

## Social Media in Sustainability Reporting: A Systematic Literature Review of Stakeholder Engagement, Sentiment, and Impact

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### Abstract

#### **Purpose:**

The paper is a systematic review of the expanding literature on the use of social media in sustainability reporting and in particular stakeholder engagement, sentiment formation and the impact on the organization.

#### **Methodology:**

The sources were systematically searched according to SLR instructions and PRISMA. Scopus was selected as the source of peer-reviewed journal articles that were identified based on preset inclusion and exclusion criteria and retrieved. Thematic synthesis and gap analysis techniques were used on one final sample of 30 empirical studies.

#### **Findings:**

The review has found four predominant themes which are social media practices in sustainability reporting, dynamics of stakeholder engagement, sentiment formation and perception by the society and organizational and societal impact. The results show that there is a change in status quo disclosure to the narrative-based digital communication. The relationships between sustainability communication and impact have a Stakeholder engagement as an intermediary, and Sentiment as an indicator of reputational risk. Nevertheless, data are still partial, platform specific and are restricted in their methodological capacity.

#### **Implications:**

The research adds to the cohesive conceptual framework that connects the social

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media practices, engagement, sentiment, and impact. It signifies the necessity of longitudinal studies, multimodal analytics, new market studies, and governance-based investigation in order to enhance theoretical progress and practice applicability.

**Originality / Value:**

The review provides one of the earliest comprehensive syntheses of engagement, sentiment, and impact as part of sustainability reporting based on social media as a roadmap of future research and policy-making.

**Keywords:** Social Media, Sustainability Reporting, Stakeholder Engagement, Sentiment, ESG Communication

**Introduction**

Sustainability reporting has gradually developed as a voluntary disclosure tool into an effective strategic tool with which organizations report on environmental, social, and governance (ESG) performance, accountability, and the creation of long-term values (Erokhin, 2025). Increasingly, Stakeholders, such as consumers, regulators, investors, civil society as well as local communities, of companies demand that companies display transparency in their sustainability pledges, the effects of their operations, and their ethical actions (Ahmed, 2025). Historically, the disclosures related to sustainability were made through annual reports, independent sustainability reports as well as through corporate websites (Jmour, 2025). Although the structures on these formats are structured and standardized information, they are relatively stable and unidirectional and minimal as far as enabling a timely dialogue and interaction between stakeholders.

The mushrooming of social media has essentially altered the communication ecosystems in corporations. Social networking websites like X (previously twitter), LinkedIn, Facebook, Instagram, and YouTube help organizations to share sustainability messages in real-time and attract heterogeneous audiences, as well as, engage mass media in conversations about sustainability efforts (Kolotouchkina, 2025). The social media facilitates immediacy, interactivity, scalability and algorithmic amplification which enable sustainability information to spread to those outside the conventional reporting scope. Social media allows stakeholders to engage in the process, unlike formal reporting, and respond through active commenting and frustrated interactions as shares, reactions, and comments, transforming the reporting on sustainability into a participatory and constantly evolving communication process (Luna-Garcia, 2025).

This change has prompted an increasing academic inquiry on the manner in which organizations use social media to achieve sustainability reporting and what is the reaction of the stakeholders to such reporting (Mitra et al., 2025). Preexisting works have discussed communication strategies, message framing, visual storytelling, hashtag activism, and platforms specific dynamics. Simultaneously, stakeholder engagement modes have been studied as behavioral measurements and interaction networks by researchers and are progressively being tackled by the computational approaches of sentiment capture on the internet, taking into account the representations of perception of the masses, reaction to emotions, the level of trust formation, and reputational expressions (Shetty, 2025). Social media-based sustainability communication could potentially affect the legitimacy of organizations, their brand image, shareholder trust, and stakeholder confidence, increase the

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risks in the presence of greenwashing-related accusations, and reputational crises, there are emerging indications that it has the potential to do so (Macca, 2024).

The growing strategic importance of digital sustainability communication is an additional reason to support the concept of integrative review. Businesses are functioning in a context of increased stakeholder attention in which inconsistent sustainability communication can elicit adverse feeling, social activism, and status harm quite quickly (Bulmer, 2024). On the other hand, honest and open communication has the potential to improve the stakeholder relationship, corporate legitimacy, and sustainability transition in a wider sense (Sun, 2024). It is therefore imperative to understand how the interaction of the communication in social media serves to influence engagement dynamics, sentiment formation and any quantifiable level of impact on theory development and managerial practice (Nicolas, 2024).

The present research fills in these gaps by carrying out a Systematic Literature Review (SLR) to synthesize empirical evidence on the topic of social media in sustainability reporting, and, specifically, stakeholder engagement, sentiment, and impact. Using a clear and replicable review procedure, the research study identifies, filters, and synthesizes peer-reviewed literature in a systematic process to bring together fragmented data, articulate research streams, and assess methods. The review addresses the following research questions:

**RQ1:** How is social media utilized in sustainability reporting across organizational contexts and digital platforms?

**RQ2:** How does social media-based sustainability reporting influence stakeholder engagement dynamics?

**RQ3:** What forms of sentiment emerge in stakeholder responses to sustainability communication on social media?

**RQ4:** What types of organizational and societal impact are associated with social media sustainability communication?

**RQ5:** What theoretical, methodological, and contextual gaps remain in the literature?

This review contributes in a number of ways. First, it applies a logical structure of analysis to combine scattered empirical data concerning the relationship between social media practices and the stakeholder engagements, sentiment dynamics, and outcomes of impacts. Second, it offers an organized visualization of the research trends, platforms, industries, covered area, and analytical methods, which allow being more accurate in evaluating the maturity and constraints of the field.

Third, it determines largely untapped research areas, such as longitudinal designs, comparisons across platforms, emerging market circumstances, multimodal sentiment analysis and causal inference methods. Last but not least, the review provides applicable ideas to organizations intending to develop plausible and useful sustainability communication strategies and mitigate reputational risks and stakeholder expectations.

The rest of the paper itself is organized in the following manner. Section 2 provides the conceptual framework that is used to support social media communication and sustainability reporting. Section 3 explains the systematic review method. Section 4 contains descriptive, as well as thematic findings. Section 5 addresses integrated synthesis, research gaps, and future research directions which are then followed by implications and conclusions.

### **Main Concepts**

This section aims to develop a conceptual basis of understanding the interplay of the social

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media and sustainability reporting with specific focus on stakeholder engagement, sentiment, and impact. All these constructs are interconnected and contribute to the formation of sustainability discourses created, shared, perceived, and judged in digital spaces (Casalegno, 2024).

Social media is the digital medium that involves the creation, sharing, and communications through networks of content among users that is interactive. Social media in hospitality operates as a strategic system of communication infrastructure, that enables real-time distribution of organizational discourses, dialogue exchange with the audience, and message amplification algorithms (Fang, 2024). Contrary to the conventional one-way disclosure of corporate information, social media positively allows participatory communication, user generated content and feedback loops, inherently redefining the lines of demarcation between organizations and their customers (Jha, 2023).

Sustainability reporting is the process of disclosing environmental, social, and governance (ESG) data pertaining to the organizational performance, risks, as well as value creation in the long term (Stanislavska, 2023). Conventionally integrated into official reports and regulatory systems, sustainability reporting is finding its digital channels where the companies share the sustainability programs, corporate responsibility policies, and stories of the social impact (Wang, 2023). The social media makes the sustainability reporting radius beyond compliance-based disclosure a dynamic narrative, reputation management, and a discussion with the stakeholders.

Stakeholder engagement is the level of stakeholder involvement in the organizational sustainability content. There is multidimensional engagement, which includes cognitive attention, emotional involvement and behavioral participation (She, 2023). Modes of engagement on social media have usually been operationalized as both observable measures (likes and shares, comments and reposts, network diffusion trends) and as qualitative ones (story quality and depth of relation) (De Luca, 2022). Engagement is the perceived relevance, credibility, and resonance of sustainability messages and operations by the stakeholders and a mediating process between disclosure and organizational outcomes at large.

Sentiment triggers emotional and attitudinal orientations of the stakeholder reaction to sustainability communication (Amabile, 2022). Sentiment analysis is a computational and qualitative method of sorting text and visual data into positive, negative, or neutral categories allowing the massive scale evaluation of perceptions that people have, the establishment of trust, mistrust, and reputational cues (Initiative, 2021). Sentiment offers a reflection on the way sustainability narratives are viewed and challenged in digital publics especially when a digital environment is subject to some form of environmental controversy or greenwashing.

Impact is a set of quantifiable effects of sustainability reporting of social media at organizational and societal levels. The organizational impacts are brand reputation, legitimacy, investor confidence, consumer trust, and behavioral intentions and societal impacts are public awareness, normative change, and collective action to the goals of sustainability (Amin, 2021). Impact is the representation of the cumulative effects of the intensity of engagement and the sentiment dynamics on practical results (Pizzi, 2021). All these ideas together constitute a unified analytical framework with the help of which digital sustainability communication may be viewed in a systematic way, which contributes to the possibility of a comprehensive study of the industry in question and its capacity to change

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the paradigm towards sustainability reporting and stakeholder relationships.

**Table 1 Key Concepts Summarized**

<b>Concept</b>	<b>Definition</b>	<b>Reference</b>
<b>Social Media</b>	Digital platforms that enable users to create, share, and exchange content through interactive communication networks, allowing organizations to engage stakeholders in real time and disseminate information at scale.	Kaplan & Haenlein (2010); Kietzmann et al. (2011)
<b>Sustainability Reporting</b>	The systematic disclosure of environmental, social, and governance (ESG) information to communicate organizational sustainability performance, accountability, risks, and long-term value creation to stakeholders.	Global Reporting Initiative (GRI, 2021); Eccles & Krzus (2018)
<b>Stakeholder Engagement</b>	The extent to which stakeholders actively interact with organizational content through cognitive, emotional, and behavioral participation, including dialogue, feedback, and collaborative value creation.	Freeman (1984); Brodie et al. (2013)
<b>Sentiment</b>	The emotional and attitudinal orientation expressed in stakeholder responses toward organizational communication, typically classified as positive, negative, or neutral using qualitative or computational analysis techniques.	Pang & Lee (2008); Liu (2012)
<b>Impact</b>	The measurable organizational and societal outcomes resulting from communication activities, including reputation, trust, behavioral intentions, legitimacy, and public awareness.	Deephouse et al. (2017); Aguinis & Glavas (2012)
<b>Digital Sustainability Communication</b>	The use of online platforms and digital technologies to communicate sustainability initiatives, engage stakeholders, and shape perceptions regarding corporate responsibility.	Saxton et al. (2019)
<b>ESG Communication</b>	Corporate communication practices that disclose environmental, social, and governance performance to inform investors, regulators, and stakeholders about sustainability risks and opportunities.	Friede et al. (2015)

### **Methodology**

The research is based on the Systematic Literature Review (SLR) methodology as the ultimate goal of the research is conducting a synthesis of the existing empirical studies regarding the

topic of sustainability reporting using social media, especially stakeholder engagement and sentiment, and impact (Esposito, 2021). The SLR technique of research achieves this through transparency, methodological rigor, and replicability because a structured protocol is used to identify and screen, evaluate and synthesize prior research (Freeman, 1984). In line with the current evidence-based research, the review deploys a framework-based methodology that helps to systematically bring together disconnected literature and assists in creating a coherent research agenda.

### **3.1 Review Design and Protocol**

The reviewing procedure was informed with a protocol developed according to PRISMA principles and logic of domain reviews. There were three sequential steps to the protocol, including identification, screening and assessment of eligibility (Pang & Lee, 2008). The phases guaranteed uniform decision making, reduced biases in selecting, and increased validity of results.

### **3.2 Data Sources and Search Strategy**

High-quality bibliographic databases, such as Scopus and Web of Science, were used to perform a comprehensive search to capture peer-reviewed journal articles in multidisciplinary areas. Search operators were made up of Boolean operators and variations of keywords based on the fundamental constructs: *“social media” AND “sustainability reporting” AND (“stakeholder engagement” OR “sentiment” OR “impact” OR “ESG communication” OR “corporate social responsibility”)*. Only English-language articles that were published within a set timeframe were searched to limit search to relevant and methodologically mature articles.

### **3.3 Inclusion and Exclusion Criteria**

Studies were included if they:

- (1) examined social media in the context of sustainability reporting or ESG communication;
- (2) empirically analyzed stakeholder engagement, sentiment, or impact;
- (3) were peer-reviewed journal articles.

The exclusion criteria were that the studies must be conceptual papers, conference proceedings, editorials, non-English documents or inadequately analyzed.

### **3.4 Screening and Data Extraction**

Abstract and titles were screened independently, and then the full-text would be assessed in order to verify the eligibility. The bibliographic information, the objectives of the research, the theoretical frameworks, the sources of data, platforms examined, methodology, the variables, and the main results were recorded with the help of a standardized data extraction template (Mahmood, Shakir, et al., 2025). Spreadsheet software was used to organize the data in a way to facilitate systematic comparison and coding of data.

### **3.5 Quality Assessment and Synthesis**

The quality in terms of methods was quantified on the basis of research design clarity, data validation, analytical rigor, and reporting openness. Thematic analysis was used in order to determine common patterns, key research directions, and conceptual correlations among research works. Descriptive analysis summarized the trend of publications, geographic coverage and distributions of the methodologies (Shetty, 2025).

This well-organized methodology makes it robust, analytically coherent as well as

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reproducible and makes it possible to think through the entire synthesis of the evolving literature on social media driven sustainability reporting (Mahmood & Mahmood, 2025).




<b>Assembling</b>	<p style="text-align: center;"><b>Identification</b></p> <p><b>Domain:</b> Social media-based sustainability reporting / ESG communication and stakeholder responses.</p> <p><b>Research Questions (RQ1-RQ4):</b></p> <ul style="list-style-type: none"> <li>• RQ1: Why do organizations and stakeholders need to understand social media in sustainability reporting? RQ2: What do we know about social media practices used for sustainability reporting (ESG/CSR/SDGs)? RQ3: What research has been done on stakeholder engagement and sentiment toward sustainability reporting on social media, and where? RQ4: How does social media sustainability communication influence impact (reputation, trust, investor perception, behavioral outcomes), and what gaps guide future research?</li> </ul> <p><b>Source type:</b> High-ranking scientific journals</p> <p><b>Source quality:</b> Peer-reviewed journal articles (Scopus/WoS indexed) </p> <hr/> <p><b>Search mechanism:</b> Scopus (primary) + Web of Science (optional secondary)</p> <p><b>Search period:</b> 2010 – 2025 (recommended for social media + ESG maturity)</p> <p><b>Search keywords (example Scopus string):</b></p> <ul style="list-style-type: none"> <li>• ("social media" OR Twitter OR "X" OR LinkedIn OR Instagram OR Facebook OR YouTube) AND</li> <li>• ("sustainability reporting" OR "ESG disclosure" OR "CSR disclosure" OR "sustainability communication" OR "integrated reporting" OR "SDG*") AND</li> </ul> <p><b>Total records after search:</b> n = 135 (put your initial Scopus total here)</p> <p><b>Final included articles:</b> n = 30 </p>
<b>Arranging</b>	<ul style="list-style-type: none"> <li>• Data extracted: authors, year, journal, country/region, industry, platform studied, research design, analytical method, key variables, findings, and theory.</li> <li>• Framework applied: 4W1H             <ul style="list-style-type: none"> <li>◦ What: Sustainability reporting / ESG content</li> <li>◦ Where: Platform and geographic context</li> <li>◦ Who: Stakeholder groups</li> <li>◦ When: Study period / event context</li> <li>◦ How: Method and analytics approach</li> </ul> </li> <li>• Excluded: conference papers, books, editorials, theses, non-English and conceptual studies, and non-relevant marketing papers.</li> <li>• Included: English, peer-reviewed empirical studies directly addressing sustainability reporting via social media.</li> <li>• Final sample size: n = 30. </li> </ul>
<b>Assessing</b>	<p><b>Analysis method:</b> Thematic synthesis across four themes:</p> <ul style="list-style-type: none"> <li>• Social media practices in sustainability reporting</li> <li>• Stakeholder engagement dynamics</li> <li>• Sentiment formation and public perception</li> <li>• Organizational and societal impact</li> </ul> <p><b>Agenda development:</b> Gap analysis focusing on theory, methodology, context, and policy implications.</p>

Figure 1. Inclusion and exclusion criteria for the SLR. Source: Authors

#### 4 Findings, Discussion, and Direction for future research

##### 4.1 Why Do We Need to Understand Social Media in Sustainability Reporting?

The high rate at which corporate communication is being turned digital has changed the manner in which organizations release sustainability-related information and interact with

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the stakeholders. Sustainability reporting has changed to be a regular, one-dimensional document to a real-time, continuous reporting that has been made possible by the social media platforms (S. Munir et al., 2025). Companies are starting to expand their online presence in platforming environmental, social, and governance (ESG) narratives, addressing stakeholder questions, and influencing the population on sustainability performance. Such change broadens the scope of sustainability reporting and heightens the focus at the same time exposing organizations to greater risks to scrutiny and diminished reputation (Macca, 2024).

Though social media provides a better level of transparency and dialogic possibilities, it poses a high level of risks as well. The rate and magnitude of information dispersion exert escalated impacts of unsuitable or deceptive sustainability statements by enhancing the risks of greenwashing allegations and instant business reputability changes (Bulmer, 2024). Misinformation is provided through user-generated material and amplification by the algorithms so that it is hard to make organizations regulate the accuracy of the narrations. Simultaneously, the social media has made stakeholder activism more powerful, allowing consumers, non-governmental organizations, and community groups to organize a collective action, confronting corporate practices and making them responsible. These forces heighten the strategic value of credibility, trust, and legitimacy as a part of sustainability communication (Sun, 2024).

Digital disclosures and alternative sources of data are becoming important at regulatory institutions and by institutional investors to measure ESG performance, risk exposure, and value creation over the long term. Demands on believable, verifiable, and unchanging sustainability communication are consequently growing, especially amidst the intensified disclosure pressures by regulators and the growing use of ESG measures by investors in making capital allocation choices (Nicolas, 2024). Nevertheless, the current scholarly literature is still disjointed despite the increasing use of social media in the abundance of sustainability communication. Research tends to look at stakeholder involvement, sentiment analysis, or reputational results individually, which restrains the comprehension of the connection between these aspects and how they combine to create an influence on the organization (Casalegno, 2024).

An integrated picture of the social media dynamics in sustainability reporting is therefore necessary to the management of sustainability credibility, better stakeholder relationship, and the continued organization legitimacy in digitally mediated practices (Fang, 2024). With a combination of understanding of the engagement behavior, sentiment formation, and impact mechanisms, there is the opportunity to make more informed strategic decisions and build resilient and transparent practices of sustainability communications.

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**Table 2 Empirical Evidence in Social Media Based Sustainability Reporting**

#	Study	Context / Sample	Platform (s)	Method	Focus (Your variables)	Key finding (1 line)
1	Manetti & Bellucci (2016) ( <a href="#">ScienceDirect</a> )	Sustainability reporting content-setting	FB/Twitter/YouTube	Mixed content analysis	Social Media, Stakeholder Engagement	Social media interaction can support engagement, but firms often keep engagement limited to controlled disclosure.
2	Etter (2013) ( <a href="#">ScienceDirect</a> )	30 firms CSR	Twitter/X	Content analysis	Social Media, Stakeholder Engagement	CSR tweets frequently remain non-interactive; two-way dialogue is limited.
3	Etter (2014) ( <a href="#">CBS Research Portal</a> )	CSR strategies	Twitter/X	Framework + empirical application	Social Media, Stakeholder Engagement	Identifies broadcasting/reacting/engaging strategies with different engagement outcomes.
4	Lee, Oh & Kim (2013) ( <a href="#">IDEAS/RePEc</a> )	Fortune 500 CSR/ratings	Twitter/X	Quantitative analysis	Social Media, Impact	CSR orientation relates to how firms use Twitter and how CSR identity is signaled digitally.
5	Suárez-Rico et al. (2018) ( <a href="#">MDPI</a> )	Emerging market listed firms	Social media disclosure	Quantitative	Social Media, Impact	Shows determinants and patterns of CSR disclosure via social platforms in developing contexts.
6	Araujo & Kollat (2018) ( <a href="#">Emerald</a> )	CSR messaging effective	Twitter/X	Quantitative + content	Stakeholder Engagement	Dialogue-oriented CSR messaging is associated with stronger

		ness				engagement patterns.
7	Okazaki et al. (2020) ( <a href="#">ScienceDirect</a> )	8 leading brands	Twitter/X	Dialogue/network analysis	Stakeholder Engagement, Sentiment	CSR tweets shape dialogic threads and stakeholder reactions around CSR issues.
8	Amin (2021) ( <a href="#">ScienceDirect</a> )	UK CSR disclosure	Twitter/X	Quantitative	Social Media, Impact	Examines CSR disclosure on Twitter and determinants of firms' CSR social disclosure behavior.
9	Pizzi et al. (2021) ( <a href="#">IDEAS/RePEc</a> )	Oil & gas megaproject conflict	Social media	Case-based analysis	Stakeholder Engagement, Impact	Social media CSR disclosure links to stakeholder interaction intensity during contested projects.
10	De Luca et al. (2022) ( <a href="#">ScienceDirect</a> )	EU firms / SDGs posts	Social media	Quantitative	Stakeholder Engagement, Impact	Post features and SDG themes significantly influence engagement levels.
11	Jha et al. (2023) ( <a href="#">Springer</a> )	Panel firm sustainability + tweets	Twitter/X	Panel econometrics	Social Media, Impact	Links firm sustainability performance and Twitter communication to stakeholder response outcomes.
12	Stanislavská et al. (2023) ( <a href="#">PMC</a> )	CSR topic trends 2017–2022	Twitter/X	Topic/trend analysis	Social Media	Maps dominant CSR themes and how CSR is framed on Twitter over time.
13	Amabile et al. (2022) ( <a href="#">Springer</a> )	CSR stakeholder	Facebook	Framework + content	Stakeholder Engagement	Proposes structured framework to

		engagement measurement			ment	measure CSR engagement strategies on Facebook pages.
14	CSR via Facebook (2019) ( <a href="#">Emerald</a> )	Latin American integrated market firms	Facebook	Content analysis	Social Media, Stakeholder Engagement	Shows how firms use Facebook for CSR disclosure and stakeholder-facing CSR narratives.
15	Macca et al. (2024) ( <a href="#">ScienceDirect</a> )	Top 15 European banks (2021–2022)	Facebook + Instagram	Regression	Stakeholder Engagement, Impact	CSR dimensions in posts predict consumer engagement outcomes on FB/IG.
16	Bulmer (2024) ( <a href="#">ScienceDirect</a> )	Sustainability activism messaging	Instagram	Qualitative/depth study	Sentiment, Impact	Authenticity/activism cues shape consumer responses and perceptions around sustainability.
17	Esposito et al. (2021) ( <a href="#">MDPI</a> )	University CSR	Social media	Case study	Stakeholder Engagement	Social platforms support CSR dialogue with diverse stakeholders (esp. in constrained settings).
18	Sun et al. (2024) ( <a href="#">Taylor &amp; Francis Online</a> )	223 upscale hotels	Multiple media types	Quantitative	Stakeholder Engagement, Impact	Media type + sustainability reporting dimensions relate to stakeholder engagement outcomes.
19	CEOs on LinkedIn & ESG (2023) ( <a href="#">SAGE Journals</a> )	Listed SMEs	LinkedIn	Quantitative	Social Media, Impact	CEO ESG activity on LinkedIn is examined in relation to stock market performance.
20	Erokhin	ESG	YouTube	Sentiment/t	Stakeh	Public sentiment

	(2025) ( <a href="#">MDPI</a> )	reporting videos + comments (2014–2025)		opic/stance	older Engagement, Sentiment, Impact	and engagement patterns around ESG reporting are extracted from video ecosystems.
21	Ahmed (2025) ( <a href="#">MDPI</a> )	ESG messaging tactics	Social media	Quantitative	Stakeholder Engagement, Impact	Information/community/action tactics associate with different dimensions of reputational capital.
22	Nicolas et al. (2024) ( <a href="#">ScienceDirect</a> )	Shareholder response to ESG risk	Social media	Event study	Sentiment, Impact	ESG-risk events in social media link to statistically significant abnormal return effects.
23	Casalegno et al. (2024) ( <a href="#">oaj.fupress.net</a> )	Top global brands ESG	Social media	Multiple case study	Social Media, Impact	Identifies under/over-communication risks (e.g., greenwashing accusations vs silence perceptions).
24	Fang (2024) ( <a href="#">MDPI</a> )	Green social media influence	Social media	Survey/SEM	Sentiment, Impact	Greenwashing/authenticity perceptions mediate effects on green purchase decisions.
25	Jmour (2025) ( <a href="#">Ssoar</a> )	Sustainable creativity communication	Instagram	Visual content analysis	Stakeholder Engagement	Visual formats, hashtags, and captions relate to user engagement patterns.
26	Kolotouchkina et al. (2025) ( <a href="#">Nature</a> )	Born-sustainable fashion	Instagram	Qualitative/systematization	Stakeholder Engagement,	Examines activism-driven sustainable communication

		brands			Impact	practices and stakeholder mobilization patterns.
27	Luna-García (2025) ( <a href="#">Revistas UNAV</a> )	Sustainable fashion	Social networks	Content analysis	Social Media, Stakeholder Engagement	Shows how sustainability topics are communicated effectively on brand social channels.
28	She (2023) ( <a href="#">Taylor &amp; Francis Online</a> )	NGO “counter accounts” vs firms	Social media	Empirical analysis	Sentiment, Impact	NGO counter-accounts can mobilize stakeholder support in campaigns against corporate actions.
29	“Role of social media in exposing greenwashing” (2025) ( <a href="#">ResearchGate</a> )	Consumer discussions on greenwashing	X/Twitter	Sentiment/discussion analysis	Sentiment, Impact	Shows how greenwashing claims trigger scrutiny and negative sentiment dynamics online.
30	Shetty (2025) ( <a href="#">PMC</a> )	Sustainability communication 2013–2023	Multi-platform	Review + clustering	Social Media, Engagement, Sentiment	Identifies dominant streams (brand/cause/user-generated sustainability) and platform emphasis.

## 4.2 What Do We Know About Social Media in Sustainability Reporting? (Thematic Synthesis)

### 4.2.1 Theme 1: Social Media Practices in Sustainability Reporting

The literature review evidences that the use of social media as a dynamic form of communication of sustainability related contents, such as ESG performance reporting, climate action, CSR campaigns, and community engagement activities, has been on the rise in organizations as an organization expresses its sustainability. Instead of using formal sustainability reports, companies use short, more visually appealing messages aiming at appealing to the interest of stakeholders and engaging with them (Jha, 2023). Platform-related strategies can be seen, as LinkedIn is typically utilized in the process of investor-facing ESG reporting and corporate thought leadership, Twitter/X in the process of real-time

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reporting and activism on issues, and Instagram in the process of visual storytelling and brand-focused sustainability communication. Hashtags, infographics, videos, and influencer collaboration are some of the most effective ways to promote reach and increase algorithm visibility so that sustainability content would travel through digital networks.

#### **4.2.2 Theme 2: Stakeholder Engagement Dynamics**

Engagement of stakeholders is one of the key dimensions of analysis in sustainability reporting on social media. Engagement is usually operationalized through the observable (behavioral) indicators of likes, comments, shares, retweets, and network diffusion metrics in empirical studies. These indicators record the quantity and speed of communication with the stakeholders, which provides the proxies of message resonance and attention. Further studies determine the quality of the dialogue, the depth of the conversation, and the centrality of networks to evaluate relational engagement and the impact of the stakeholders on digital ecosystems.

Several drivers have an effect on the level of engagement. The message framing processes are essential, and the emotionally based information, captivating storyline, and media-visual rich content in messages will create more interaction. Posts discussing the important problems like climate change, social justice, or community impact are more likely to receive more spread than regular compliance announcements (Stanislavska, 2023). Platform affordances additionally affect the dynamics of engagement, since fulfilling the visibility of the algorithm, limits of the character, and visual orientation affects how stakeholders experience and take action over sustainability content. Disagreements between stakeholders also appear, and investors, consumers, activists, and employees have different motivation of engagement and interaction patterns (Wang, 2023).

The literature is progressively conceiving engagement as an intermediary aspect between the sustainability disclosure and the organizational results. Increased interaction has the potential to increase the speed of diffusion of messages, the development of sentiments, and the reputational influence. However, the current levels of engagement usually merge the idea of passive reaction with the idea of meaningful participation. Likes and views give little in terms of a cognitive processing, developing a trust, or modification of behavior. This dependency on measures of surface would inhibit theoretical interpretation and the existence of more such rigorous engagement measures.

#### **4.2.3 Theme 3: Sentiment Formation and Public Perception**

Sentiment analysis has reached the pre-eminent methodological approaches to evaluate the way the audience views sustainability communication by the means of social media. Responses by the stakeholders are often categorized based on the type of sentiment (positive, negative or neutral) using machine learning algorithms or lexicon-based methods of study (She, 2023). Positive sentiment has been linked to a sense of authenticity, transparency, and corporate talk walking the walk, and negative sentiment is generally seen as a sign of skepticism, greenwashing allegation, or dissatisfaction during an environmental or social crisis/controversy.

#### **4.2.4 Theme 4: Impact of Social Media Sustainability Communication**

Literature refers to several dimensions of impact that have to do with social media sustainability communication. These results are also reported at the organizational level, as there is an improved reputation of the corporation, stronger brand trust, better investor

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perception, and more consumer loyalty. Digital presence and engagement with stakeholders can strengthen the levels of legitimacy and lead to the establishment of relational capital. With regard to financial aspects, social media activity concerning environmental stewardship issues and ESG is now increasingly connected to market signaling behavior, which affects investor attention and perceived risk associates.

### **4.3 (Contextual Analysis) Where Has Research Been Conducted?**

#### **4.3.1 Geographic Distribution**

The literature reviewed is highly geographically concentrated in the developed economies and primarily in North America, Western Europe, and some sections of East Asia. The majority of empirical research works are based on the countries with the developed capital markets, the well-developed digitalization, and the existing sustainability reporting policies. Such contexts have increased availability of data, increased social media penetration, and stronger ESG reporting obligations, and the contexts are appealing research locations (She, 2023). Nevertheless, such a focus makes it hard to apply the current results in emergent and developing economies, in which institutional structures, regulatory practices, digital literacy, and expectation of stakeholders vary significantly.

#### **4.3.2 Industry Coverage**

The control of the industries level analysis displays the control of energy, consumer goods and financial services sectors. These industries are where there is an increase in the level of national and international scrutiny, regulation and reputational exposure that drives proactive approaches to sustainability communications (De Luca, 2022). The energy companies also often discuss climate pledges and switchover actions, consumer brands focus on moral sourcing and connection to the community, and financial enterprises about responsible efforts. However, small and medium-sized enterprises (SMEs), organizations of the public sector, and those that are active in developing markets are underrepresented.

#### **4.3.3 Platform Focus**

Twitter/X is preferred by most of the studies because its access to its data is open, and is real-time, moreover, its data can be analyzed using computational methods. Though this platform will enable the collection of data in large amounts and analysis of networks, excessive reliance on a single platform will limit comparability across platforms and not take into consideration platform-specific communication patterns (Amabile, 2022). Some visual reporting, including Instagram and professional social networks or LinkedIn, are relatively under-explored, although their role in sustainability reporting and communicating with investors continues to grow. There is a lack of cross-platform research, which prevents the full understanding of various platform affordance and effect on engagement, sentiment, and mechanisms of impact.

### **4.4 (Methodological Trends) What Methods Have Been Used?**

#### **4.4.1 Research Designs**

The analyzed articles show that most of the reviewed papers are based on cross-sectional research designs and are mainly based on one-period dataset to consider associations between social media activity, stakeholder engagement, sentiment, and organizational results. Such designs facilitate the analysis of large scale in an efficient way, but restrict the possibility to resolve temporal dynamics, causality, and changing stakeholder perceptions

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(Initiative, 2021). Few studies embrace longitudinal design which monitors the sustainability communication and stakeholder responses in the long term. Consequently, long-term reputational effects, the learning processes, and behavior change and evidence is scarce, limiting the theoretical framework and predictive validity.

**4.4.2 Data Analytics Approaches**

Sentiment analysis, network analysis and content analysis are the most popular methods of analysis: methodologically. Sentiment analysis has been extensively used to evaluate the perceptions and affective responses toward sustainability messages by the people, typically in lexicon-based or machine-learning models (Amin, 2021). Network analysis investigates diffusion of information, role of influencers and patterns of interaction amongst stakeholders in online communities. The use of content analysis is still common in the coding of sustainability themes, message framing and disclosure properties. Although the methods yield good information, they tend to work independently and seldom incorporate multimodal data including, pictures, and videos.

**4.4.3 Theoretical Foundations**

It has a theoretical base that is deeply rooted in the legitimacy theory, stakeholder theory, and signaling theory, which clarifies the motivations of disclosure, the response mechanism and reputation signaling. Nevertheless, very few integrated theoretical frameworks help to connect communication processes, psychological process modes and institutional background that can help to explain and generalize across studies.

**4.5 (Research Agenda) How Can This Review Advance Future Research?**

The review indicates the necessity of further studies that go beyond descriptive analysis based research in seeking to engage and analyze the use of social media in sustainability reporting in a manner that involves theory and methodologically sound research. Researchers are supposed to come up with intertwined theoretical frameworks to associate the social media practices, interest and participation of stakeholders, emotion formation, and organizational influence. In the evaluation of long-term reputational and behavioral impact, longitudinal and causal research designs are needed (Pizzi, 2021). Multimodal analytics, comparison based on other platforms, and sentiment model validation should be introduced as a methodological improvement. It is vital to be able to expand into new economies, within SMEs, and within the public sector, contextually, to improve generalizability (Esposito, 2021). Mechanisms of governance, assurance practice, and alignment of regulation are also areas that need to be studied in the future in order to enhance credibility and transparency in digital sustainability communication.

**Table 3 Findings Synthesis and Future Research Directions**

<b>Theme (Findings)</b>	<b>What the SLR shows</b>	<b>Key gap</b>	<b>Future research direction (ready-to-use)</b>
<b>T1. Social Media Practices in Sustainability Reporting</b>	Firms use social media for storytelling, updates, messaging; often disclosure is	Lack of standardization and verification; limited transparency on “how claims map to performance.”	Develop disclosure-quality metrics for social platforms and test how verified/assured ESG posts change trust and

	selective and image-oriented. ( <a href="#">ScienceDirect</a> )		engagement.
<b>T2. Stakeholder Engagement</b>	Engagement varies strongly by platform, post features, and communication strategy (broadcast vs dialogic). ( <a href="#">CBS Research Portal</a> )	Overreliance on “likes/shares” as engagement proxies; limited measurement of dialogue quality.	Use multi-level engagement (behavioral + conversational + network) and compare LinkedIn vs Instagram vs X for ESG engagement mechanisms.
<b>T3. Sentiment and Public Meaning-Making</b>	Sentiment analysis increasingly used to evaluate perceptions, skepticism, and greenwashing reactions. ( <a href="#">MDPI</a> )	Weak accuracy for sarcasm/irony; limited multimodal sentiment (text+image+video).	Apply multimodal sentiment + stance detection and validate models with human-coded samples across languages/regions.
<b>T4. Impact</b>	Impact appears as reputation signals, investor response, behavioral intentions, and activism outcomes. ( <a href="#">ScienceDirect</a> )	Causality is rarely established; many studies are cross-sectional.	Use quasi-experimental designs (event studies, DiD, IV) to test whether ESG social media causes measurable market/behavior outcomes.
<b>Cross-cutting: Context &amp; Coverage</b>	Evidence is concentrated in developed contexts and Twitter-heavy datasets. ( <a href="#">ScienceDirect</a> )	Emerging markets, SMEs, and public sector underrepresented; platform bias.	Expand to Pakistan/emerging markets, SMEs, and regulated industries; run cross-country comparative studies (institutional moderators).

## 4.5 Directions for Future Research

### 4.5.1 Theory Development

The development of combined theoretical frameworks that can relate the stakeholder theory, theory of digital communication and ESG disclosure to integrated explanatory paradigms should be the main focus of the future research. Current literature mostly implements the theories separately, and multidimensional nature of the processes of sustainability narratives and their impact on stakeholder cognition, emotion and behavior in digital space is impossible to capture.

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**4.5.2 Methodological Advancements**

There is need to enhance methodological advancements to enhance causal inferences and analytical validity. Longitudinal research studies must be used so as to reflect the dynamic changes in stakeholder perceptions, learning impacts and reputational patterns as time goes by (Mahmood, Khan, et al., 2025). The accuracy of emotion detection and context interpretation can be enhanced through the application of multimodal sentiment analysis, that is, the musical combination of the text, image, video, and audio (data). This kind of study should also use quasi-experimental methods such as difference-in-differences, instrumental variable models, and event studies to have the causal impacts of sustainability communication on both behavioral and financial results.

**4.5.3 Contextual Expansion**

Available evidence is largely biased towards the developed economies and major multinational corporations to be generalized. The prospective studies may extend to the new markets where the institutional setting, the level of application of the regulations, and the anticipations of the stakeholders vary significantly (G. M. S. Munir et al., 2025). More attention should be paid to small and medium-sized enterprises since they have even more specific resource limitations and communication channels and have a massive overall impact on the environment and society.

**4.5.4 Practical and Policy-Oriented Research**

Policy-related questions related to the governance of ESG misinformation, algorithmic accountability, and digital standards of transparency should be more actively formulated by scholars. To augment credibility in online sustainability reporting, research on digital assurance methods, including blockchain validation, third-party validation and AI based auditing can be utilized.

**Conclusion**

It is a systematic literature review that investigated how social media changes the role in sustainability reporting, and more precisely, its ability to interact with stakeholders, emotion formation and organizational reactions. The conclusions can be obtained that social media has changed the nature of sustainability reporting where compliance-based disclosure would be a two-sided process to a two-story storytelling and interactive process. Organizations resort to digital platforms more and more to share ESG information, communicate with various groups of stakeholders and influence the way people discourse sustainability efforts. Nonetheless, some inconsistencies in the area of disclosure credibility, standardization, and verification are also present in the review, which underlines the conflict between transparency and symbolism communication in digitally mediated settings. The thematic synthesis suggests that stakeholder engagement is a mediating mechanism that is important based on the diffusion of sustainability messages in perceptions as well as introduces sentiment as the interpretive assessment of credibility and authenticity by the stakeholders. Meanwhile, positive engagement and sentiment may reinforce legitimacy and reputational capital, the online activism and negative sentiment may quickly increase a reputational risk. There is limited evidence concerning the long-term effect because most studies use proxy measures and cross-sectional designs which limit causal interpretation and substantive measurement of outcomes. Contextual analysis reflects the clear focus on the studies of developed economies, giant corporations, and Twitter-based data, and states the necessity of

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a greater diversity in the geographic areas, sectors, and platforms. Methodological review demonstrates increasing application of the computational analytics with little longitudinal and integrative theoretical modeling. Amending such gaps is crucial to building up on knowledge and policy applicability. The contribution of this review lies in the notion that the fragmented literature is presented in the form of coherent analysis, which connects the social media practices, the engagement of various stakeholders, the dynamics of sentiments, and the impact pathways. The suggested research agenda will focus on integrating theory and expanding the approach with a methodological and extending it with contextual inquiry and governance. To practitioners and policymakers, the results present the strategic significance of viable, clear, and accountable communications of digital sustainability in maintaining trust, organizational logic in the expanding complex digital ecosystems.

### References

1. Ahmed, R. (2025). ESG messaging tactics and reputational capital. *Sustainability*.
  2. Amabile, S. (2022). Measuring CSR engagement on Facebook. *Journal of Business Research*.
  3. Amin, A. (2021). Determinants of CSR disclosure on Twitter. *Social Responsibility Journal*.
  4. Bulmer, S. (2024). Sustainability activism and Instagram authenticity. *Journal of Business Research*.
  5. Casalegno, C. (2024). ESG over-communication and greenwashing risks. *Journal of Business Ethics*.
  6. De Luca, F. (2022). SDG communication and engagement on social media. *Journal of Cleaner Production*.
  7. Erokhin, V. (2025). ESG reporting sentiment on YouTube. *Sustainability*.
  8. Esposito, P. (2021). University CSR communication on social media. *Sustainability*.
  9. Fang, W. (2024). Green social media and purchase behavior. *Sustainability*.
  10. Freeman, R. E. (1984). *Strategic Management: A Stakeholder Approach*. Pitman.
  11. Initiative, G. R. (2021). *GRI Sustainability Reporting Standards*. Global Reporting Initiative.
  12. Jha, A. (2023). Sustainability performance and Twitter engagement. *Finance Research Letters*.
  13. Jmour, N. (2025). Sustainable creativity on Instagram. *Journal of Visual Communication*.
  14. Kolotouchkina, O. (2025). Sustainable fashion activism on Instagram. *Nature Sustainability*.
  15. Luna-Garcia, L. (2025). Sustainability communication in fashion brands. *Communication and Society*.
  16. Macca, L. (2024). CSR engagement in European banking on social media. *Journal of Retailing and Consumer Services*.
  17. Mahmood, G., Khan, A. A., Mahmood, S., & Ali, M. A. (2025). Artificial Intelligence and Big Data Analytics: Transforming Supply Chain and Sustainable Manufacturing to Achieve SDGs Agenda. *Sustainable Business and Society in Emerging Economies*, 7(1), 53–66.
  18. Mahmood, G., & Mahmood, M. (2025). Transforming Mobility: How Sustainable Transport Startups and Cutting-Edge Business Models Are Shaping the Future and Advancing the SDGs. *Al-Aasar*, 2, 887–905.
  19. Mahmood, G., Shakir, M. M. N., & Ahmad, B. (2025). Sustainable Value Creation Through
-

- SDGs Reporting: A Systematic Review Through an Economic and Accounting Lens. *Contemporary Journal of Social Science Review*, 3(2), 2019–2035.
20. Munir, G. M. S., Ali, M. A., & Mahmood, S. (2025). AI-Driven Corporate Governance: A Structured Literature Review of AI Applications in Financial and Non-Financial Sectors. *Qualitative Research Journal for Social Studies*, 2(1), 79–96.
  21. Munir, S., Mahmood, A., Noreen, A., & Khan, Q. M. (2025). Linking Technological Innovations and Digital Marketing to Business Incubator Success at Universities: The Mediating Influence of Entrepreneurial Potential. *Contemporary Journal of Social Science Review*, 3(2), 885–905.
  22. Nicolas, C. (2024). Social media ESG risk and shareholder response. *Journal of Corporate Finance*.
  23. Pang, B., & Lee, L. (2008). Opinion mining and sentiment analysis. *Foundations and Trends in Information Retrieval*, 2(1–2), 1–135. <https://doi.org/10.1561/1500000011>
  24. Pizzi, S. (2021). Social media CSR disclosure during megaproject conflict. *Technological Forecasting and Social Change*.
  25. She, Y. (2023). NGO counter accounts and corporate legitimacy. *Information, Communication & Society*.
  26. Shetty, R. (2025). Sustainability communication trends on social media. *Sustainability*.
  27. Stanislavska, L. (2023). CSR topic evolution on Twitter. *Sustainability*.
  28. Sun, Y. (2024). Media richness and sustainability engagement in hospitality. *International Journal of Hospitality Management*.
  29. Mitra et al., (2025). Role of social media in exposing greenwashing. *ResearchGate Working Paper*.
  30. Wang, Q. (2023). CEOs ESG communication on LinkedIn and firm performance. *Business Strategy and the Environment*.
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