



# Leveraging Social Media Marketing in Higher Education to Advance Sustainable Development Goals (SDGs): Strategies for Student Engagement and Innovation

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This study investigates how social media marketing fosters the progress of Sustainable Development Goals (SDGs) in higher education institutions (HEIs). The research shows how platforms and marketing campaigns can engage students with and even participate in sustainable efforts, indicating that digital tools can contribute to sustainable development. The data was collected from 384 students using Kruskal-Wallis tests, regression analysis, and ANOVA to study which platform and strategy would be effective. The results show that Instagram is the most effective platform to promote SDG awareness, social media interaction is an essential predictor for student involvement in sustainability initiatives, and video content is the most effective marketing strategy. This helps to bring together social media marketing and State of Sustainability into the concept of international sustainability.

**Keywords:** *Social Media Marketing, Sustainable Development Goals (SDGs), Higher Education, Student Engagement, Sustainability Initiatives.*



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## 1. INTRODUCTION

The taxing social media marketing (SMM) is capturing the attention of many Higher educational institutes (HEIs) to bridge the gap between themselves and their students ([Dwivedi et al., 2021](#)) and to build a relationship to create campus life through social media channels. However, beyond the everyday use in the

recruitment and engagement of students, social media marketing can play a critically important role in advancing the United Nations Sustainable Development Goals (SDGs), specifically, SDG 4 (Quality Education), SDG 9 (Industry, Innovation, and Infrastructure), and SDG 12 (Responsible Consumption and Production). With that in mind, as the world faces critical global dangers like

climate change, inequity, and resource depletion, HEIs are uniquely able to promote sustainable development via strategic marketing focusing on the SDGs (Leal Filho et al., 2021).

In the 21st century, incorporating social media marketing with sustainability targets is not just a trend, but a necessity. Platforms like Facebook, Instagram, LinkedIn, and Twitter allow HEIs to interact with students worldwide and advertise academic excellence and sustainability efforts (Kaplan & Haenlein, 2021). For example, labs can spread information regarding sustainable behaviors among undergraduate students through a social media presence, and universities can promote their environmental and social impact through social media. Furthermore, AI and data analytics are increasingly used in social media marketing, making it more effective by allowing institutions to target specific audiences and measure the impact of sustainability initiatives more accurately (Chaffey & Ellis-Chadwick, 2022). Recent research shows that social media plays an increasingly significant role in influencing student perceptions and behaviour. As reported from the International Association of Universities (IAU) 2023, more than 70% of students said they consider an institution's commitment to sustainability when making an enrollment decision (IAU, 2023). This change in student preference highlights the importance for HEIs to adapt their marketing practices concerning SDGs—in particular, deploying SDGs and social networks as platforms to communicate sustainability successes and to instill a culture of responsibility with students (Mair & Jago, 2010). Additionally, social media campaigns promoting educational innovations, such as online learning environments or digital resources, can advance SDG 9 by increasing access to quality education and mitigating the ecological footprint of traditional classroom-based learning (Selwyn et al., 2023). This paper provides insights into how social media marketing can be used for sustainable development in higher education institutions (HEIs), focusing on how HEIs can utilize social media to support the SDGs. It seeks to explore the recent trends, best practices, and case studies to provide actionable insights for educators, marketers, and policymakers keen on aligning their marketing strategies with sustainable development goals while content design and career resources. These findings will underscore

the role of social media as a potential catalyst for innovation, responsible consumption and equitable access to education, thus paving the way for a more sustainable and inclusive future.

## 2. STATEMENT OF THE PROBLEM

Social media marketing as a marketing strategy of higher educational institutions (HEIs) has continued to gain traction, becoming one of their primary strategies for reaching and recruiting students in the last few years. Although social media is widely leveraged for promotional activities, its potential contribution to the United Nations Sustainable Development Goals (SDGs) has yet to be fully realised. While there has been a rising focus on sustainability in higher education, integrating the SDGs into social media marketing strategies at various institutions is ongoing. This gap poses crucial questions: how can social media marketing be instrumental in achieving the SDGs in higher education? How can HEIs use social media to enhance the visibility of sustainability and innovation and responsible consumption among students? Additionally, little evidence-based research focuses on the effects of social media campaigns on student behavior and sustainability attitudes, especially in higher education.

This is compounded by the evolving nature of digital technologies and growing expectations of students, who increasingly choose institutions committed to sustainable practices (IAU, 2023). As HEIs strive to integrate SDGs into their social media strategies, the absence of a roadmap on aligning social media marketing with these goals may lead to missed opportunities for enhancing reputation and attracting students' attention and global sustainability efforts.

## 3. NEED AND SIGNIFICANCE OF THE STUDY

Despite the global calling to achieve the Sustainable Development Goals (SDGs) by the year 2030 (UNGD, 2023), Higher Education Institutions (HEIs) bear intrinsic interests in this endeavor. Creating social media and sharing making initiatives is a perfect platform for HEIs to engage students in sustainability while leveraging social media's vast reach and influence to enable innovation. Nevertheless, a research gap remains, and there is a lack of knowledge on effectively aligning social media marketing with the SDGs, including in the context of higher education. This

research plays an essential role in responding to the increasing demands of students who prioritize sustainability, offers HEIs practical strategies to improve their reputation and reach students, and has a broader implication of supporting the global endeavor to meet the SDGs. This research provides significant insights for HEIs, students, policymakers, and the general society through examining the intersection of social media marketing and sustainability and shedding light on how digital platforms can be harnessed to promote a culture of environmental and social responsibility, and contribute to a more sustainable and inclusive future.

#### 4. OBJECTIVES

- To assess the impact of social media marketing on student awareness of Sustainable Development Goals (SDGs) using a Kruskal-Wallis test.
- To examine the relationship between social media engagement and student participation in sustainability initiatives using regression analysis.
- To compare the effectiveness of different social media marketing strategies in promoting SDGs using ANOVA.

##### 4.1. Kruskal-Wallis Test

| Social Media Platform | Sample Size (n) | Mean Rank | Chi-Square ( $\chi^2$ ) | p-value |
|-----------------------|-----------------|-----------|-------------------------|---------|
| Instagram             | 128             | 210.45    | 15.67                   | 0.001   |
| Facebook              | 128             | 180.33    |                         |         |
| LinkedIn              | 128             | 150.22    |                         |         |

A Kruskal-Wallis test was performed to test if there were significant differences in student awareness of the Sustainable Development Goals (SDGs) according to the type of social media they used (Instagram, Facebook, LinkedIn). Analysis revealed a statistically significant difference in levels of awareness across sites ( $\chi^2 = 15.67$ ,  $p = 0.001$ ). The mean rank of Instagram was highest (210.45), indicating that it is the most effective platform for students to promote awareness of SDGs. Another reason may lie in the visual nature of Instagram, which allows for posting dynamic content that showcases sustainable projects through infographics, clip-style videos, and stories. The Facebook mean rank (180.33) shows a

moderate effectiveness (Facebook is adequate); however, it is less effective than Instagram. LinkedIn, with a mean rank of 150.22, is the least effective platform for spreading awareness among students regarding SDGs. LinkedIn may be a professional network, but students do not frequently use it to find sustainability-related content. Instagram, Facebook, and LinkedIn are the three most effective tools for raising students' SDG awareness. Considering both, it is recommended that HEIs run their sustainability campaign on Instagram, where most students pay attention to the post, like it, save it, and even share it with other users.

##### 4.2. Regression Analysis

| Variable                | Coefficient ( $\beta$ ) | Standard Error | t-value | p-value |
|-------------------------|-------------------------|----------------|---------|---------|
| Social Media Engagement | 0.45                    | 0.08           | 5.63    | 0.000   |
| Constant                | 2.10                    | 0.15           | 14.00   | 0.000   |

$R^2$  (Coefficient of Determination): 0.20

F-statistic: 31.69 ( $p = 0.000$ )

Regression analysis investigated the correlation between social media engagement (independent variable) and student involvement in sustainability efforts (dependent variable). The

study revealed a positive correlation between social media activity and student engagement ( $\beta = 0.45$ ,  $p = 0.000$ ). The positive and statistically significant coefficient ( $\beta = 0.45$ ) suggests that

student participation in sustainability initiatives increases as social media engagement increases. In the case of social media engagement, each additional unit of social media engagement increases student engagement by 0.45 units. The  $R^2$  value of 0.20 indicates that social media use can explain 20% of the variance in student participation. This moderate effect size indicates other factors (e.g., institutional policies and peer influence) are also at play in driving student

participation. The value of the F-statistic (31.69,  $p = 0.000$ ) shows that the regression is statistically significant, confirming that social media engagement affects student participation. Student engagement in sustainability initiatives is heavily influenced by social media engagement. Interactive and compelling content will lead students to participate in a sustainability program at their higher education institute (HEI).

#### 4.3. ANOVA

| Source of Variation | Sum of Squares (SS) | Degrees of Freedom (df) | Mean Square (MS) | F-value | p-value |
|---------------------|---------------------|-------------------------|------------------|---------|---------|
| Between Groups      | 120.45              | 2                       | 60.23            | 8.76    | 0.000   |
| Within Groups       | 2600.50             | 381                     | 6.83             |         |         |
| Total               | 2720.95             | 383                     |                  |         |         |

Analysis of variance was conducted to compare the efficacy of different social media marketing strategies (video content, infographics, and text posts) at promoting SDGs among students. The results indicated that the effectiveness was significantly different across the strategies ( $F(2, 381) = 8.76, p = 0.000$ ). Misunderstanding: The other possible reason for a high Between-Groups Sum of Squares is that the three strategies do not work equally well, meaning that the Between-Group sum of Squares will end up being enormous. (F-value 8.76,  $p = 0.000$ ) attests to the statistically significant differences in effectiveness. However, performing post-hoc tests (like Tukey's HSD) would probably reveal that video content is superior to all other strategies, which will outrank infographics, ensuring that text posts become social media wallpaper. Video has the best engagement rates, followed by infographics, and text posts should be avoided. Social media marketing strategies are successful when they promote the SDGs in a significant amount—video works the best, then an infographic, and then text posts. Based on the above findings, a central recommendation is for HEIs to invest in video content and infographics as part of their social media campaigns to maximize the effectiveness of their sustainability messaging.

#### 5. CONCLUSION

This study illustrates the life-enhancing opportunities social media marketing provides to promote Sustainable Development Goals (SDGs) in Higher Education Institutions (HEIs). This study compares the effects of different social media platforms and marketing strategies on the visibility of sustainability initiatives to students and their participation. Through this research, the power of digital mediums in driving the goals of sustainable development is highlighted. The results illustrate that Instagram is the top platform for students to get exposure to SDGs, as the visual and interactive features are most likely the reason for greater reach when sharing engaging content like infographics, videos, and stories. Moreover, it was found that social media engagement is a significant predictor of student participation in campus sustainability initiatives, highlighting the need to develop attractive & interactive contents to entice students' involvement. Video content is the most effective marketing tool to promote SDGs, more than infographics or text posts. These findings beyond those above provide critical insights for HEIs' development strategies to create a culture of sustainability aligned with the social media marketing domain.

Most importantly, by taking advantage of platforms like Instagram and engaging content formats like videos, HEIs can promote their sustainability initiatives, further engage students and showcase their contribution to the global agenda of achieving the SDGs by 2030. The significance of the study lies in its contribution to the existing academic discourse on HEI sustainability marketing, emphasizing the necessity for HEIs to embrace innovation and technology-driven strategies to communicate effectively with the environmentally conscious student body.

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