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Social Media As Tool For Environmental Engagement: Understanding Public Participation

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The outbreak of COVID-19 has caused concerns globally. This pandemic has influenced the environment both positively and negatively. A drastic down in air pollution (a significant change in the air quality index of NCR Delhi has been noticed even during the early winter) has been seen across the world, huge amount of medical waste threatens the world at the same time. It has been said that this lockdown has given temporary relief for a degrading environment.

News media as well as social media have discussed the relations between the coronavirus pandemic and climate change. Communication lessons that could be drawn from one and applied to the other. The discussion done on social media can reshape public opinion about the environment and consciousness. Many research and news media reports have linked the lockdown and several wildlife species, with potential implications for environmental journalism.

The Present study will investigate the discussions and deliberations about the environment on the social media platform. The study specifically focuses on how and in which way the social media posts regarding environmental changes during the COVID-19 pandemic have been circulated. It is intended to analyze the patterns of social media discussion and the actions and look into the extent social media is used to grab global attention for seeking environmental attention. Further study will find the use of official social media pages of ministries, international bodies, and NGOs, to create environmental consciousness

The study is designed to be quantitative. The survey is used for collecting data to accomplish objectives. A sample of individuals has been considered. The study found that social media is more influential in communicating with people for environmental awareness. We came to know that people will behave responsibly when the right content is given at the right time. We found that social media is very influential in creating public opinion even during crucial times like covid-19 pandemic.

Keywords: Social media, Environmental Engagement, Public Participation, Covid-19 pandemic.

Introduction

The COVID-19 pandemic not only disrupted global economies and public health systems but also significantly influenced environmental awareness and activism. As lockdowns and restrictions limited physical interactions, digital platforms became the primary medium for communication, activism, and knowledge dissemination. Social media, in particular, emerged as a powerful tool in shaping public discourse on environmental issues, mobilizing collective action, and fostering pro-environmental behaviors during the pandemic.

The relationship between environmentalism and social media intensified as people witnessed the temporary environmental benefits of reduced human activity, such as improved air quality, clearer waterways, and the resurgence of wildlife in urban spaces. These developments sparked widespread discussions on sustainability, climate change, and ecological conservation across various online platforms. Hashtags such as #NatureIsHealing, #ClimateAction, and #SustainableLiving gained momentum, reflecting the growing digital environmental consciousness.

Moreover, social media plays a critical role in spreading environmental news, debunking misinformation, and promoting eco-friendly lifestyles. Influencers, environmental organizations, and grassroots activists utilized platforms like Twitter, Instagram, and Facebook to educate audiences, advocate for policy changes, and encourage sustainable consumer choices. However, alongside the positive engagement, challenges such as greenwashing, misinformation, and the digital divide also emerged, influencing how environmental messages were received and acted upon.

This study explores the role of social media in promoting environmentalism during the COVID-19 pandemic. It examines the nature of online environmental discourse, the impact of digital activism, and the effectiveness of social media content in fostering sustainable behaviors. This research aims to provide insights into the evolving relationship between digital communication and environmental awareness in a post-pandemic world by analyzing user engagement, content trends, and the challenges associated with online environmental advocacy.

Literature review

Social media has become a powerful instrument for the diffusion of information, particularly in shaping public perceptions and behaviors related to climate change and environmental issues. According to Rogers (2003), individuals within the same social network or those who share similar values are more likely to exchange ideas and influence one another. This social connectivity plays a significant role in shaping attitudes and behaviors, as people tend to be more receptive to information disseminated by their peers. In the context of environmental communication, digital platforms provide a fertile space for fostering pro-environmental attitudes. By leveraging online networks, environmental messages can be shared more effectively, leading to increased awareness, behavioral shifts, and collective action in support of sustainability.

The increasing accessibility of social media in today's digital era has made it a crucial tool for information dissemination, particularly among younger generations (Zhang et al., 2017; Du et al., 2019). Unlike traditional media, which often operates in a one-way communication model, social media allows for real-time interaction and engagement. This accessibility facilitates rapid information sharing, encouraging discussions on environmental issues, promoting awareness campaigns, and fostering engagement with sustainability-related topics. The participatory nature of these platforms enables individuals to actively contribute to environmental conversations rather than being passive consumers of information.

Social comparison is another important factor influencing pro-environmental behaviors. Research suggests that individuals tend to adopt behaviors based on the attitudes and actions of those within their social circles (Darby, 2006; Froehlich, 2009). Social media applications have capitalized on this principle by incorporating various strategies to promote sustainability, such as highlighting individual environmental impacts and incentivizing collective pro-social behaviors (Petkov et al., 2011). By leveraging digital engagement, social media fosters a sense of accountability and motivation, encouraging individuals to adopt more sustainable lifestyles.

The role of social media in climate change communication has become increasingly prominent, as these platforms serve as primary sources of information for global audiences. Unlike traditional media, which is often non-interactive, social media fosters active engagement by allowing users to share knowledge, express opinions, and connect with like-minded individuals (Painter et al., 2018; Zolkepli & Kamarulzaman, 2015). This interactivity suggests that climate change imagery and messaging may have a significantly different impact on social media compared to conventional media, shaping public perceptions and engagement in distinct ways.

The nature of news consumption has also evolved with the rise of social media. A well-documented gap exists between the news content selected by journalists for publication and the information that audiences actively consume and share (Boczkowski, 2010). Journalists must navigate ethical considerations, balancing public interest with what captures audience attention, which can result in differing engagement patterns between mainstream and social media (Tandoc Jr, 2014). Unlike traditional journalism, where editorial decisions dictate content, social media users increasingly rely on their social circles to filter and disseminate news, thereby influencing how information is perceived and spread (Hermida et al., 2012).

The decentralized and participatory nature of social media creates new opportunities for climate change engagement. These platforms enable users to interact, share perspectives, and mobilize collective action on environmental issues (Segerberg, 2017). Peer influence within social networks plays a significant role in shaping perceptions of climate change, reinforcing attitudes and behaviors that support environmental sustainability (Kahan et al., 2012). This highlights the potential of social media not only as a space for discourse but also as a catalyst for behavioral change and activism.

Recognizing the importance of social media in shaping climate narratives, many platforms have launched their own climate-focused initiatives to combat misinformation and promote environmental awareness (Yıldırım, 2021). For instance, Facebook introduced the *Climate Science Center* in 2020, providing users with credible

information from sources such as the Intergovernmental Panel on Climate Change (IPCC). YouTube has implemented fact-check panels on climate-related videos and "information panels" that direct users to verified sources during relevant searches. These initiatives demonstrate how social media platforms themselves are actively shaping climate communication, going beyond simply hosting user-generated content.

Overall, social media has transformed the way environmental and climate-related information is shared and consumed. Its ability to facilitate real-time discussions, promote peer-driven behavioral change, and support fact-based initiatives makes it an essential tool for climate advocacy and environmental engagement. However, further research is needed to assess the long-term impact of these digital efforts and to explore ways to enhance the effectiveness of social media as a vehicle for sustainability and environmental literacy.

Scope of the study

The present study evaluates the effectiveness of social media in sparing the environmental content during COVID-19-related lockdowns. The study is significant as environmental degradation is increasing day by day, create awareness among the people has become a higher priority.

Recent studies have shown that social media has become prominent media at this time, influencing every corner of life. Smartphone usage has crossed 50 crore (techARC, India) in 2020. It is an indication of rapid adaptation to smart devices. The pandemic-related lockdown has made a larger section of the society to go for smart devices. According to the Department of Telecom, which collated reports from service providers, the daily average consumption in the lockdown period was hiked by 9%. People started to operate from remote areas as the lockdown kept them locked inside the home. This is the time when the global climate has improved dramatically as never before. Convening this to the people is the need of the day. Paris deal is to limit global warming to well below 2° Celsius, and preferably limit it to 1.5° Celsius, compared to pre-industrial levels. A lot of environmental changes have been seen during lockdown.

This study will help to identify communication aspects of environmentalism. This study is important for a better understanding of how people receive social media content during crucial times. This study is also helpful for further understanding people's involvement in environmentalism in social media.

Objectives

This research aims to analyze the role of social media in shaping environmental awareness and engagement by examining the frequency, sources, and reactions to environment-related content among different user groups. Additionally, it seeks to assess the level of public participation in environmental discussions on social media and identify barriers to deeper engagement, such as commenting and sharing, to recommend strategies for enhancing digital environmental advocacy.

Methodology

The study is designed to be qualitative as well as quantitative. Content analysis as well as surveys is used for collecting data to accomplish objectives. The content analysis of posts and news feeds from major social media

platforms like Facebook, Instagram, and Twitter is done. Feedback and comments by the users will be considered for better understanding.

The accidental sampling method is used for the survey due to the unavailability of a sample frame. Samples are selected from within Karnataka. Structured questions are used to collect the data.

Analysis

The respondents are selected based on their gender and qualifications. However, the comparison could not be done due to the absence of representation of different strata in the population. The extreme cases are taken into consideration to understand the trends.

Gender representation is considered equally. The majority of respondents are post-graduates (73%), graduates are 21 % and 6% are done doctoral degrees. Among the respondents 56% of the respondents are students, and 44 % respondents are working professionals.

Table 1: The table illustrates how frequently respondents encounter environmental content on social media, highlighting the varying levels of exposure among users.

Table 1: Frequency of environmental posts seen on social media				
Very less frequently	Less frequently	Sometimes	Frequently	Very frequently
17%	21%	18%	24%	20%

The data shows that the frequency of encountering environmental posts on social media is fairly distributed. A notable 24% of respondents frequently come across such content, while 20% see it very frequently, indicating that environmental topics have a strong presence online. However, 17% report seeing them very infrequently, and 21% less frequently, suggesting that exposure varies among users. With 18% encountering them sometimes, the overall trend suggests that while environmental content is visible on social media, there is still room to enhance its reach and consistency across different user groups.

Table 2: The table highlights the various sources from which respondents receive environmental content on social media, showcasing the prominence of peer networks, media, and individual contributors in information dissemination.

Table:2 Source of environmental posts on social media.		
Source of Social Media Posts	Responses	Percentage (%)
NGOs	8	5.71%
Government	17	12.14%
Friends	68	48.57%
Media	24	17.14%
Individuals	53	37.86%

This table provides a clear breakdown of the proportion of respondents who receive environmental content from different sources on social media. The data indicates that friends (48.57%) are the most common source of environmental content on social media, highlighting the influence of personal networks in information sharing. Individuals (37.86%) and media (17.14%) also play a significant role, suggesting that both peer-driven and traditional sources contribute to environmental discourse. Government sources (12.14%) have a moderate presence, while NGOs (5.71%) are the least common source, indicating a potential gap in their outreach on social media. This suggests that environmental communication strategies should leverage peer networks and individual influencers to enhance engagement and awareness.

Table 3: The table presents the frequency of respondents' reactions to environment-related posts on social media, highlighting their levels of engagement through ignoring, liking, commenting, and sharing.

Table 3: Reactions to environment-related posts on social media					
Reactions	**Very less frequently**	**Less frequently**	**Sometimes**	**Frequently**	**Very frequently**
Ignore	14%	18%	16%	21%	31%
Like	11%	18%	21%	30%	20%
Comment	64%	17%	6%	9%	4%
Share	61%	15%	9%	5%	10%

The data presented provides insights into how individuals engage with environment-related content on social media. It categorizes reactions into four types: ignoring, liking, commenting, and sharing. These reactions are further classified based on frequency levels ranging from "Very Less Frequently" to "Very Frequently."

Ignoring Environment-Related Posts

A significant portion of respondents (31%) reported that they "Very Frequently" ignore environment-related posts, while 21% do so "Frequently." This suggests that nearly half of the audience does not engage with such content, potentially due to content fatigue, lack of interest, or skepticism toward environmental messaging. However, a notable percentage (14%) claim to "Very Less Frequently" ignore such posts, indicating that a segment of users consistently pays attention to them.

Liking Environment-Related Posts

Liking is one of the most common forms of engagement, with 30% of users stating they "Frequently" like environment-related posts, while 20% do so "Very Frequently." This shows that nearly half of the respondents positively acknowledge such content. However, 11% of users engage in this behavior "Very Less Frequently," suggesting that passive engagement may still be a prevalent trend.

Commenting on Environment-Related Posts

Commenting appears to be the least common form of engagement, with 64% of respondents stating they "Very Less Frequently" comment on such posts. Only 4% "Very Frequently" comment, highlighting a general reluctance to engage in discussions or share personal opinions. This trend could be attributed to a lack of confidence in expressing views, fear of online debates, or the passive nature of social media users.

Sharing Environment-Related Posts

Similar to commenting, sharing environment-related posts is not a common behavior, as 61% of respondents indicate they "Very Less Frequently" share such content. Only 10% "Very Frequently" share, and 5% do so "Frequently." This suggests that while users may consume environmental content, they may not find it compelling enough to distribute within their networks, possibly due to a lack of personal connection, engagement barriers, or perceived redundancy of the information.

Table 4: The table highlights the onset of respondents' engagement with environment-related posts on social media, showing the proportion of individuals who began following such content before and after the COVID-19 pandemic.

Table 4: Onset of Engagement with Environment-Related Posts on social media	
Time	**Percentage of Respondents (%)**
Before the COVID-19 Pandemic	61%
After the COVID-19 Pandemic	39%

The table illustrates that a majority (**61%**) of respondents began engaging with environment-related content on social media before the COVID-19 pandemic, while **39%** started following such content after the pandemic. This suggests that while environmental awareness existed prior to the pandemic, the global crisis may have influenced new audiences to engage with environmental issues on digital platforms.

Table 5: The table highlights the role of social media in shaping environmental awareness, showing the proportion of respondents who acknowledge its impact versus those who do not.

Table 5: Awareness About the Environment Developed Through social media	
Response	Percentage
Yes	91%
No	9%

The table indicates that **91%** of respondents acknowledged that social media played a role in developing their environmental awareness, while only **9%** stated otherwise. This highlights the significant impact of digital platforms in spreading environmental knowledge and fostering awareness among users.

Table 6: The table highlights respondents' engagement in environmental discussions on social media, showcasing the proportion of active participants versus non-participants.

Table 6: Involvement in Environmental Discussions on social media	
Response	Percentage
Yes	56%
No	44%

The table shows that **56%** of respondents actively participate in environmental discussions on social media, while **44%** do not engage in such conversations. This suggests that while a majority show interest in environmental discourse online, a significant portion remains passive, indicating the need for more interactive and engaging content to encourage broader participation.

Major Findings from the Analysis

Environmental content is fairly visible on social media, with 24% of respondents frequently and 20% very frequently encountering such posts. However, 17% report seeing them very less frequently, suggesting that exposure is inconsistent among users.

Friends (48.57%) are the most common source of environmental content, indicating the strong influence of peer networks. Individuals (37.86%) and media (17.14%) also play a significant role, while government (12.14%) and NGOs (5.71%) have a relatively lower presence. This highlights the need for NGOs and government agencies to enhance their social media outreach strategies.

A large percentage of respondents (31%) very frequently ignore environmental posts, suggesting content fatigue, lack of interest, or skepticism. People hit like to the environmental posts (30% frequently, 20% very frequently) is the most common form of engagement while commenting (64% very infrequently) and sharing (61% very less frequently) remain low. This indicates that while users acknowledge environmental content, deeper engagement such as discussions and content distribution is minimal.

61% of respondents started engaging with environment-related posts before the COVID-19 pandemic, while 39% began after the pandemic. This suggests that environmental awareness on social media existed before the pandemic but was further amplified due to the global crisis.

A significant majority (91%) acknowledged that social media played a role in developing their environmental awareness, while only 9% disagreed. This highlights the effectiveness of social media in spreading environmental knowledge and influencing perceptions. 56% of respondents actively engage in environmental discussions, while 44% do not participate. While a majority show interest, a significant portion remains passive, indicating a need for more interactive and engaging content to encourage broader participation.

Conclusion:

The findings highlight the significant role of social media in shaping environmental awareness and engagement. While many users acknowledge environmental content, deeper participation through discussions and sharing remains limited. Peer networks, especially friends and individuals, are the primary sources of environmental information, whereas NGOs and government agencies have lower visibility, indicating a need for stronger digital outreach. Although awareness existed before COVID-19, the pandemic further amplified engagement. To enhance participation, interactive and action-oriented content is essential for fostering meaningful discussions and encouraging pro-environmental behaviors.

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