging or established companies. In developed countries, companies are often under pressure from their stakeholders to adopt a sustainable approach to their business activities [20]. CSR has been increasing in the long term. In the context of our results, multinational corporations should not seek to apply a global unified CSR strategy; it should be adjusted to local specifics. If an organisation wants to be perceived in a positive light by its stakeholders, it must effectively communicate CSR activities that address issues relevant to its region (e.g., charity, education or social good in developing countries; and charity, sustainability and social good in developed countries). In this context, based on 3BL, a theory proposed by Księżak and Fischbach, who defined economic, social and environmental issues as fundamental to CSR [12], we can identify themes that are not, according to the analysis of social networks, currently communicated...
priorities for businesses in some parts of the world. For instance, in developing countries, the economic aspect of businesses was not communicated on Instagram at all, and their role in environmental responsibility was only marginally communicated. Similarly, in developed countries, the economic impact of businesses was also not communicated. If a business in a developing country wants to distinguish itself from its competitors, it should develop a CSR policy based on its environmental and economic impacts, and communicate activities that focus on issues such as environmental protection, economic transparency and ethical codes.

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