

Original Article

Social Media Advocacy for Sustainable Development Growth: Mechanisms, Impacts, and Future Directions

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Abstract

Social networking sites have become an effective avenue in promoting SDGs as a new avenue of engaging people in sustainability projects. This synthesis paper analyses the various aspects in which social media are said to augment sustainable development and explores it using empirical literature on various settings and fields. The analysis shows that social media allows an unprecedented reach and efficiency to spread the sustainability-related information, can be used to rally communities around environmental causes, and can offer new ways to co-create value between stakeholders. It is also interesting to note that the use of social media has played a significant role in empowering women entrepreneurs in developing countries where research has indicated that engaging in social media entrepreneurship is one of the main aspects that positively influences sustainable development through improvement of family incomes and the promotion of gender equality. Nevertheless, some major challenges remain, such as the digital divide between developed and developing countries, the widespread greenwashing practice, the inability to quantify the impact, and the volume of misinformation. The research agenda recommended in the article is based on using artificial intelligence to target messages, determining the actions of the cross-platform advocates, creating new impact assessment models, and handling ethical issues related to data usage. The review is relevant given the presence of recurrent publications on the topics of digital technologies and sustainability and acts as a contribution to this literature because it generalizes evidence, identifies what may significantly enhance social media potential to contribute to the 2030 Agenda of the Sustainable Development.

Keywords social media, sustainable development, advocacy, digital activism, SDGs, social media entrepreneurship, sustainability communication

Introduction

The nexus between sustainable development and digital technologies has become a focal subject of research interest because we are getting closer to the 2030 target of the United Nations Sustainable Development Goals (SDGs). Social media tools and platforms specifically, have revolutionized the nature of sustainability advocacy by individuals, communities and organizations and have opened up new opportunities of interaction, mobilization, and renewed coordination. Based on the Sustainable Development Goals Report 2025, despite the significant improvement experienced in many aspects since the set of 17 Goals was adopted in 2015, the current rate of change of inclination is currently not enough to make all 17 Goals achieved by 2030. This fact proves the necessity of more efficient methods of sustainability promotion and practice implementation, and social media presents rather auspicious fields that may be used to hasten the admirable process.

The paradigm under which the study is theoretically framed is the communication for development; the paradigm brings out the participatory process and the logical application of the communication technology as a tool to bring social change. Social media is a new development of this area, and it has the best capabilities of interactive communication, network building, and mobilizing of people. Many-to-many communication patterns featured by the use of social media platforms can marginal voices that are otherwise stifled in traditional media, as well as promote

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information dispersion about sustainability issues. The key transformative potential of these platforms is that it brings various stakeholders, both geographically and socially distant, together, providing a platform on which sustainable solutions to sustainability challenges may emerge. The paper tackles some of the topical research questions like: What are the precise contributions of the social media on the cause of sustainable development advocacy? What makes it efficacious? What is the evidence that about its effect? What are its constraints on upside? And what research directions should be done in the future to maximize its advantages? This review summarizes the findings of the recent research in various fields: communication studies, development studies, environmental science and social entrepreneurship to explain responses to these questions. This research is important because it examines at a most opportune moment how to deploy digital technologies in solving some of the most urgent sustainability problems facing the world. As the use of social media keeps rising across the world (with only 10.4 percent growth in 2024 the overall number of social media users is expected to reach 4.62 billion), the issue of how to effectively engage strategic opportunities of such media to foster sustainability advocacy gains more relevance. The article presents an analysis and synthesis of what is currently known to contribute to the literature, gaps in the evidence, and a research agenda, as a future research agenda to realise the full potential of social media to support the SDGs.

Literature Review

1. Implications of Social Media in the Renewal Energy Usage, 2023. The communication with the social media contributes to the promotion of renewable energy through the endorsement of the 17 Sustainable Development Goals, involvement of local communities, and interaction between organizations and stakeholders. It presents the social agendas effectively with a clear message and promotes the sense of awareness and accountability on the use of sustainable energy in tourism¹.

2. Corbett & Savarimuthu, 2022. In the paper, it is emphasized that social media analytics has the potential to decode the social discourse of emotions concerning sustainable energy, which influences the social acceptance of policies related to and its implementation. Expressions of emotion through a site such as Twitter can be used to bolster advocacy efforts, influencing opinion formation and attraction to renewable energy actions².

3. Barrios-O Neill, and Schuitema, 2016. This paper highlights that with multifold socialised interactions online in multiple, networked platforms, consumer participation in sustainable energy projects stands to be boosted through strategic social interactions, hence strategic social media advocacy is instrumental in creating trust, transparency and participation in renewable energy projects in the context of sustainable development efforts³.

4. Rantala et al., 2020. The paper presents the importance of such a vehicle of networking renewable energy technologies such as biogas and heat pumps, social media in stimulating discussions, engagement, and learning though, it observes that there will be a concentration of social media around a few active discussants which may constrain the development of sustainable development expansion advocacy⁴.

5. O'Brien, 2024. The study notes that regional opposition movements are able to drive local dissent against renewable energy through strategic use of social media, specifically Twitter(r) and this model means that social media advocacy has an important role in driving popular opinion and influencing the growth of sustainable development⁵.

6. Singh & Singh, 2024. Through social media, the paper has highlighted the promotion of Sustainable Development goals such as renewable energy advocacy. It focuses on the participation of the users and strategic communication that can drive mobilization of communities, awareness and collaboration that would finally benefit the realization of sustainable practices in the world⁶.

Table 1: Theoretical Foundations for Social Media and Sustainability Advocacy

Theoretical Tradition	Key Concepts	Representative Scholars
Communication Theory	Message diffusion, framing, opinion leadership	Anderson (2017); Cox & Pezzullo (2018)
Development Communication	Participatory approaches, cultural sensitivity	Balaswamy (2006); Melkote (1991)
Social Movement Theory	Collective identity, resource mobilization, political opportunity	Castells (2012); Fisher (2019)
Value Co-creation	Stakeholder engagement, collaborative value creation	Prahalad & Ramaswamy (2004); See-To & Ho (2019)
Digital Activism	Connective action, network mobilization	Bennett & Segerberg (2013); Boulianne et al. (2020)

Mechanisms of Social Media Advocacy for Sustainable Development

1. Awareness Creation and Information Dissemination

The use of social media platforms can be valuable as the means of awareness-raising regarding the problem of sustainability and delivering information of value to global communities. The peculiarities of Most Facebook are its interactiveness, multimodality, and having network effects, which allow delivering the information to many individuals at a time, breaking geographical and social barriers. The study by Singh and Singh illustrates that social media is a powerful tool to boost the scope and effectiveness of sustainability communication activity as compared to the conventional media platforms. Such increased penetration is especially useful in the case of global sustainability challenges that needed mass awareness and participation.

What is important when using awareness campaigns on social media is the information presentation and framing. Research indicates that appealing to your passions, vivid imagery and real-life examples will likely cause a greater response than notions and figures or technical terms. As another example, some climate communication research indicates images depicting the visible effects of climate change (e.g., polar bears on a melting ice cap, extreme weather events) receive more shares and comments in comparison to data-dense communications. The same applies to messages highlighting solutions and good measures than the ones that only touch on the problems alone.

The other key consideration in relation to the creation of awareness via social media is that of the influencers and opinion leaders. When influencers on social media who have huge audience get interested in these issues, they can multiply the message of sustainability with their huge followings. According to a research made by Zhang, the endorsements of influencers on environment related campaigns had great visibility and outreach. Some issues relating to machine engagement have been observed in the literature, such as a risk of being accused of tokenism or slacktivism when it seems that the preoccupation with influencers is just a formality.

2. Community Mobilization and Engagement

In addition to creation of awareness, the social media can also be used to mobilize communities on sustainability projects. Social media such as Facebook and WhatsApp allow creating a permanent group of people involved in a certain sustainability cause, whether it is a group recycling locally, or a global movement towards climate

change. Such online communities have been created and used to share experiences, organise actions, and offer social support to sustainable behaviours. Studies indicate that this sense of community generated by these websites can be used to increase the commitment of the participants to sustainability objectives and entrench pro-environmental actions. Social media have been especially conspicuous in activism on climate, which is spearheaded by youth. Investigations of the FFF school strikes concluded that the use of social media was essential in recruiting the movement members and organizing joint actions in places and times. The case study conducted by Boulianne, Lalancette and Ilkiw provides a historical analysis of the movement that was able to scale out its participation exponentially due to social media influences, without the need of concentrated structures of coordination. The authors pointed out that digital mobilization was especially useful when it came to targeting young audiences that could not be mobilized to take political actions in other forms. New civic forms of engagement with sustainability questions via the social media also become possible. Online petitions campaigns On policy-makers and corporations On environmental issues such as the Change.org and Avaaz.org platforms make it easy to mobilize mass movements through online petitions. In the meantime, such instruments as Facebook Live and YouTube Live allow one to participate in the sustainability events virtually, which means that virtual sustainability participation becomes available to individuals who are unable to attend the event offline. Such reduced cost of entering the debate has widened the scope of voices reflected in the debate on sustainability, although digital eruptions continue to interface the voice of marginal groups to a certain extent.

3. Collaboration and Value Co-creation

A third way that the social media stimulates sustainable development is that it maximizes cooperation among various stakeholders. Social media and dedicated networks such as LinkedIn and mobility-sustainability related networks, on the one hand, allow professionals to connect in and across fields and, on the other hand, to share knowledge and establish partnerships. On the same note, crowdsourcing systems can be used to harness the resources of dispersed communities in order to resolve problems in sustainability, not just in product design, but in the detection of environmental crimes as well. Such collaborative techniques tap into the power of the diverse as well as allowing the latent creativity of the participants to flourish in a coherent manner, something which more often than not may not arise due to siloed methods.

A specifically applicable concept is that of value co-creation in the light of the collaborative potential of social media. A study by Ho et al. has reported that as users actively participate in reading and/or writing sustainability-related comments, they share, and remix, the value created does not merely end in the original materials. This shared value may come in the form of localized senses of sustainability issues, individual narratives that explain abstract concepts, or innovative variations of messages to fit various segments of the population. Specifically, the researchers determined that the active campaigns promoting value co-creation were more involved and yielded longer term behavior change than the one-way messages.

Social media also helps introduce new means of corporate-stakeholder interaction that may be

related to sustainability concerns. The emergence of social media has led to platforms such as Twitter generalising consumer pressure over the environmental practices of companies, and LinkedIn being used to report on sustainability, and engaged in dialogue with investors. According to one of the studies led by Reilly and Hynan, the companies that have a keen interest and discussion on social media with stakeholders regarding the sustainability programs in place are more likely to have more brand trust and brand loyalty. Nonetheless, the study has also warned of the danger of cosmetic activity that can be taken as greenwashing.

Table 2: Mechanisms of Social Media Advocacy for Sustainable Development

Mechanism	Key Functions	Examples	Effectiveness Factors
Awareness Creation	Information dissemination, issue framing, trend setting	Climate change infographics, SDG explainer videos, sustainability podcasts	Emotional appeal, visual elements, influencer endorsement, message framing
Awareness Creation	Information dissemination, issue framing, trend setting	Climate change infographics, SDG explainer videos, sustainability podcasts	Emotional appeal, visual elements, influencer endorsement, message framing
Community Mobilization	Network building, action coordination, solidarity formation	Facebook groups for local environmental initiatives, WhatsApp coordination of climate strikes	Shared identity, participatory structures, leadership development
Collaboration & Co-creation	Partnership formation, crowdsourcing, knowledge sharing	LinkedIn sustainability networks, innovation challenges for circular economy solutions	Trust building, recognition of contributions, integration of diverse knowledge types
Behavior Change	Norm influence, modeling, feedback	Eco-challenges on Instagram, sharing of sustainable living tips	Social proof, gradual engagement pathways, tangible benefits demonstration
Policy Advocacy	Public pressure, agenda setting, monitoring	Online petitions for environmental protection, Twitter campaigns for policy changes	Strategic targeting, coalition building, media amplification

Challenges and Limitations

1. Digital Divides and Access Inequalities

The main implication that constrains the use of social media in terms of its potential to promote sustainable development advocacy is possibly the digital gap among countries and among individuals. It is estimated that by 2025, the world will produce data volume (the UN data) amounting to 175 zettabytes, 49 percent of which they will store in the common cloud and about 75 billion devices connected via the Internet of Things. Nonetheless, digital technologies are extremely unequally available, and, developing countries,

especially in Africa, Least Developed Countries (LDCs), and Small Island Developing States (SIDS) show major obstacles to becoming a part of the global digital economy.

Digital divide exists on several dimensions such as access to devices, network availability and connection to the internet, digital literacy, and digitally applicable content in the local languages. The 2020 Mobile Gender Gap Report found out that men in developing countries have access to mobile internet (33 per cent) as opposed to women (16 per cent). Likewise, the Bangladesh National ICT Household Survey 2018-2019 indicated that 34.2

percent of its female respondents used the internet as opposed to 53.2 percent of adult men. Such accessibility gaps restrict the possible target of the social media advocacy towards sustainable development, especially among the already disadvantaged people.

When access to data is there, there can still be challenges of data affordability and digital literacy to have meaningful participation. Studies indicate that much of the sustainability messaging is based on the pre-existing knowledge and technological casing that cannot be assumed by populations/nations with limited digital histories. In a parallel way, data charges can incur in the inability of users to access rich media content that can also prove most effective in carrying sustainability messages. These impediments imply that social media efforts to promote sustainable growth are at risk of deepening inequalities already in place unless further initiatives are also taken to increase digital inclusions.

2. Misinformation and Greenwashing

Another issue facing the social media advocacy front is the spread of misinformation and disinformation related to any sustainability issues. Due to the openness of social media platforms, anti-sustainability activists can release disinformation about climate science, clean energy renewables, and environmental regulation. The studies on climate communication have identified that misinformation campaigns have taken place on social media that have led to the confusion and the polarizing of society over climate change despite the fact that there is scientific consensus on the topic.

An associated difficulty is the high rate of greenwashing the act of organizations fabricating claims concerning their environmental activities in an attempt to make themselves seem more environmentally friendly than they are. Greenwashing can afford to thrive internationally on social media as the mediums limit the opportunity to include nuance and make claims difficult to verify. Research has discovered that companies tend to give prominence to small-scale sustainability projects on the social media platforms but stay away with larger operations that are harmful to the environment. Such a practice not only did not deceive the consumers but also corrupted trust in legitimately-conducted sustainability communication.

Some of the ways to respond to these challenges have been fact-checking efforts, the development of sustainability reporting standards, and misinformation policies on platforms. But science indicates that fact-checks are not always as effective as the deception to which they are referring and they can end up boosting the invalid claims as a

result of responding to them. In the same way, reporting norms are voluntary and inconsistent across jurisdictions, thereby not helping much to fight greenwashing. These shortcomings raise the question of the necessity of the vastly more advanced approaches to guaranteeing the integrity of sustainability communication on the social media.

3. Measurement and Impact Assessment Difficulties

A third type of challenges relates to the burden on the process of effectively quantifying the actual contribution that social media advocacy is having on sustainable development. Although it is easy to quantify the number of shares, likes, and comments, these metrics do not fully reflect principal directionality toward a behavior change in the real world or toward environmental changes. Moser and Kleinhuckelkotten theorize that green consciousness does not always result in behavioral changes as many people show interest in solving the sustainability problem but rarely change their consumption habits or life styles.

The social media engagement and sustainability outcomes have a complex causality issue, which presents a challenge to measure. Sustainable development is a long-term process, the success of which is predetermined by the presence of many factors besides communication alone. It is difficult, or rather methodologically unreliable, when separating the particular influence of social media advocacy to such effects by applying traditional research designs. Previous experiments have largely been based on self-reporting, or correlation designs that are insufficient to confirm causal effect. There are more technical matters to do with ethical measurement practices, especially as concerns data privacy. The privacy and informed consent are the issues concerning big data approaches that analyze social media patterns to evaluate the impact of advocacy. The UN observes that since big data is a result of peculiar behaviour of individuals, the deletion of explicit information about individuals may not provide complete protection to privacy. Such ethical considerations require close consideration of the design of impact assessment frameworks that do not compromise individual privacy even though they provide the relevant information that should be measured.

Future Research Directions

1. Artificial Intelligence and Personalized Messaging

AI technologies are some of the promising areas that have the potential to make social media advocacy more effective to the sustainability development. Machine learning algorithms are able

to examine extensive databases to provide a better understanding of what messages appeal to particular audience groups and make communication more personalised. Natural language processing would help monitor the emergence of new sustainability issues and misinformation trends on an ongoing basis to enable timelier advocacy efforts. In the meantime, generative AI tools can facilitate the production of local language materials on sustainability at scale to discussed the cultural disconnect of sustainability materials being available in local languages addressing this dearth of materials.

Research in the future needs to look at the ethical uses of AI in sustainability advocacy, including questions of how AI can tailor sustainability messages without manipulation. What are the mechanisms we need to in place to stop AI-based greenwashing? How can we use AI tools to engage to greater advantage and authentic connection with marginalized communities? Research on these lines should be done in partnership with both computer scientists and communication scholars and experts on sustainability in order to have a framework on ethical use of AI and the impacts that can be brought as a result.

The other study direction that is essential relates to the application of AI to process social media data to monitor SDGs progress. The UN highlights that social media can give real time information on the wellbeing of people and even targeting interventions to specific vulnerable people. To capitalize on such a potential, however, considerable challenges focussed on methodology and ethics have to be met. There is a need to conduct research to develop indicators that can be obtained using social media data with minimal or no infringement to privacy and biases.

2. Cross-Platform Comparative Studies

There is a greater need to understand how various platforms can contribute to sustainability advocacy as the platforms multiply and diversify. Existing studies have concentrated more on large platforms such as Facebook and Twitter with little consideration to newer platforms or platform variation in different cultures. The results of comparative analysis of how sustainability content performs on the various platforms would give useful information on how to create more effective advocacy efforts.

Future studies should address questions like: How is advocacy of sustainability different based on platforms of varying affordances? What does content look like on which mediums? What are the determinants to the visibility of sustainability content through platform algorithms? What influence do platforms of governance have in

communicating sustainability? The answers to these questions would assist the advocates in strategically managing resources by platform as well as distributing and designing content to suit the platform features and the audience.

Research area that remains a major gap is in the order and combinations of advocacy through various platforms. Most organizations are represented on several platforms but they do not have scientifically substantiated information on how to synchronize the message on them. A study on cross-platform strategies would go a long way in identifying best practices on integrated advocacy that takes advantage of the traditional strengths of each platform but also retains a common message.

Conclusion

This has been a broad review that has explored the various functions that social medias can play in promoting sustainable development growth. According to the evidence, the social media provides robust applications towards awareness creation, mobilization of the community as well as collaboration and change of the behavior towards sustainability issues. As embodied in case studies, there are evident effects such as women entrepreneurs empowerment in Bangladesh or climate movements across the globe by the youth both locally and internationally. Nonetheless, there are still major issues in the way, such as digital divides, misinformation, greenwashing and measuring impact.

The theoretical implications of this review are to synthesize various theoretical approaches to social media and sustainable advocacy, determining the main mechanisms through which social media affects the results of sustainable development, and pointing out those remaining knowledge deficits that still exist in the field. Value co-creation framework is an especially promising concept that helps to understand how the social media allows collaborative value creation process within the domain of sustainability challenges, but further studies should be conducted to apply this paradigm in multiple settings.

Practical implications to the sustainability proponents involve the significance of strategic message construction, utilization of influencers, hosting of value co-creation and online and offline integration. These results indicate that effective advocacy needs to go beyond mere information-sharing to provide opportunities to discuss, cooperate and act collectively. The concerns with access and digital citizenship should also be addressed, so that advocacy may not contribute to inequality that the social media is already based on.

Moving ahead, to leverage to the fullest the potential of the social media as a sustainable development champions, there are a number of constraints that shall be addressed. It is also important to build digital bridges so that the underserved communities can not only take part in digital advocacy but they can also access the digital advocacy to their advantage. Fighting against misinformation and greenwashing will need more openness, more elaborate checking systems, and online literacy. The better impact assessment methodologies will allow the advocates to form more effective strategies and prove the success of them.

As proposed in this article, the research agenda presented above, which involves analysing AI applications, cross-platform research, and impact measurement methods, could fill the existing knowledge gaps and allow harnessing the full potential of social media to achieve sustainable development. The moment closer to 2030 when the SDGs are to be achieved, the effective use of digital technologies is becoming more and more urgent. Coupled with careful planning, ethical application, and educating oneself, social media marketing can bring a lot of value to creating a more sustainable and just world.

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References

1. Implications of Social Media in Sustaining Renewable Energy Usage. (2023). *Practice, Progress, and Proficiency in Sustainability*, 192–209. <https://doi.org/10.4018/978-1-6684-6113-6.ch009>

2. Corbett, J., & Savarimuthu, B. R. (2022). From tweets to insights: A social media analysis of the emotion discourse of sustainable energy in the United States. *Energy Research and Social Science*, 89, 102515. <https://doi.org/10.1016/j.erss.2022.102515>
3. Barrios-O'Neill, D., & Schuitema, G. (2016). Online engagement for sustainable energy projects: A systematic review and framework for integration. *Renewable & Sustainable Energy Reviews*, 54, 1611–1621. <https://doi.org/10.1016/J.RSER.2015.10.084>
4. Rantala, S., Toikka, A., Pulkka, A., & Lyytimäki, J. (2020). Energetic voices on social media? Strategic Niche Management and Finnish Facebook debate on biogas and heat pumps. *Energy Research and Social Science*, 62, 101362. <https://doi.org/10.1016/J.ERSS.2019.101362>
5. O'Brien, P. T. (2024). *Social Acceptance Of Renewable Energy: Exploring A Citizen Centric Paradigm*. <https://doi.org/10.34719/ibuv4856>
6. Singh, P., & Singh, S. (2024). *Understanding social media application for sustainable development goals*. <https://doi.org/10.29121/granthaalayah.v12.i7.2024.5691>
7. Zhang, J. (2025). The Role of Social Media in Promoting Environmental Sustainability. *Journal of Lifestyle and SDGs Review*, 5(5), e06586. <https://doi.org/10.47172/2965-730X.SDGsReview.v5.n05.pe06586>
8. United Nations. (2025). The Sustainable Development Goals Report 2025. <https://unstats.un.org/sdgs/report/2025/>
9. California State University Dominguez Hills. (n.d.). APA 7th Ed. - Sustainability - LibGuides. <https://libguides.csudh.edu/c.php?g=1032990&p=8323149>
10. Rahman, M. M., et al. (2023). The effect of social media entrepreneurship on sustainable development in Bangladesh. *Heliyon*, 9(9), e19397. <https://doi.org/10.1016/j.heliyon.2023.e19397>
11. University of Scranton. (n.d.). The Growing Impact of Sustainability in Social Media. Retrieved from <https://gradadmissions.scranton.edu/blog/articles/business/sustainability-social-media.shtml>
12. Balaswamy, B. (2017). Role of Social Media in Promoting Sustainable Development. *Academia.edu*. Retrieved from https://www.academia.edu/98757293/Role_of_Social_Media_in_Promoting_Sustainable_Development
13. United Nations. (n.d.). Big Data for Sustainable Development. Retrieved from

14. <https://www.un.org/en/global-issues/big-data-for-sustainable-development>
15. University of Nevada Reno. (n.d.). APA Citation Guide (7th Edition): Social Media. Retrieved from <https://guides.library.unr.edu/apacitation/cite-socialmedia>
16. Ho, J., et al. (2024). The Use of Social Media in Sustainable Green Lifestyle Adoption: Social Media Influencers and Value Co-Creation. *Sustainability*, 16(3), 1133. <https://doi.org/10.3390/su16031133>