

## **Engaging Employees Through Environmental, Social, and Governance (ESG) Narratives: Narratives on Social Media Platforms**

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### **Introduction**

ESG inevitably becomes a major topic in any business sector. Once it was considered the province of only investor relations; now, it has gone mainstream (Cumbo, 2022). ESG (Environmental, Social, and Governance) was defined as a generic term in “investing which involves its factors into fundamental investment analysis to the extent that they are material to investment performance” (Caplan et al. 2013, p.1). Now that the term, ESG, is considered more broadly, meaning that “using environmental, social, and governance factors to evaluate companies and countries on how far advanced there are with sustainability” (Robeco, n.d.).

As many experts and scholars have recently contended that the insights from a process of ESG management preparation in a company result in business impacts and even financial returns (Friede et al., 2015). For example, McKinsey's research found that customers were willing to purchase “go green” products by paying an additional 5 percent for them (Miremadi et al., 2012). Not just financial performance but also other value creations, such as employee engagement, are the benefits of incorporating ESG into businesses. Ragan Consulting Group claimed in its report that employees are concerned with their companies' ESG commitments because those help companies attract talent and motivate employees (2022). McKinsey also asserted that a strong ESG proposition uplifts employee productivity by boosting employee motivation and attracting talent through greater social credibility (Miremadi et al., 2012). In addition, many studies found that the stronger an employee's perception of the impact on the beneficiaries of their work, the greater the employee's motivation to act in a prosocial way (Grant, 2007; 2008; Thompson, et al., 2003). A recent study showed that positive social impact correlates with higher job satisfaction (De Neve et al., 2018).

Although a lot of research has shown the evidence to improve employee engagement and ultimately impact financial profits for the companies who execute the ESG management, there are still companies that view ESG as mere compliance or dismiss a regulatory burden, or simply do communicate with external stakeholders mainly for investor relations. Those companies are missing opportunities to make the best out of benefits from ESG management, including employee engagement. There is a missing opportunity that what topics and themes around ESG are more relevant to employees. Specifically, it is a crucial to find out what keywords are associated with employee engagement in the discourse of the ESG conversation.

Therefore, this research focused on exploring narratives and its network regarding ESG and employee engagement in a social media locus in order to discover how ESG management can affect employee engagement. To be specific, the research answers those questions:

RQ 1) What topics and narratives around ESG are discussed on social media?

RQ 2) What sector among ESG (i.e., Environmental, Social, and Governance) is more associated with employee engagement frequently?

RQ 3) What sector among ESG (i.e., Environmental, Social, and Governance) does have a positive or negative sentiment more?

RQ 4) Who are the most likely to advocate ESG in association with employee engagement?

### Methods

To answer research questions, Brand Watch, a social listening and analytics tool, and NodeXL, a network analysis and visualization software package for Microsoft Excel, were used to gather and analyze the social media data.

First, the social media conversation regarding ESG and employee engagement were crawled from Brand Watch in a year from July 1 2021 to June 30 2022. It is legitimate to choose the period since there are different timelines (i.e., a fiscal year) that every organization publishes its ESG (or sustainable) report. The content sources gathered from the social listening tool include Twitter, blogs, forums, Tumblr, Reddit, Facebook, Instagram (the most recent 30 days), and YouTube. The news media was intentionally excluded because of the purpose of this research which would like to find out conversation in the social media setting and its high volume of mentions which makes the data skewed towards the news agenda. The total number of volumes from Brand Watch was 18,782 mentions and unique authors across the social media platforms were 8,547 users. Blogs has the largest volume in mentions (n = 7,330) followed by Twitter (n = 7,181), Forum (n = 1,895), Tumblr (n = 1,503) and Reddit (n = 738) as shown in Figure 1.

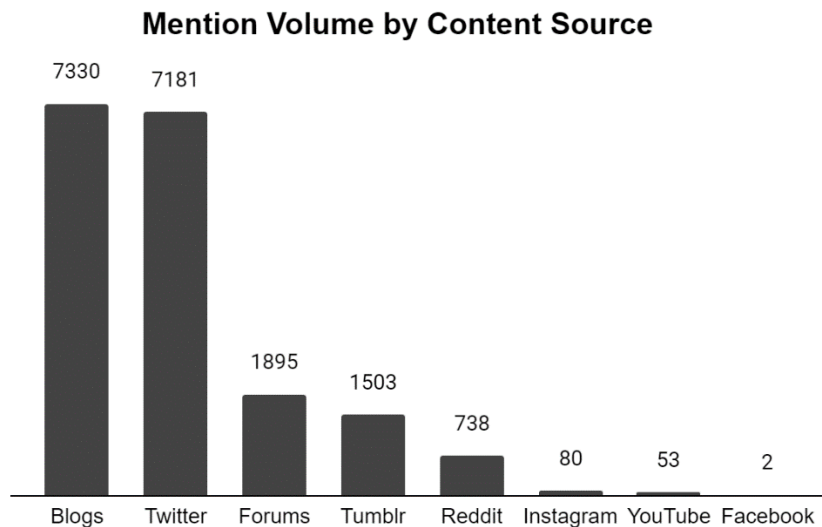


Figure 1. Data Volume by Content Source from Brand Watch.

Using filtering functions in Brand Watch, I recategorized sub-themes and analyzed the sentiments of the dataset.

Next, to answer RQ 4, it is imperative to analyze network centrality and network clustering. NodeXL was used to calculate metrics and visualize the networks. A social network

was built based on datasets, where Twitter posting users are nodes (or actors) and mentions and replies are linked. I identified network clusters of relatively more connected groups of users in the topic-networks using the Clauset-Newman-Moore algorithm (Clauset, Newman, & Moore, 2004), which is embedded in NodeXL software because it is appropriate to deal with a large volume of datasets (Himmelboim et al., 2020). The algorithm uses edge betweenness as a metric to identify the boundaries of communities by forming clusters based on interconnectivity among users. Each dataset included self-descriptive information about users, the content of their tweets, including hashtags and hyperlinks, as well as relationships among users (i.e., retweets, mentions, and replies).

### **Results**

In order to find out topics and themes in the dataset (RQ 1), I used Topic Wheel, one of the topic analysis components in Brandwatch. The algorithm can segment multiple layers of associated keywords and key topics. Given the dataset, the themes of Sustainability, Business, ESG Investing/investors, and ESG Reporting emerged. Most of the postings relevant to investment and business goals emerged with the keywords “ESG goals (n=840)” and “ESG strategy (n=751)” because ESG has been an incomparable factor to invest in and the stock market. It is plausible that the tendency to discuss ESG under the investment factor is spilled over the social media venue.

Social media users discuss the topic of ESG with a focus on how leadership in an organization deals with climate changes and pays attention to their actual actions towards environmental issues. For instance, @dennismcurtis tweeted “Many employees expect the companies they work for to invest in climate change action.”

To answer RQ 2 and 3, it is useful to create new mini-Boolean queries and adopt them into Brandwatch. Even though employee engagement falls, in general, under the “Social” dimension, the conversations about ESG and employee engagement mainly discuss overall Environmental, Social, and Governance not compared to each sector respectively. The conversation pertaining to ESG, and employee engagement comes with all three sectors, Environmental, Social, and Governance were taken up to 84.54% in the whole dataset.

From the remaining dataset (15.46%), I extracted a sector from the three one another. After filtering the data, it turned out to be that the Environmental sector has the highest volume (n=1,229), followed by the Social (n=1,141) and Governance (n=533) sectors. It is inspiring that the dataset crawled for ESG and employee engagement is highly involved in the Environmental and Social than the Governance sector.

This is because many ESG experts discuss employee engagement within the range of the Social or Governance sector. Moreover, the ESG reports from top ESG companies generally include employee engagement under the Social sector. Thus, it is concluded that social media users are more frequently discussing employee engagement under the Environmental sector than Social or Governance during the period even though experts insist that it is considered under the Social sector.

Next, for further understanding of the conversations, I conducted sentiment analysis by ESG sectors using Brandwatch’s sentiment breakdown filter. Overall, the neutral sentiment was

dominated in every sector taking a portion of the total volume between 87.0% and 95.0%. Compared to each sector, the Social sector has a more portion of the negative sentiment postings, taking up 10.3% (n = 117) than the Environmental (5.2%, n=64) and Governance (3.2%, n=17) sectors. The majority of the negative postings regarding Elon Musk’s tweet posting that “ESG is a scam” on May 18, 2022. Social media users’ retweeted and replied to his and others’ postings related to work engagement and social justice.

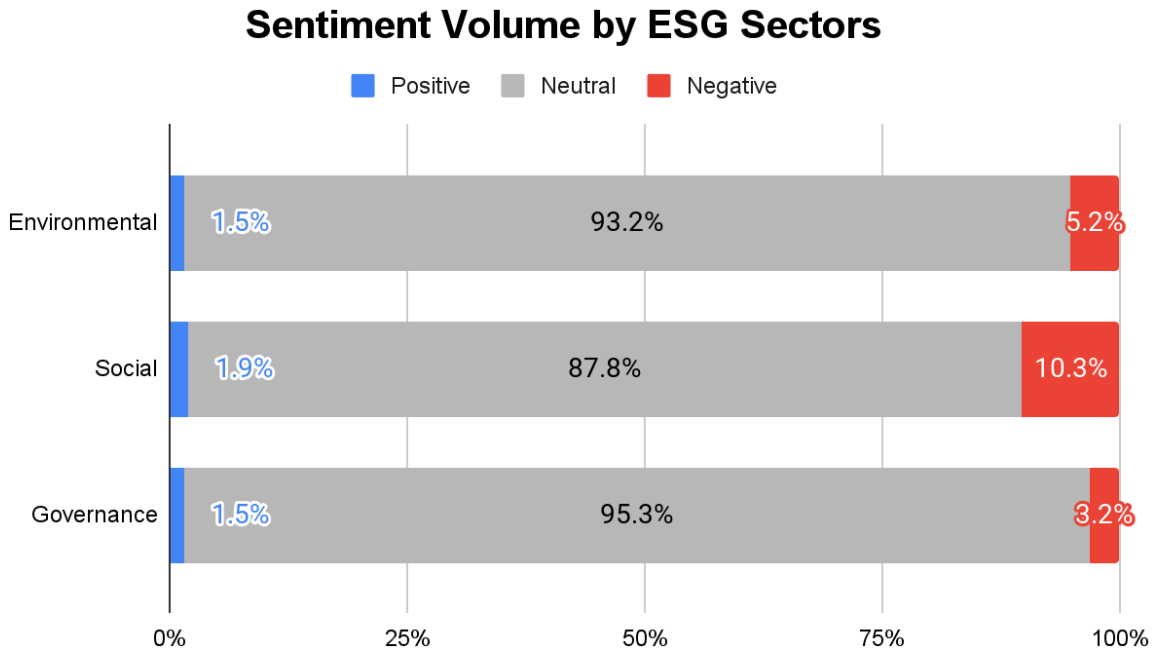
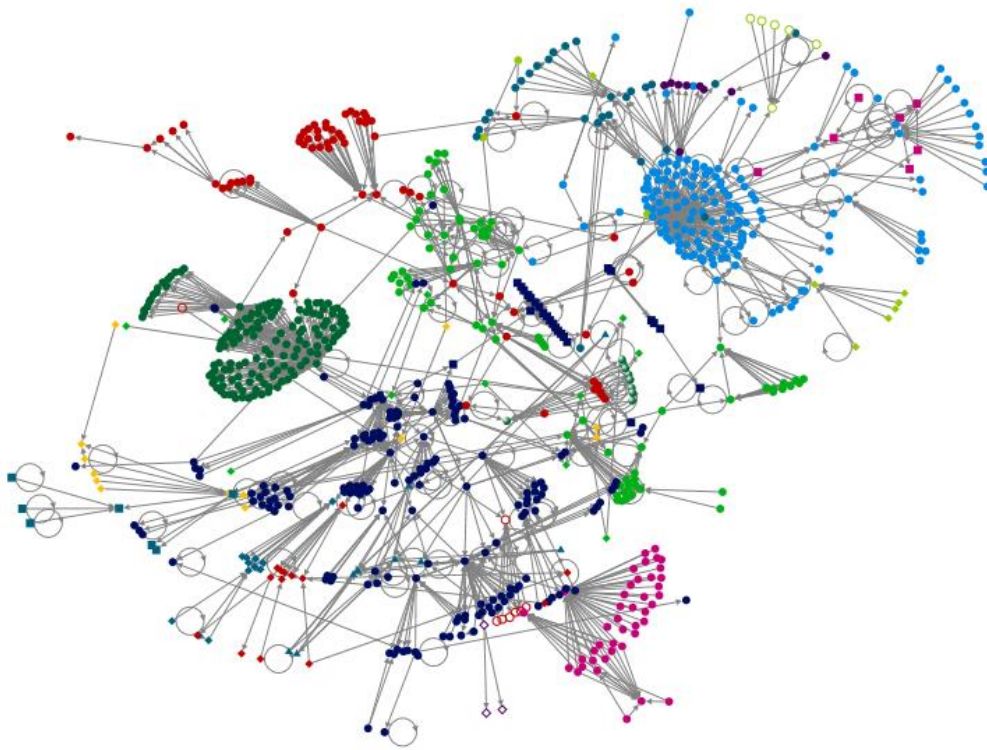


Figure 2. Sentiment Volume by ESG Sectors.

To address RQ 4, the social network analysis (SNA) was conducted using NodeXL, the open-source software. SNA is an analytical method to examine social and informational structures based on networks and graph theories. NodeXL was used to gather the network data from Twitter. For this analysis, I used the same query and the same period as the one I used for Brandwarch but gathered only Twitter. The software amassed every tweet with keywords based on the query. A total of 24,058 unique tweets (i.e., edges) with 6,919 individual users were collected from July 1, 2021, to June 30, 2022. After data processing, the network connections between users were 6,919 unique edges. The entire network was visualized to see the overall patterns in the network (Figure 3).



Created with NodeXL Pro (<http://nodexl.codeplex.com>) from the Social Media Research Foundation (<http://www.smrfoundation.org>)

*Figure 3. Visualization of ESG and Employee Engagement Network After Data Processing*

After calculating the metrics, all of the users were ranked based on their central status metric (i.e., Betweenness Centrality (BC)), meaning that the rank of number 1 indicated the user who had the most central status in the network, the highest BC. This is because BC shows who (users) are effectively and more engaged when communicating with others in the network.

The vast majority of tweets were directed toward high-profile users - whether those are individual or organizational accounts. Given the massive size of the network, only the top 20 users - that is, those who contributed substantially more to information exchange than others) were identified (Table 1 in Appendix). More than half of Twitter accounts were from organizations when it comes to BC ranking: *Mastercard*, *excellencia*, and *Reuters* were the top 3 users in this area. They eagerly exchanged information about ESG and employee engagement. As an individual, @alicekorngold was ranked the top who effectively discussed ESG and employee engagement.

Using the Clauset-Newman-Moore algorithm embedded in NodeXL, the clustering analysis was conducted to find out the subgroups of the network. The outcomes revealed that there were 12 clusters created based on the level of Eigenvector Centrality (EC). EC is a measure

of the influence of a node in a network, whereas BC quantifies how many times a particular node comes in the shortest chosen path between two other nodes. Thus, EC can be used to decide who has a wide-reaching influence within the network. The clustered subgroups were formed on a basis of eigenvector centrality, and the clusters were correlated with each other by exchanging information. Based on the power of influence (i.e., high eigenvector centrality). G3 has the most powerful influence, indicating the highest EC in the network (0.049 to 0.646). This cluster is connected with clusters G1 and G5. Retweeted, mentions, and replies were used when they were connected to one another. Although the G2 cluster was connected to G4, G12, and G5, the EC was relatively lower (0.001 to 0.005) than other clusters.

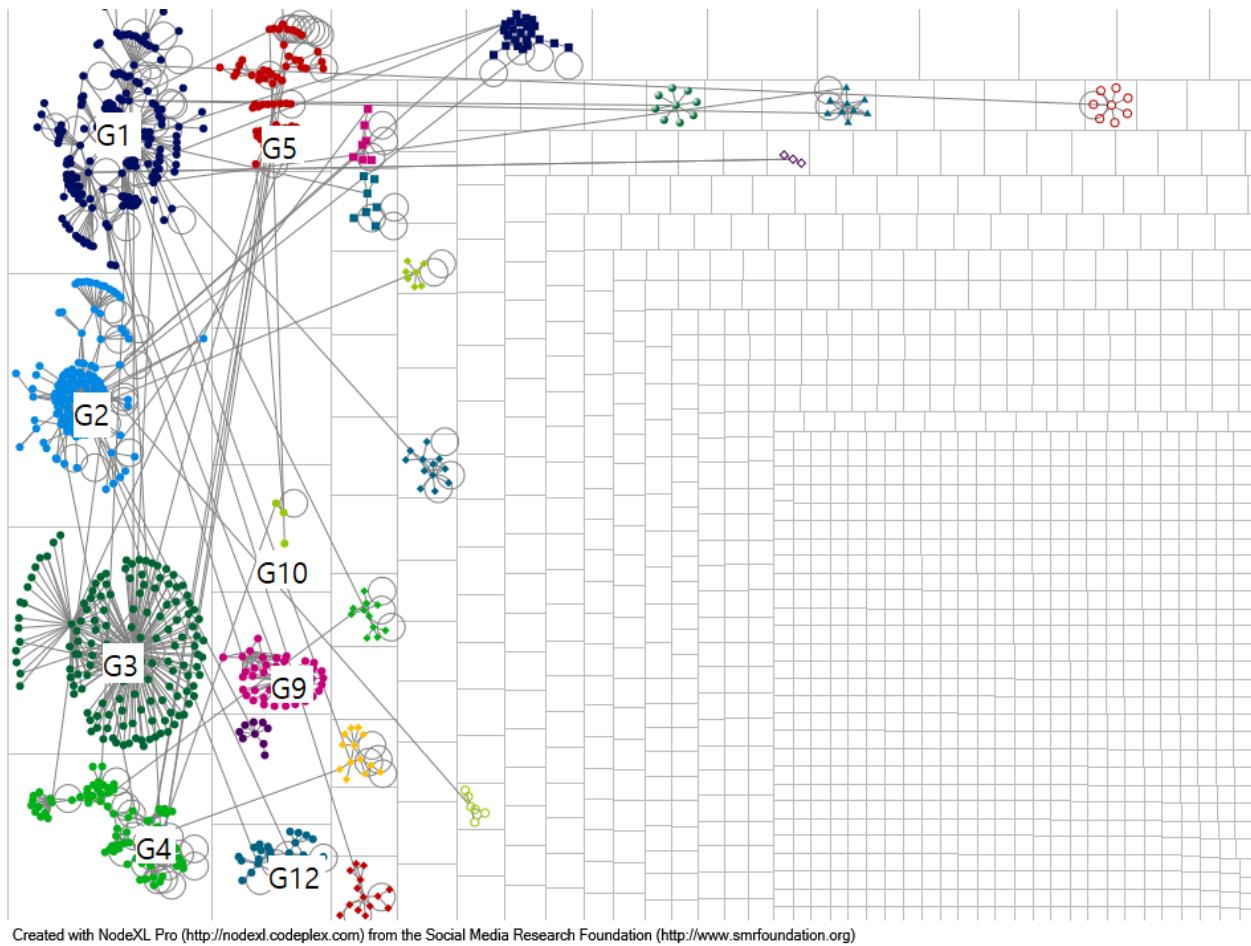


Figure 4. Visualization of Clustering the Data for ESG and Employee Engagement Network

### Conclusion

ESG has been tremendously discussed in the areas of investment and business sustainability for a while even though there has been a need to listen to internal voices to implement ESG initiatives. Although this study did not explore internal voices regarding the ESG and work environment precisely, the findings suggested the hint of how we approach to deal with employee engagement in the ESG initiatives by analyzing social media data.

First, employee engagement associated with ESG is not only discussed in the Social sector but more actively involved in the Environmental sector. This result can be interpreted that when it comes to ESG, employees are not only concerned with compensation, social justice, or equality in workplaces (mainly located in the Social sector) but also genuine sustainable efforts to solve environmental issues, such as climate change, energy emission, or resource depletion.

The sentiment analysis found that overall sentiment toward postings regarding ESG and employee engagement were neutral. However, the Social sector gained more negative sentiment than the two other sectors.

From the network analysis outcomes revealed that organizations, such as financial companies or news media, are actively and effectively communicating with social media users. Among the top betweenness centrality rank, more than a half of top users were from organizational accounts. This means that it is useful that companies lead the conversation about ESG and employee engagement in the social media platforms rather than an individual. Specifically, it is important to monitor information exchange among clustered subgroups in the network, focusing on users who has a high eigenvector centrality because the information exchange is faster among high eigenvector groups.

This exploratory research can lead to another research to find relevant topics in ESG reports from renowned companies by using a topic modeling. ESG reports by companies or industry sectors or internal documents can be a research material. The findings from topic modeling can reveal themes and topics related to ESG and employee engagement which can valuable implications to apply to the working environment.



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## Appendix

## Top 20 Users in the ESG and Employee Engagement Network

Rank	Twitter Handle	Profile name	Between Centrality	In-degree links	Out-degree links
1	@mastercard	Mastercard	673299.21	117	0
2	@excellencia_ltd	excellencia	399760.89	4	28
3	@reuters	Reuters	327167.56	20	1
4	@alicekorngold	🌐 Alice Korngold (she/her) 🌿 🍃	303947.74	2	1
5	@braincures	Krzysztof Potempa	292326.97	7	128
6	@mercer	Mercer	281465.83	8	7
7	@mpborman	Mark P. Borman	243299.28	6	30
8	@peoplematters2	People Matters	221886.33	3	4
9	@rajarajamannar	Raja Rajamannar	204752.33	1	3
10	@citi	Citi	203245.33	3	2
11	@businessinsider	Business Insider	199858.67	10	2
12	@elonmusk	Elon Musk	181349.00	34	4
13	@jacc_420	jacc	179394.00	1	2
14	@mgspellacy	Michael Spellacy	162457.41	2	3
15	@akwyz	🌐 Antonio Vieira Santos	159349.42	7	3
16	@gowespire	WeSpire	158271.85	20	18
17	@proshare	Proshare	151269.41	1	5
18	@ukmercer	Mercer UK	145597.40	9	2
19	@forbes	Forbes	129116.47	15	0
20	@advanceesg	Advance ESG	128283.91	10	15