ESG Opinionated: A Roundtable Reflection

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Abstract. This study examines the evolving landscape of Environmental, Social, and Governance (ESG) considerations through a comprehensive multi-stakeholder analysis of perspectives from Forbes Top 100 corporations, public discourse (Twitter, 2 lac posts), media coverage (1,250 articles), academic research (208 papers), and government regulations (33 documents) spanning 2017-2024. Employing text mining techniques including sentiment analysis and word cloud visualization through Orange and Tableau software, the research reveals remarkably positive attitudes toward ESG across all sectors. Analysis of sentiments has displayed optimism of high levels across firms (41% satisfied), academics (40%), the public (42%), media (35%), and government agencies (40%). Word cloud investigation exposes different yet interconnected core issues among stakeholders: companies put management integration and sustainability initiatives at the forefront; social impact and climate change is the core of public discussions; media coverage brings together environmental and financial issues; academic dialogue covers performance indicators and social responsibility of companies; and the government enforces disclosure requirements and climate-related financial guidelines. The study has identified an ecosystem of sustainable ESG implementation where different stakeholder views are interconnected. That is, cooperation among sectors is thus essential for successful ESG integration. The corroboration of stakeholder attitudes and demands by the with the practical aspect of measurement of the achieved results points out that ESG as a concept has already crossed the learning curve and is progressively turning into an instrumental integral part of the entire structure of the company as well as the global economy.

Keywords: ESG, Text Mining, Sentiment, Word Cloud, Forbes 100, Twitter, Media, Government.

1 Introduction

Environmental, Social and Governance (ESG) issues are essential due to the global increase in the awareness of climate change, business ethics, and the corporate social responsibility (Al-Shaer et al., 2021; Amel-Zadeh & Serafeim, 2018; Stolowy & Paugam, 2018). The discussion about ESG is shaped through a range of perspectives,

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each carrying distinctive viewpoints and problems. The interests of business entities lie in the adaptation of their operations to the ESG standards as a way to comply with the norms and at the same time fulfill the expectations of stakeholders. The public perception, established by consumer emotion and cultural ideals, impacts company activity and requires greater openness. Media is instrumental in defining the perception of ESG as it focuses on important ESG problems, achievements and failures. Academic scholars offer theoretical frameworks as well as a retrospect on the effectiveness of ESG practices and policies. Additionally, governments are increasingly involved, shaping ESG standards through regulations and policies aimed at fostering sustainability and corporate responsibility. For this reason, there is the call for an elaborate analysis of the ESG ecosystem as the concepts illustrated above are interrelated and interdependent. This paper seeks to fill this gap by using text mining approach to synthesize information from corporate disclosures, public sentiments, media articles, academic literature, and government regulations. The study aims at understanding the various facets of ESG ecosystem and how ESG considerations are viewed and adopted. Such a multi-perspective approach is important as the companies and society face the dynamic future of the Fourth Industrial Revolution putting the concepts of sustainability into a contemporary digital frame. The results of the present research will benefit organisations, academicians and government intending to improve ESG standards and fight worldwide sustainability issues.

2 Literature Review

Yoon et al. (2018) conducted a comprehensive study using text mining approach to assess how Korean companies perceive and report on ESG in alignment with the SDGs. Their study employed bigram frequency, term frequency-inverse document frequency (TF-IDF), semantic network, and convergence of iteration correlation analyses. The results of Yoon et al.'s research indicate South Korea as evidently emphasising consumer protection, with a significant emphasis on digital human rights, echoing global efforts and trends in ensuring consumers' safety and rights in the digital era. Notably, the study also indicates a lack of emphasis towards global partnerships, a requirement for the SDGs (B. Yoon et al., 2018). Mittal et al. (2021) analyzed ESG performance in India by examining the annual and sustainability reports of firms listed on the Bombay Stock Exchange (BSE) between 2013 and 2016. They found that Indian companies disclosing ESG have seen significant improvements in their financial and market performance. Mishra et al. (2020) conducted an evaluation of ESG reporting, focusing on GRI reports from the BRIC nations. According to the scores achieved in three ESG dimensions they discovered that India ranked highest in economic, environmental and social indices while Russia ranked the lowest. When it came to ESG compliance, the IT industry in India was the most compliant amongst the entire BRIC nations. The text mining technique was used by (Kumar & Das, 2021) to analyze the current level of sustainability reporting practices among 200 enterprises that included the enterprises in the developed as well as developing countries. From their research and experiences, they have observed that

there was an upward surge on the use of GRI reporting rules especially in the last years in contrast to the start of that particular decade. The country with the highest number of disclosures were Canada, while Indian and Chinese companies were at the lowest.

3 Conceptual Model

The conceptual model illustrated in Fig. 1. presents a conceptual model for understanding organizational sustainability through interconnected theoretical foundations, stakeholder dynamics, and sustainable outcomes. At the theoretical level, three fundamental theories provide the intellectual foundation. Stakeholder Theory, developed by R. Edward Freeman, emphasizes creating value for all parties affected by organizational operations, moving beyond traditional shareholder-centric approaches to consider employees, customers, suppliers, and communities. Legitimacy Theory explores how organizations maintain their social license to operate by aligning with societal norms and expectations, essentially functioning under a social contract that requires continuous adaptation to changing public values. Institutional Theory examines the mechanisms through which organizations adopt similar practices and structures within their institutional environment, helping explain the standardization of organizational behaviors through regulatory, professional, and cultural pressures. These theoretical frameworks inform and shape the interactions between five important stakeholder groups in the organizational ecosystem. Corporations, as legal business entities ranging from tiny enterprises to global conglomerates, serve as main actors in implementing sustainable practices. ESG has become a key issue because of the expanding concern about climate change, ethical business conduct, and corporate social responsibility (Al-Shaer et al., 2021; Amel-Zadeh & Serafeim, 2018; Stolowy & Paugam, 2018). The ESG controversy is made up of a variety of viewpoints that shape it up through particular insights and problems. Businesses concentrate on incorporating ESG concepts into their operations, in order to be in accordance with regulatory obligations and also to satisfy stakeholder expectations.

The public is made of consumers, communities and civil society organizations, who by means of their purchase decisions and social activism can exert influence. Media institutions, in traditional ways, with conventional channels and through new media platforms, impact public opinion and promote stakeholder dialogue. Academia contributes through knowledge generation, technique development, future leader training, and government agencies make legal frameworks and incentives that cause the organizational behavior to point to sustainability There are three main, yet interlinked, sustainable outcomes with theoretical fundamentals, and stakeholder groups. The economic stability includes the company to be continually profitable, be competitive in the market and to have financial resilience which will facilitate long-term organizational sustainability. Furthermore social impact emphasises far-reaching welfare advantages such as community well-being, employee welfare, social fairness, and cultural preservation. This is meant that growth is responsible expansion and

includes innovation and future-oriented development that considers environmental and social impacts. All in all, besides economic success, these efforts, also offer a balanced approach to sustainability through social responsibility and environmental stewardship. Nurturing sustainable goals is not just a task that management manages with the ease of a strong research and the accurate framework that include stakeholders‘ corrections. Thanks to the success of such an approach, company decision-making can be based on more than just financial performance. Instead, firms can confront moving institutional pressures, strengthening their legitimacy, and benefiting diverse stakeholder groups. All facets of sustainable development, including the economic, social, and growth aspects, give light to the evolving character of organizational responsibility and modern societal success. Indeed, the framework combines elements of a diagnostic tool and a faulty-compensating target, which both help comprehend organisational dynamics and support and long-term projects that meet the requirements of clients.

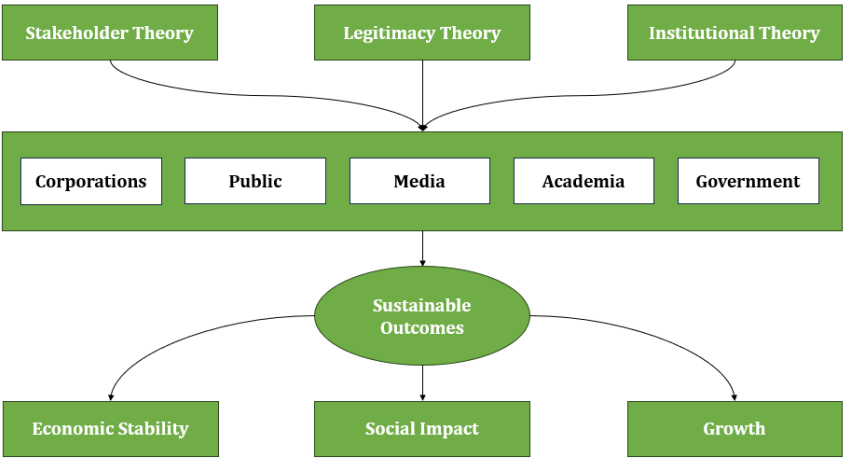

Fig. 1. Conceptual Model

4 Methodology

This research aims at providing an overall evaluation of the contemporary state of ESG ecosystem via the text mining of data presented by various actors, such as corporations, public, media, academic and government sources. The study is done from 2017 to 2024. The aspect of relevance and credibility is observed by using different tools and protocols for collecting and analyzing the data. For analyzing the

corporate perspective, sustainability reports of Forbes Top 100 was used. These data were all collected manually and for the convenience of the following text mining analysis, all these information were gathered and compiled into a corpus. The public opinion was captured from the sentiments which were extracted from the Twitter. In all, two lakh tweets containing the ESG-related topics were collected. The first and foremost step was the translation of the tweets in English. Further, cleaning of the data was done in order to erase unimportant information including stopwords, hashtags and hyperlinks. For the purpose of media coverage, 1250 articles were sourced from reputed media ranging from The Guardian, The New York Times, Forbes and specialised ESG news platforms. In order to capture the stance of the academic world, a systematic literature review was carried out in which WoS was the base data source. In order to use an objective approach in the selection of research papers the PRISMA (Preferred Reporting Items for Systematic Reviews and Meta-Analyses) checklist was employed. The search keywords were 'ESG', 'Environment Social Governance' and 'Environmental Social Governance.'

The investigation was restricted to publications publishing during the period between 2017 and 2023 in the business, management, economics, and business finance categories. Out of these, only publications published in English were considered which brought the total number of papers evaluated for analysis to be 208. Fig. 2. below displays a summary of all the PRISMA protocol and the overall process employed to pick these research publications. For government perspective, data were gathered from official and reputable sources, including government websites, regulatory bodies, and international standards organizations such as the Global Reporting Initiative (GRI) and the International Financial Reporting Standards (IFRS). The selected rules were gathered into two main categories: country and region-specific sustainability regulations, and key global sustainability frameworks built over time. Each regulation was checked and cross-referenced to guarantee accuracy on its adoption status and impact. In the European Union (EU), significant regulations such as the EU Taxonomy Regulation (2020), Non-Financial Reporting Directive (2016), Sustainable Finance Disclosure Regulation (2022), European Sustainability Reporting Standards (2022), and Corporate Sustainability Disclosure Regulation (2023) have been adopted, while the Corporate Sustainability Due Diligence Directive is forthcoming. Norway has introduced the Transparency Act (2022), while Switzerland is preparing its Ordinance on Climate Disclosures. under the Netherlands, the Dutch Child Labour Due Diligence Bill (2019) is adopted, with the Dutch Responsible Business Conduct Act under preparation. Similarly, Germany's Supply Chain Due Diligence Act (2023) and France's Corporate Duty of Vigilance Law (2017) address corporate responsibility. Austria, Belgium, and Spain are also formulating supply chain and due diligence acts. The United States has adopted the Uyghur Forced Labor Prevention Act (2022) and is finalizing the SEC's Climate-Related Disclosures Rule (2023). Australia's Modern Slavery Act (2018) is in effect, with required climate-related financial disclosures due soon. Canada enacted the Modern Slavery Act (2023), whereas the UK has introduced rules such the Modern Slavery Act (2015) and climate-related disclosure standards. Japan's Sustainability

Disclosure Standards are under development, while India has implemented Business Responsibility and Sustainability Reporting (BRSR) since 2021, with its Core version added in 2023. In addition to these country-specific measures, global sustainability frameworks have evolved greatly throughout the years. The Global Reporting Initiative (1997) was an early milestone, followed by the Equator Principles, International Financial Reporting Standards (IFRS), and Carbon Disclosure Project (CDP) in 2000. The Principles for Responsible Investment (PRI) and Climate Disclosure Standards Board (CDSB) Framework were introduced in 2005, accompanying the ISO 26000: Guidance on Social Responsibility (2010) and the Sustainability Accounting Standards Board (SASB) Conceptual Framework (2011). The Corporate Reporting Dialogue (2014) and Task Force on Climate-Related Financial Disclosures (TCFD) (2015) further advanced sustainability reporting. In 2016, the Sustainable Development Goals (SDGs) set worldwide goals for sustainable development. More recently, initiatives like the World Benchmarking Alliance (2018), World Economic Forum (WEF) Common Metrics (2020), and Taskforce on Nature-related Financial Disclosures (TNFD) (2021) have emphasized accountability. The establishment of the International Sustainability Standards Board (ISSB) in 2022 and the release of IFRS Sustainability Disclosure Standards in 2023 signify global efforts toward harmonized reporting. These regulations and frameworks collectively shape a robust foundation for promoting sustainability, enhancing corporate accountability, and addressing critical environmental and social challenges worldwide. Before analysis, all text data from the corporate reports, tweets, media articles, academic papers and government regulations underwent a preprocessing stage. This step involved tokenization, removing stopwords, stemming, and lemmatization. The goal was to normalize the text, making it suitable for advanced text mining techniques. Orange software was used to perform word cloud analysis, which visually represents the most frequently occurring words across the various data sets. The word clouds were generated for each of the five perspectives—corporate, public, media, academic and government—to identify the key themes and topics prevalent in ESG discussions. Sentiment analysis was also conducted using Orange software. The sentiment of the text was categorized into anger, fear, disgust, happiness, sadness and surprise, allowing for a nuanced understanding of how different stakeholders perceive ESG issues. The sentiment analysis revealed varied levels of optimism and concern across the different perspectives, providing insight into the broader discourse surrounding ESG. Please refer to Fig. 3. for Orange Software Workflow.

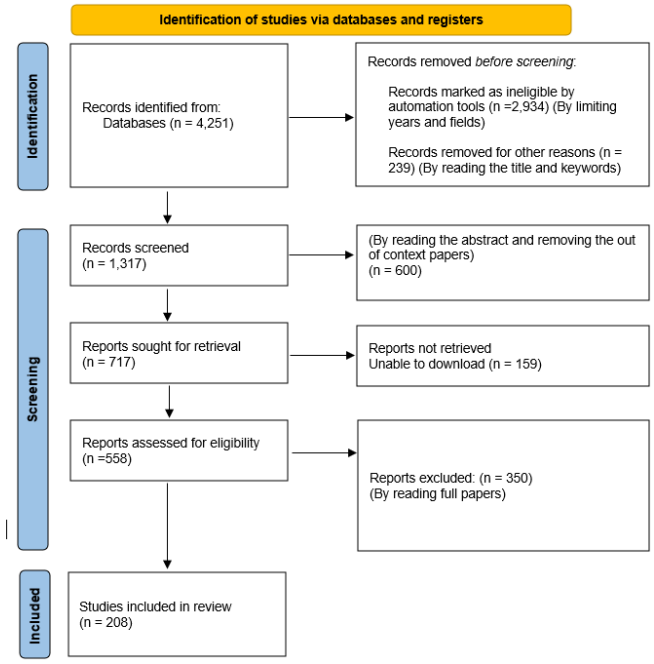

Fig. 2. PRISMA Protocol

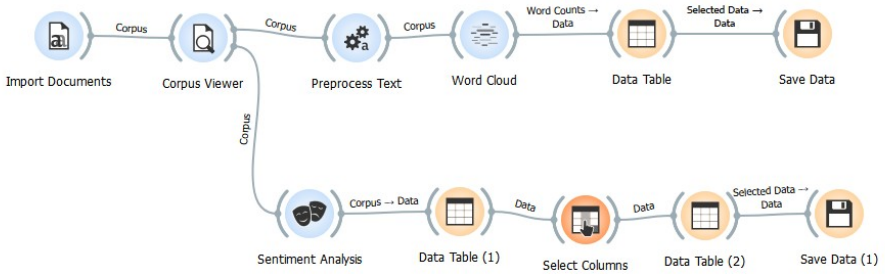

Fig. 3. Orange Workflow

5 Findings

This section details the findings of the investigation. Figures 4–8 depict word clouds highlighting the thematic focus of ESG across business, public, media, academic, and government perspectives, emphasizing sustainability, governance, and environmental

concerns. Figures 9–13 demonstrate sentiment analysis, indicating a mix of optimism and caution across stakeholders, with variances in emotional responses to ESG practices.Sentiment study showed a generally positive perspective on ESG across all sectors. Companies' perspectives are varied; 41% are optimistic about ESG integration, while 25% are pessimistic, pointing to major implementation hurdles. The public is overwhelmingly supportive of ESG activities, with 92% expressing delight, yet there are still concerns, as indicated by 47% of the population being unsatisfied. While 89% of the media are thrilled, 67% are upset, suggesting that critical perspectives are prominent. While 98% of academics are in favour of ESG principles, 66% are cautious, demonstrating that they are aware of the issues related with incorporating ESG into organisational operations. Collectively, these statements reflect a global recognition of ESG's transformative potential while accepting its fundamental constraints. The word cloud analysis further unpacks the issue focus of ESG discourse among stakeholders. Terms like "management," "environmental," "financial," and "sustainability" are employed most frequently from a corporate standpoint, which shows that sustainable operations are prioritised in company strategy. The presence of "carbon," "emissions," and "renewable" suggests a concentration on ecological concerns, but "governance," "employees," and "diversity" highlight dedications to societal accountability and moral standards. "Sustainability," "social," and "business impact" are some of the most popular public opinions spoken on social media and other online platforms, with "climate change," "energy," and "green" getting disproportionately tremendous amounts of attention. Public discourse frequently highlights phrases like "governance," "impact," and "social responsibility," demonstrating broad understanding in the implications of ESG activities. Media storylines focus on phrases like "companies," "sustainability," and "climate," with repeated mentions of "carbon," "emissions," "energy," and "policy," suggesting substantial emphasis on environmental and regulatory components. Additionally, terms such as "investment," "finance," and "reporting" underline the financial components of ESG, while "government," "technology," and "policy" relate to innovation and public sector initiatives in enhancing the ESG environment. Terms such as "impact," "responsibility," and "management" are often invoked in academic discussions on the consequences of ESG on organisations. Words like "board," "governance," "investors," and "strategy" that appear frequently imply that there is academic curiosity surrounding governance frameworks and the practical implementation of ESG. Governmental discourse emphasizes phrases such as "policy," "regulation," and "sustainability," underlining the vital role of public initiatives, with mentions of "climate," "energy," and "technology," which support the focus on environmental stewardship and innovation. The findings collectively underline the diverse structure of ESG narratives, where sustainability and corporate responsibility figure as major subjects. While optimism and good mood dominate, major issues exist across sectors, underlining the need for coordinated efforts, policy alignment, and new solutions. This detailed analysis underscores the rising worldwide discourse on ESG, stressing the importance of tackling problems while leveraging potential for sustainable prosperity.

Fig. 4. WordCloud of Corporate Viewpoint (Source: Tableau)

Fig. 5. WordCloud of Public Viewpoint (Source: Tableau)

today
energy
carbon
sustainability
esg
companies
climate
business
emissions
investment
data
management
news
corporate
reporting
market
technology
disclosure
transition
financial
sustainable
solutions
esgnews
investing
subscribe
uk
green
global
billion
launch
impact
mark
policy
raises
bond
investors
breaking
services
research
firm
finance
governance
issues
growth
projects
accounts
clients
future
startup
investneed
raises
change
reforestation
india
china
private
cookies
demand
clean
defends
become
targets
supply
group
sector
list
much
way
equity
linked
prices
risks
join
meet
law
tied
higher
rules
even
risk
head
plans
better
select
court
however
ering
focus
action
price
meet
oil
crisis
reports
eu
take
post
costs
ratings
several
toronto
covering
introduce
pandemic
analysis
required
regulate
industrial
australian
investments
capture
tools
august
solution
support
sec
latest
waste
decarbonization
production
ai
countries

Fig.7. WordCloud of Academia Viewpoint (Source: Tableau)

Fig. 8. WordCloud of Government Viewpoint (Source: Tableau)

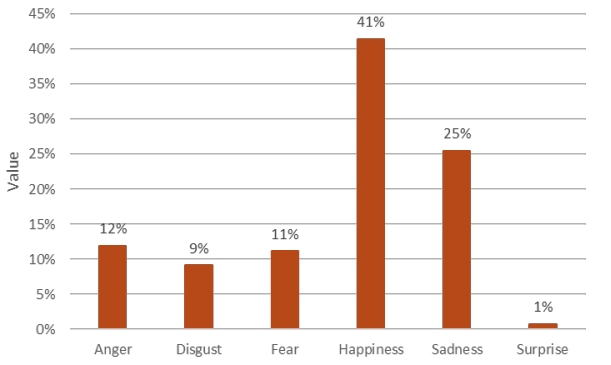

Fig. 9. Sentiment Analysis of Corporate Viewpoint (Source: Tableau)

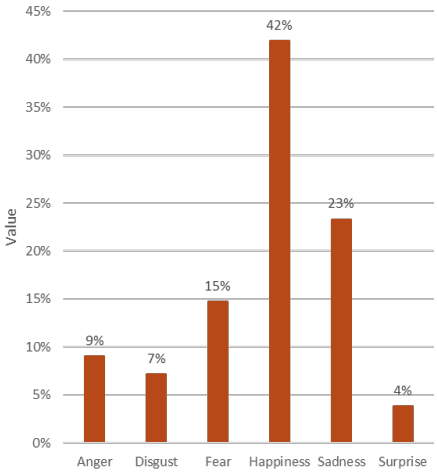

Fig. 10. Sentiment Analysis of Public Viewpoint (Source: Tableau)

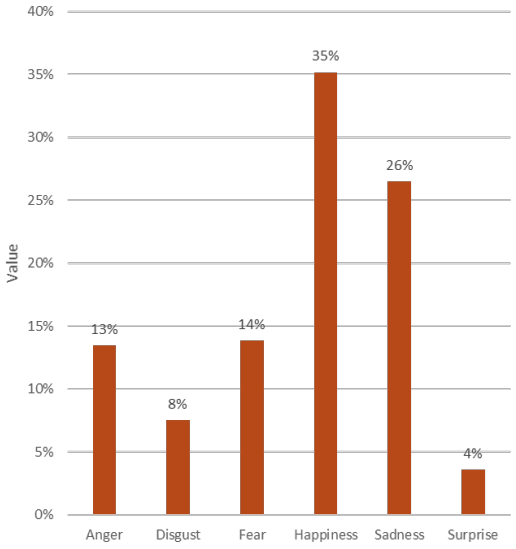

Fig. 11. Sentiment Analysis of Media Viewpoint (Source: Tableau)

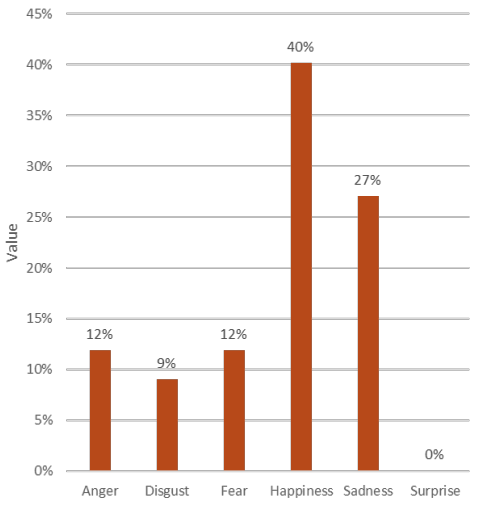

Fig. 12. Sentiment Analysis of Academia Viewpoint (Source: Tableau)

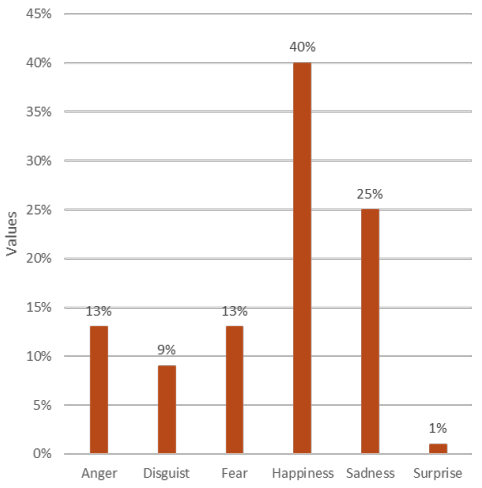

Fig. 13. Sentiment Analysis of Government Viewpoint (Source: Tableau)

6 Conclusion

The quest for ESG-integrated thinking is mainly a metamorphosis of the assets left to the earth by posterity either the business or the government spheres or anywhere else, and the growing consciousness of the risks and opportunities related to the same that consequently unfold and secure the process of thriving rather than causing self-slaughter. It is crucial to emphasize the fact that throughout this research, we employed text mining, we have singled out the main themes, attitudes, and trend clusters present in the ESG issues these regions suffer from. The article offered in the paper can be said to have well-illustrated that world at large witness the heights of interest of the pee-proxies and the media-people, and the academics, and the lawmaker and the law enforcing authorities. Research on the engagement of the ESG stakeholders and the sentiment data reveals a complex shape, with different shapes of the curves for the different stakeholder groups. For this term, the main groups that usually participate in CSR reports are Corporate, who are the employers, and Academia, who educate future generations. These two groups show large involvements in all three Environmental, Social, and Governance dimensions. The fact that these people demonstrate interest and therefore have all angles of ESG nailed means they might take over the sustainable approaches, which is the case of responsible business practices. On the other hand, Government stakeholders present a different scenario. Their behavior has revealed the disappearance of the programs that demand environmental conservation among their main problems. However, even though they are rather Social factors, they are seen as not playing in this race. This way of thinking can make one think of environmental policy, which to them seems more manageable than social one. Public stakeholders on the other hand are placing more emphasis in the Environmental and Social areas of responsibility perhaps seeing tangible impacts (rather than the governance structure) as the main strength of the company. Furthermore, the focus of the Media on Environmental subjects may result in the public's incomplete understanding of key topics. As a result, the public loses such an important opportunity to comprehend various issues.

The analysis of emotions among the stakeholder groups indicates an overwhelming happiness that varies from 35% to 42% with the Public stakeholders being the happiest and the Media stakeholders being the least. This continuous good mood signifies the general positive attitude of stakeholders towards ESG operations, and that it is possible that they will bring positive change. However, sorrow is the second most dominant emotion among the groups, with the percentage ranging from 23% to 27%, and the groups which Academia are a part of are the ones with the highest levels. A sense of melancholy underneath may be the implication that major problems or worries are known in the ESG ecosystem and they are to be paid attention to. The scenario of disagreement is almost the same in all stakeholder groups. Threat rates are between 6% and 10, while hatred keeps a good pace of 3-4%. Fear is the sentiment that is the most volatile, ranging from 9% to 15%, with the Public stakeholders having the highest levels. These trends disclose that no matter the level of ESG activity they

exhibit, the issues of concern remain the same. The data reveals the attitudes and issues that are common to almost all stakeholders, notwithstanding the diverse levels of ESG engagement. The fact that the member groups are unanimous in their emotional responses, although they are at various ESG commitment levels, suggests that there is a general awareness among them of ESG issues and opportunities. The unfailing power of positive emotions over the negative ones is a sure sign that there is a wide range of confidence in ESG projects, while the fact of stubborn issues in ESG use and approval are getting smaller and smaller indicates the central role of the negative opinion. The complete consumerscale of the mentioned sentiment clusters may enable the pinpointing of the best customer interaction solutions.

7 Managerial Implications

This analysis finds numerous strategic implications for enhancing ESG involvement and addressing stakeholder concerns. First, there is a great need to boost media coverage across all ESG dimensions, specifically in Social and Governance domains. Public education programs emphasising on corporate governance could assist bridge the present involvement disparity. Additionally, increasing government involvement in social components of ESG could inspire more balanced policy responses. Organizations should employ focused communication tactics that address and fix the roots of dread and despair while building on present good feeling to preserve momentum. Future attempts should focus on utilising the high levels of delight in public communications while tackling problems causing adverse perceptions through open debate. Stakeholder-specific engagement strategies should be established based on their current ESG engagement patterns and sentiment reactions. This technique would aid develop more successful and resonant ESG initiatives while addressing the particular requirements and concerns of each stakeholder group. The success of these programs will depend on sustaining ongoing interaction while identifying and resolving the complexity of ESG concerns.

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