Social Media for Collaborative Student Sustainability

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Abstract

This study examines how students utilize social media to collaborate on sustainable consumption initiatives on campus. The objectives include analyzing the effectiveness of social media functionalities in supporting sustainability efforts, identifying student-driven sustainable practices, and proposing platform improvements to enhance collaboration. A survey questionnaire was administered to 460 undergraduate students using convenience sampling, with responses collected in both Thai and English. The study employed a mixed-methods approach, utilizing descriptive statistics and frequency analysis for quantitative data, while thematic analysis was conducted on open-ended responses to identify key trends in student collaboration.

The results present that over 80% of students actively engage with social media platforms, primarily Line (80%), Facebook (77.8%), and Instagram (72.0%), using them for communication, organizing sustainability projects, and mobilizing participation. Key themes from the analysis draw attention to the role of social media in enhancing outreach, real-time engagement, and knowledge sharing. However, students identified

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challenges, such as the lack of integrated collaboration tools, limited content discovery features, and insufficient analytics to measure engagement. The study recommends improving social media platforms by incorporating project management tools, refining content discovery algorithms, and integrating sustainability-focused educational resources. These findings provide insights for universities, social media developers, and policymakers to strengthen digital sustainability strategies and promote student-led environmental initiatives on campus.

Keywords: Social Media Collaboration, Student Sustainability Engagement, Campus Sustainability, Eco-citizens, Social Media for Sustainability.

สื่อสังคมออนไลน์เพื่อความร่วมมือของนักศึกษา สำหรับการดำรงชีวิตอย่างยั่งยืน

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บทคัดย่อ

การศึกษานี้ตรวจสอบวิธีที่นักศึกษาใช้สื่อสังคมออนไลน์เพื่อร่วมมือกันในโครงการบริโภคอย่างยั่งยืนในมหาวิทยาลัย วัตถุประสงค์ของการศึกษารวมถึงการวิเคราะห์ประสิทธิภาพของฟังก์ชันสื่อสังคมออนไลน์ในการสนับสนุนความพยายามด้านความยั่งยืน การระบุแนวปฏิบัติที่ยั่งยืนที่ขับเคลื่อนโดยนักศึกษา และการเสนอการปรับปรุงแพลตฟอร์มเพื่อเพิ่มประสิทธิภาพการทำงานร่วมกัน แบบสอบถามถูกแจกจ่ายให้กับนักศึกษาระดับปริญญาตรี จำนวน 460 คน โดยใช้การสุ่มตัวอย่างแบบสะดวก โดยรวบรวมคำตอบทั้งในภาษาไทยและภาษาอังกฤษ การศึกษานี้ใช้วิธีการแบบผสมผสาน โดยใช้สถิติเชิงพรรณนาและการวิเคราะห์ความถี่สำหรับข้อมูลเชิงปริมาณ ในขณะที่การวิเคราะห์เชิงเนื้อหาถูกดำเนินการกับคำตอบปลายเปิดเพื่อระบุแนวโน้มสำคัญในการทำงานร่วมกันของนักศึกษา

ผลการศึกษาชี้ให้เห็นว่านักศึกษามากกว่า 80% มีส่วนร่วมอย่างแข็งขันกับแพลตฟอร์มสื่อสังคมออนไลน์โดยหลัก ๆ คือ Line (80%), Facebook (77.8%), และ Instagram (72.0%) ซึ่งใช้สำหรับการสื่อสาร การจัดการโครงการความยั่งยืน และการระดมการมีส่วนร่วม ประเด็นสำคัญจากการวิเคราะห์เน้นย้ำถึงบทบาทของสื่อสังคมออนไลน์ในการเพิ่มการเข้าถึง การมีส่วนร่วมแบบเรียลไทม์ และการแบ่งปันความรู้ อย่างไรก็ตาม นักศึกษาระบุความท้าทาย เช่น การขาดเครื่องมือการทำงานร่วมกันแบบบูรณาการ ฟีเจอร์การค้นพบเนื้อหาที่จำกัด และการวิเคราะห์ที่ไม่เพียงพอเพื่อวัดการมีส่วนร่วม การศึกษาแนะนำให้ปรับปรุงแพลตฟอร์มสื่อสังคมออนไลน์โดยการรวมเครื่องมือการจัดการโครงการ

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การปรับปรุงอัลกอริทึม การค้นพบเนื้อหา และการบูรณาการแหล่งข้อมูลการศึกษาที่มุ่งเน้นด้านความยั่งยืน ผลการศึกษานี้ให้ข้อมูลเชิงลึกสำหรับมหาวิทยาลัย นักพัฒนาสื่อสังคมออนไลน์ และผู้กำหนดนโยบาย เพื่อเสริมสร้างกลยุทธ์ความยั่งยืนดิจิทัลและส่งเสริมความคิดริเริ่มด้านสิ่งแวดล้อมที่นำโดยนักศึกษา ในมหาวิทยาลัย

Keywords: Social Media Collaboration, Student Sustainability Engagement, Campus Sustainability, Eco-Citizens, Social Media for Sustainability.

Introduction

The challenges of climate change are increasingly daunting and require innovative solutions, especially from younger generations who will bear the long-term environmental impacts (IPCC, 2021). Given their varied and inclusive student populations and commitment to social responsibility, universities are well-positioned to establish a mindset of sustainable consumption. This study, in line with this goal, examines how social media can empower students. It clarifies their essential role in taking meaningful action, which offers optimism for creating a more sustainable future for individuals and communities.

Universities, as reflections of society and significant influencers of the environment, are instrumental in promoting sustainable practices among students. While social media platforms like Facebook, Line, and Instagram have become integral parts of student life, their potential for facilitating collaboration in sustainability initiatives remains largely untapped. These platforms offer powerful communication, cooperation, and community-building tools, yet current research shows a tendency toward focusing on marketing and consumer co-creation (Ailawadi et al., 2017). Similarly, research on environmental citizenship often primarily stresses education and activism, neglecting the potential of social media as a collaborative tool for students to organize and sustain environmental initiatives. This gap between the potential and current use of social media offers a significant opportunity.

In this study, 'collaborative student sustainability' refers to the collective efforts of students to advance and engage in sustainability initiatives through social media platforms. These initiatives include activities such as organizing clean-up campaigns, advocating for eco-friendly habits, sharing knowledge on sustainable living, and using digital tools to coordinate sustainability projects within the university community. Traditionally, sustainability research has focused on institutional efforts, individual consumer behavior, or marketing applications. However, this study uniquely examines how undergraduate students utilize social media features for direct collaboration and action on sustainability, moving beyond these conventional approaches. It focuses on student-initiated collaboration on social media, detailing how students actively use digital platforms not just for raising awareness but for organizing, executing, and sustaining sustainability actions. The findings supply a practical framework for universities, policymakers, and platform developers to enhance digital sustainability strategies and better support student-led initiatives.

On-campus initiatives led by students can take various forms, from setting up thrift stores to minimize waste, advocating for reusable water bottles to combat plastic pollution, and establishing campus gardens to boost local food production and empower community participation. Regardless of their specific focus, these initiatives require collaboration and student ownership to achieve lasting impact. Social media platforms such as Facebook, Line, and Instagram have become integral parts of student life, serving as powerful tools for communication, cooperation, and community-building. These attributes position these platforms as tools and potential game-changers in promoting sustainable consumption on campus. They hold the potential to inspire and motivate students, igniting a spark of change.

This study aims to fill this gap by examining how students use social media features and communication methods at different stages of sustainable consumption initiatives. The research seeks to uncover the wide range of sustainable practices driven by students on campus and to investigate how social media can facilitate collaboration and amplify the overall impact of these initiatives. By doing so, this study contributes to the growing body of knowledge on digital sustainability strategies, offering perspectives that can influence the future of student involvement in environmental initiatives.

Research Objectives

1. To analyze student-employed social media functionalities and communication methods and their effectiveness in facilitating different stages of sustainable consumption initiatives on campus.

2. To identify the student-driven sustainable consumption practices on campus and explore how social media can be leveraged to enhance collaboration and amplify the overall impact of these initiatives.

3. To identify innovative ideas for social media platform improvements that can significantly enhance collaboration on sustainable consumption initiatives.

Research Questions

1. Beyond the standard functionalities offered by social media platforms, what creative methods do students utilize to collaborate on sustainable consumption initiatives?

2. How can social media platforms be further tailored to support the diverse range of student-led sustainable consumption practices on campus?

3. What innovative features or functionalities could social media platforms implement to make it easier for students to find, collaborate on, and track the impact of sustainable consumption initiatives on campus?

Significance of the Study

This study contributes to the body of knowledge by bridging the gap between social media collaboration and student-led sustainability initiatives. Unlike previous research focusing on awareness and education, this study validates how social media is a practical tool for student mobilization and initiative management. The findings from this research can help universities design appropriate digital engagement strategies, impart guidance on how to enhance social media literacy for sustainability, and recommend platform improvements that support collaborative action. Additionally, the study offers a foundation for future research on the long-term impact of student-driven sustainability efforts using social media.

Literature Review

Sustainable Consumption and Higher Education

Universities play a key role in molding the attitudes and behaviors of future generations. However, research finds that translating knowledge of sustainable consumption into action remains challenging for students (Ahmad & Ariffin, 2018).

Several studies focus on the limitations of current university approaches. Araoz et al. (2023) found a low prevalence of sustainable consumption practices among students, suggesting a need for more comprehensive and integrated environmental education within universities. Similarly, Ahmad and Ariffin (2018) identified a knowledge-action gap, where students possessed sustainability knowledge but needed help translating it into real-world behavior. This makes evident the need for educational interventions that bridge this gap and encourage action.

Universities also have the potential to be significant change-makers within their communities (Longoria et al., 2021). This study emphasizes the importance of good university management in promoting sustainable practices. The authors argue that user-friendly design tools can facilitate collaboration among university members with varied backgrounds, leading to solutions relevant to the broader community. Additionally, integrating the Sustainable Development Goals (SDGs) into university initiatives can equip students with the knowledge and skills to tackle real-world sustainability challenges beyond graduation (Longoria et al., 2021). However, the study acknowledges the need to adapt these approaches for wider applicability and address context-specific barriers to sustainable practices.

Collaboration among educators can also be a powerful tool for promoting sustainable consumption. Studies by García-González et al. (2022) give evidence that educators from various social science disciplines can work together to develop more improved teaching strategies. By sharing knowledge and experiences, educators can better understand the factors influencing consumption habits. This collaboration can lead to creating and testing innovative teaching methodologies that encourage students to adopt more sustainable and responsible consumption behaviors.

The current research implies that universities need to reevaluate their approaches to promoting sustainable consumption practices among students. While knowledge acquisition is important, promoting action and behavior change requires a more holistic approach. By implementing collaborative educational interventions, utilizing user-friendly design tools, and integrating the SDGs into their curriculum, universities can empower students to become responsible consumers and agents of positive change.

Social Media and Sustainability

Addressing environmental challenges requires raising public awareness and inspiring individual action. Social media platforms have become influential instruments for advocating environmental sustainability. Hajri and Daife (2023) point out social media's potential to engage young people in environmental issues. Social media's user-friendly interface, immediacy, and capacity for viral content creation make it attractive to younger audiences.

These features go beyond geographical boundaries, as evidenced by the success of the #b7arblaplastic campaign on Facebook and Instagram in reaching young Moroccans (Hajri & Daife, 2023). However, it is vital to recognize potential cultural variations in how different demographics engage with social media platforms.

Studies have established a positive correlation between exposure to environmental information on social media and pro-environmental behavior intentions (Meng et al., 2023). This aligns with research evidencing that climate change information can heighten perceived urgency and motivate action (Bilandzic et al., 2017; Ettinger et al., 2021). Meng et al. (2023) draw attention to the role of platforms like WeChat and Xiaohongshu in China, illustrating their significance in disseminating environmental information, including air quality issues. Interestingly, their study also notes the prevalence of positive environmental content, particularly in WeChat campaigns. This finding aligns with the growing interest in utilizing positive emotions to encourage pro-environmental behavior.

Tlebere et al.. (2016) investigated the use of social media to enhance environmental awareness in higher education. Their Social Media for Environmental Awareness (SMENA) model furnishes a useful framework for developing and implementing strategic social media campaigns. The SMENA model's strength lies in its phased approach, which focuses on utilizing popular platforms alongside dedicated websites tailored to environmental awareness initiatives. Studies like Tlebere et al. (2016) exhibit a positive link between social media campaigns and increased environmental knowledge among participants.

Madhavi (2019) focuses on the potential of social media as a powerful tool for promoting environmental awareness in higher education. Educational institutions can capitalize on social media platforms to disseminate information, champion environmentally conscious behavior, and engage students in sustainability initiatives. This approach complements and expands the reach of traditional educational methods.

Social media is a powerful tool for promoting sustainability by developing environmental awareness and mobilizing individuals towards action. The literature underscores the benefits of its advantages regarding user interaction, information dissemination, and community building.

Student Collaboration and Social Media

Several studies highlight the positive impact of social media on student engagement and information sharing. Ansari and Khan's (2020) survey-based research finds that social media communication tools can enhance student engagement by facilitating real-time information retrieval and interaction with classmates regarding course materials. Additionally, Sivakumar et al. (2023) investigated knowledge sharing among university students in India, finding that student motivation and social media usage are crucial. Their study revealed that students who desire to build their academic reputation and have a strong intrinsic motivation to learn are likelier to share knowledge. Interestingly, the study also found a positive correlation between social media use and student learning motivation, demonstrating that social media platforms may stimulate students' desire to learn.

Social media platforms offer a multitude of functionalities that can facilitate student collaboration and enhance learning interaction. Studies by Abbas et al. (2019), Suci et al. (2022), and Razmerita & Kirchner (2014) explain how students take advantage of social media to connect with peers, discuss academic topics, and stimulate a sense of community and collaborative learning. These platforms empower students to share knowledge and opinions, raise awareness about noteworthy issues relevant to their studies, and develop their online identities as learners (Abbas et al., 2019). The growing popularity of social media among students and its continuous advancements further amplify its potential to reshape how students learn, interact, and collaborate (Suci et al., 2022). Razmerita and Kirchner's (2014) classroom study found that students valued the collaborative aspects of social media, reporting that it facilitated project development, evaluation, and positive learning outcomes like inspiration, social interaction, and improved presentations.

While Karimi et al. (2024) investigated social media's role in construction projects, their findings offer understandings relevant to student collaboration. Their study showcases the extensive nature of social media, encompassing various applications, uses, and expectations that can enhance communication, knowledge sharing, and a sense of community (Karimi et al., 2024). These elements align with the potential benefits of social media for student collaboration, such as catalyzing social interaction, facilitating information exchange, and promoting teamwork.

The Gap and Research Focus

The literature review establishes a decisive need for universities to move beyond simply imparting knowledge about sustainable consumption and instead focus on enriching action and behavior change among students (Ahmad & Ariffin, 2018; Araoz et al., 2023).

While universities have a role, research also brings to light the significant potential for social media to cultivate sustainability. Social media platforms can raise public awareness, create a space for positive environmental content, and mobilize individuals to take action (Hajri & Daife, 2023; Meng et al., 2023; Tlebere et al., 2016). Studies have shown that exposure to environmental information on social media can lead to increased intentions for pro-environmental behavior (Meng et al., 2023).

Another key takeaway is the positive impact of social media on student collaboration and engagement. Research shows that social media facilitates interaction, knowledge sharing, and teamwork around academic topics (Ansari & Khan, 2020; Abbas et al., 2019; Suci et al., 2022; Razmerita & Kirchner, 2014). Students harness these platforms to connect with peers, discuss issues, and develop a sense of community.

However, a gap exists in understanding how students can directly apply these collaborative aspects of social media to drive and manage their sustainable consumption initiatives on campus. While research explores how universities can support sustainable practices and how social media nurtures environmental awareness, more insight needs to be gained into how students can utilize social media for student-driven initiatives.

This gap presents a promising opportunity for further research. By investigating how universities can support studentled social media campaigns for sustainable consumption, what strategies are best suited for student groups, and how social media platforms can be designed to empower these initiatives, we can bridge this gap and provide contributing perceptions for both students and universities in promoting a more sustainable campus environment.

Despite the increasing role of social media in sustainability efforts, existing research primarily focuses on institutional sustainability policies and consumer connection rather than student-driven collaboration. Current studies address social media's use in marketing and environmental awareness but do not fully examine how students use these platforms to organize, mobilize, and sustain collaborative sustainability initiatives. Furthermore, little research specifically examines how Thai undergraduate students integrate social media features into their sustainability efforts, signaling a pressing gap that this study seeks to address.

Methodology

Participants

The study adopted convenience sampling to recruit participants, selecting students who were readily available and willing to participate. A total of 460 undergraduate students were surveyed to achieve a representative sample across various faculties and year levels within the university. The selection of undergraduate students, rather than secondary school students, was based on several key considerations:

1. Relevance to sustainability initiatives-Undergraduate students are actively involved in universityled sustainability programs and have greater autonomy in their consumption decisions. Unlike secondary school students, who are often subject to institutional environmental policies, university students can independently adopt sustainable behaviors and influence campus-wide initiatives.

2. Higher engagement with social media-Undergraduate students use social media not just for personal interactions but also for collaboration, making them ideal participants for studying how social media supports sustainability efforts. In contrast, secondary school students may use social media more passively and for different purposes, limiting the study's applicability.

3. Cognitive and decision-making maturity-Undergraduate students have greater critical thinking skills and decision-making autonomy, which enables them to reflect on sustainability practices, engage in discussions, and take leadership roles in environmental initiatives. This level of cognitive development enhances the quality and depth of survey responses.

4. Practical and Ethical Considerations-Researching secondary school students would require additional ethical approvals, as they are minors. University students, on the other hand, can grant informed consent and participate freely in the study.

While convenience sampling was used, the sample size of 460 participants aligns with standard sample size calculations for survey research. Using the formula for a simple random sample with a 95% confidence level and a 5% margin of error, the minimum required sample size is approximately 384 participants. Since 460 participants participated in the survey, this exceeds the minimum requirement, improving reliability and justifying a more representative dataset. This larger sample size reduces the margin of error and enhances the robustness of the study's findings.

By selecting undergraduate students as the primary participants, this study aligns with its objective of examining student-driven sustainability initiatives and the role of social media in cultivating collaboration on campus.

Research Instrument

This study used a structured survey questionnaire designed to gather data on student experiences with social media for sustainability collaboration. The instrument included multiple-choice and open-ended questions to collect both quantitative and qualitative data and was administered in both Thai and English to ensure accessibility.

A pilot test was conducted with a small group of students and faculty to evaluate the survey items' clarity, coherence, and appropriateness. Feedback from this testing phase was used to refine question wording, eliminate ambiguities, and improve overall readability. The questionnaire's reliability and validity were established through this expert validation process, confirming that the instrument could consistently measure the intended constructs related to social media usage and sustainability collaboration.

While this study acknowledges the importance of sustainable consumption practices, its primary focus is on how students collaborate using social media to advance sustainability initiatives. The questionnaire examined student engagement methods and social media's role in promoting collective sustainability efforts while also capturing data on specific sustainable activities such as waste reduction, eco-friendly purchasing, and participation in sustainability campaigns. This approach allowed the study to analyze both individual sustainable actions and the collective impact of student collaboration through digital platforms.

Data Collection and Analysis

This study administered an online survey questionnaire to collect data efficiently and accessibly from a broad sample of students. For clear understanding, the questionnaire was presented in both English and Thai, facilitating participation from a wider range of students within the university. The online format allowed respondents to complete the survey conveniently, which helped improve participation rates.

The collected data was analyzed using both quantitative and qualitative techniques. Descriptive statistics were applied to demographic data and multiple-choice questions, calculating percentages to summarize key characteristics related to demographics, social media use, sustainable consumption, and collaboration via social media. Frequency analysis was used to determine the proportion of students engaging with specific social media platforms, participating in sustainable practices, or perceiving social media collaboration as adequate. These findings were then expressed as percentages for clarity.

For the open-ended responses, thematic analysis was conducted to identify recurring patterns and key themes in student perspectives. Following Braun and Clarke's (2006) six-step thematic framework, student responses were initially reviewed and coded for recurring patterns. The open-ended responses were read multiple times to achieve familiarity, and preliminary codes were generated based on keywords and common phrases. These codes were then clustered into broader themes, which were refined to reflect core representations.

Results and Discussions

This study investigated how students utilize social media to drive and collaborate on sustainable consumption initiatives on campus. A survey questionnaire, translated into Thai for wider participation, was distributed to 460 students. The data analysis followed a mixed-methods approach, combining quantitative techniques like descriptive statistics and frequency analysis with a qualitative thematic analysis of open-ended responses. The key findings are presented below regarding student social media use, sustainable consumption practices, collaboration methods, and enhancements for social media platform improvements to support these initiatives.

Demography of the Participants

Table 1 presents the demographic distribution of the survey participants, emphasizing age, faculty affiliation, and year level.

Table 1

Demographic Data of the Participants

Demographics	Characteristics	Descriptive Statistics
Age	18 - 22	394 (85.65%)
	23 - 25	61 (13.26%)
	26 - 28	5 (1.09%)
Year Level	First year	147 (31.95%)
	Second year	200 (43.48%)
	Third year	52 (11.30%)
	Fourth year	61 (13.25%)
Faculty	College of Music	46 (10.00%)
	Education	73 (15.78%)
	Engineering	19 (4.13%)
	Humanities and Social Science	178 (38.70%)
	Management Science	116 (25.22%)
	Science and Technology	28 (6.09%)

Age Distribution

Most of the respondents (85.65%) belong to the 18-22 age group, indicating that the survey predominantly reached traditional undergraduate students. A smaller portion (13.26%) falls within the 23 - 25 age range, while only 1.09% of participants are 26 years or older. It reflects the expected age distribution within university settings, where most students are in their early academic years. The limited number of older students points to the possibility that sustainability involvement may be more prevalent among younger undergraduates, who are typically more active in university-led initiatives.

Year Level Representation

In year level distribution, second-year students form the largest group (43.48%), followed by first-year students (31.95%), which signifies that sustainability In year level distribution, second-year students form the largest group (43.48%), followed by first-year students (31.95%), which signifies that sustainability engagement is relatively high among early undergraduates who are considering exploring extracurricular activities and university initiatives. is relatively high among early undergraduates who are considering exploring extracurricular activities and university initiatives. In contrast, third-year (11.30%) and fourth-year (13.25%) students are less represented, possibly due to heavier academic workloads or a shift in focus toward career preparation.

Faculty Representation

The highest faculty representation comes from Humanities and Social Sciences (38.70%), indicating a strong interest in sustainability-related topics within disciplines that assert social responsibility, environmental ethics, and community participation. Management Science (25.22%) also shows significant representation, which signifies that sustainability is increasingly integrated into business and management education.

In contrast, Education students (15.78%) infer a level of moderate engagement, potentially reflecting efforts to incorporate sustainability principles into future teaching practices. Faculties with lower representation include the College of Music (10.00%), Science and Technology (6.09%), and Engineering and Industrial Technology (4.13%), indicating a lesser focus on sustainability-related initiatives within these fields. This discrepancy implies that sustainability awareness and engagement vary across disciplines, with some faculties embedding sustainability more deeply into their curricula than others.

Key Takeaways

Younger students, aged 18-22, show the highest participation, likely due to their exposure to university-led awareness programs. Students in the Humanities, Social Sciences, and Management disciplines are more prominently represented, implying that sustainability

themes are well-integrated into these fields. Conversely, the lower representation from Engineering, Science, and Technology faculties heightens the need for stronger sustainability integration within these areas. Early-year students, particularly those in their first and second years, tend to be more engaged than upper-year students, possibly due to greater involvement in extracurricular activities or introductory sustainability courses. These findings advocate for targeted interdisciplinary programs to encourage broader participation across faculties. Moreover, strategies to engage upper-year students, such as project-based sustainability learning or research collaborations, may help maintain involvement as students progress through their academic careers.

Social Media Use

Social Media Activity and Platform Preferences

Table 2 outlines an overview of social media usage, including activity levels, frequently used platforms, daily usage duration, and key platform features that support collaboration and communication.

Understanding students' engagement with social media is paramount for assessing its potential to drive collaboration on sustainability initiatives. The study found that 87.83% of respondents use social media daily, indicating its strong integration into student life. This aligns with Hajri and Daife (2023), who showed social media's role in engaging young people in environmental activism due to its accessibility and potential for viral content creation. Similarly, Meng et al. (2023) found that platforms like WeChat and Xiaohongshu in China drive pro-environmental behavior to good effect, though their limited use in this study brings to light cultural and regional differences in platform preference.

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Table 2

Social Media Use

	Characteristics	Descriptive Statistics
Social Media Activity Level	Daily	404 (87.83%)
	Several times a week	38 (8.26%)
	Once a week	12 (2.61%)
	Less than once a week	6 (1.30%)
	Never	0
Frequently Used Social Media	WeChat	14 (3.04%)
	LinkedIn	37 (8.04%)
	Snapchat	41 (8.91%)
	Telegram	56 (12.17%)
	X (Twitter)	132 (28.70%)
	Messenger	215 (46.74%)
	TikTok	225 (48.91%)
	YouTube	256 (55.65%)
	Instagram	331 (71.96%)
	Facebook	358 (77.83%)
	Line	368 (80.00%)
	Characteristics	**Descriptive Statistics**
Daily Social Media Usage Duration	Less than 30 minutes	3 (0.65%)
	30 minutes - 1 hour	14 (3.04%)
	1 - 2 hours	40 (8.70%)
	2 - 4 hours	140 (30.43%)
	More than 4 hours	263 (57.17%)
Social Media Platform Features	Group messaging (e.g., chats, direct messages)	381 (82.83%)
	Event creation and management tools	290 (63.04%)
	Live streaming capabilities	145 (31.52%)
	File sharing and document collaboration tools	309 (67.17%)
	Polling and voting features	120 (26.09%)
	Discussion boards or forums	82 (17.83%)
	Public or private group creation	251 (54.57%)

Among the platforms, Line (80.00%), Facebook (77.83%), and Instagram (71.96%) were the most widely used, indicating that students prefer well-established networks with different communication and content-sharing functionalities. YouTube (55.65%) and TikTok (48.91%) contribute significantly, pointing to the potential for video-based sustainability content. This preference for interactive, visual content aligns with research on social media's role in digital engagement (Ansari & Khan, 2020). However, platforms like LinkedIn (8.04%) and Snapchat (8.91%) had lower adoption rates, positing that professional networking and ephemeral content-sharing platforms are less relevant for sustainability efforts.

Additionally, students reported extensive engagement with social media, with 87.60% spending over two hours daily and more than half exceeding four hours. This deep integration enables an opportunity to embed sustainability initiatives within students' online activities through structured awareness campaigns, real-time discussions, and interactive collaboration tools.

Social Media Features and Collaboration Potential

Students identified group messaging (82.83%) and file-sharing tools (67.17%) as the most preferred features, stating the importance of real-time communication for project coordination. Event creation and management tools (63.04%) were also widely used to organize sustainability initiatives efficiently. The reliance on these tools supports the Technology Acceptance Model (TAM), as students likely perceive them as both easy to use and useful for organizing sustainability efforts (Ansari & Khan, 2020).

However, features like live streaming (31.52%) and polling/voting tools (26.09%) were less commonly used, indicating untapped potential for real-time engagement and decision-making in sustainability initiatives. Additionally, discussion boards (17.83%) were the least favored, showing a student preference for instant communication over asynchronous discussions. These findings challenge Suci et al. (2022) and Razmerita & Kirchner (2014), who found discussion boards impactful for structured academic collaboration. This discrepancy points to the need for sustainability campaigns to prioritize interactive engagement strategies, such as live Q&A sessions and gamified challenges, to enhance participation.

Thematic Analysis

Following Braun and Clarke's (2006) six-step thematic framework, the students' perspectives on social media's role in sustainability collaboration were examined. Through an iterative coding process, four key themes were identified, reflecting students' preferred ways to utilize social media for sustainability initiatives.

1. Leveraging social media's reach - Students emphasize social media's ability to attract collaborators and propel sustainability projects. They drew attention to the proven ability of targeted advertising, influencer marketing, and content scheduling tools in maximizing reach. One student said that *"social media helps us connect with people who care about the environment and if we had better ways to share our projects online, we may get more people to involved"*. Another student highlighted the need for structured promotion: *"it would be good to have scheduling features that will help us to plan awareness posts in advance"*.

2. Real-time interaction for collaboration - Students expressed that live streaming and social media challenges encourage participation. Live Q&A sessions make available opportunities for real-time discussions, while challenges add an element of fun and motivation. A student said, *"holding a live Q&A session on sustainability issues will get more people to be involved and I can answer questions in real-time"*. Another student proposed a challenge-based engagement model, saying *"a 'zero waste per week' challenge where people post their progress can make sustainability efforts more interactive and exciting"*.

3. Social media analytics - Students identified the need for better analytics tools to measure engagement and improve sustainability campaigns. They stressed the importance of data metrics for refining strategies: *"we post a lot, but we don't know what works; if I could see analytics on what content has the most interaction, I will be able to know how to involve people better"*.

4. Integrated Collaboration Tools - Students expressed a desire for better integration between social media and project management tools. They recommended that having task coordination, file sharing, and messaging in one platform would enhance efficiency. A student said, *"for now, I use social media for communication but change to other apps for actual collaboration, it would be good if everything was in one app like messaging, sharing of documents and tracking the job"*.

These themes embody the emphasis of students' preference for social media platforms that extend beyond communication to offer functionalities that enhance outreach, engagement, evaluation, and collaboration. Addressing these needs could strengthen social media's role as a powerful tool for collective sustainability action.

Implications for Sustainability Initiatives

These findings reveal the importance of selecting the right platforms and features to engage students in sustainability efforts appropriately. Given their high daily usage of platforms like Line, Facebook, and Instagram, sustainability campaigns should prioritize visually engaging and interactive content. The strong reliance on group messaging and file-sharing tools recommends that structured collaboration methods, such as project-based learning and sustainability-focused digital communities, could enhance collaboration.

Universities and organizations could use event management tools to sustain participation while employing live streaming and polling features to encourage real-time interaction. By aligning sustainability initiatives with students' digital habits, stakeholders can maximize mobilization, encourage collaboration, and secure long-term involvement in sustainability efforts.

Sustainable consumption

The results reveal a high level of awareness and participation in sustainable consumption practices among university students, with some notable trends and implications for future sustainability initiatives on campus. Table 3 offers an overview of students' understanding of sustainable consumption, the factors influencing their participation, and the role of social media in driving engagement.

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Table 3

Sustainable Consumption

	Characteristics	Descriptive Statistics
Awareness of sustainable consumption practices	Not familiar	4 (0.87%)
	Somewhat familiar	71 (15.43%)
	Very familiar	385 (83.70%)
Sustainable consumption practices participated in on-campus	Using a reusable water bottle	387 (84.13%)
	Buying from local and sustainable businesses	351 (76.30%)
	Reducing food waste in the dining hall	298 (64.78%)
	Participating in campus clean-up initiatives	209 (45.43%)
	Composting food scraps	27 (5.87%)
Participation in a sustainable consumption initiative organized or promoted through social media	Yes	454 (98.70%)
	No	6 (1.30%)
Motivation to participate in sustainable consumption practices on campus	Environmental concerns (e.g., reducing waste)	385 (83.70%)
	Personal health benefits (e.g., eating healthier, using safer products)	347 (75.43%)
	Aligns with personal values	332 (72.17%)
	Social responsibility (e.g., contributing to a positive campus community)	306 (66.52%)
	Financial benefits (e.g., saving money on resources)	189 (41.09%)
	Skip	6 (1.30%)

Familiarity with Sustainable Consumption Practices

The strongly positive results regarding student awareness of sustainable consumption practices demonstrate the increasing recognition of sustainability issues among young adults. With 83.70% of students reporting a high level of familiarity, sustainable consumption is not a novel concept to them. This high level of awareness affords a solid foundation for engaging students further in sustainability efforts. The relatively small percentage of students (0.87%) who reported being unfamiliar with sustainable consumption reveals that educational initiatives have been fruitful in introducing the concept, but there remains room for continued outreach, particularly for those in the early stages of their sustainability journey. Social media campaigns could be instrumental in reaching this group so that all students have access to vital sustainability knowledge.

Sustainable Consumption Practices

The high rates of engagement in certain sustainable practices are encouraging. A significant proportion of students are already actively involved in reducing waste and supporting sustainable businesses, with 84.13% using reusable water bottles and 76.30% purchasing from local or sustainable businesses. These behaviors align with global trends indicating that environmentally conscious consumption is becoming more mainstream, particularly among younger populations (Hajri & Daife, 2023). However, the underutilization of certain practices, such as composting food scraps (5.87%), underscores that while awareness is high, certain sustainability practices may still be unfamiliar or perceived as inconvenient. This gap constitutes an opportunity for targeted educational campaigns that underline the benefits of composting, making it more accessible and appealing to students.

The moderate participation in campus clean-up initiatives (45.43%) and reducing food waste in dining halls (64.78%) points to a growing concern among students about waste management but also accentuates areas where further contribution is necessary. While students are somewhat invested in community-based sustainability activities, initiatives that directly involve them in reducing campus waste or promoting sustainable food practices may need additional support, such as increased visibility of initiatives or incentives for participation.

Thematic Analysis

The thematic analysis of students' open-ended responses discloses more information about the motivations driving their engagement with sustainable consumption practices. Four themes were identified:

1. Environmental stewardship - This theme was the most prominent, with students expressing a strong desire to contribute to environmental preservation. Students' statements such as "*I care for the planet*" and "*to protect the environment*" reflect a deep sense of environmental responsibility. Social media campaigns can build on this sentiment by emphasizing the impact of individual actions on the planet, reinforcing the idea that each student's participation makes a difference.

2. Sustainability as a value – Many students view sustainability not just as a practice but as an integral part of their personal values. A student said, "*I like to live in a way that aligns with the values of sustainability*" which verifies evidence that sustainability is not merely a trend but a lifestyle. Social media can be a key factor in reinforcing these values, offering a space where students can find like-minded peers and engage with content that reflects their commitment to sustainability. Drawing attention to personal stories and testimonials can make sustainability feel more authentic and relatable.

3. Social change and innovation – A small but noteworthy group of students viewed sustainable consumption as part of a larger social change movement. Their motivation to "*develop sustainable businesses*" or their desire for a "more sustainable society" reflects an entrepreneurial and social-change-oriented mindset. Social media can be used to amplify this sense of collective action, connecting students with organizations, businesses, and peers who share similar visions, thereby forming a community of change-makers.

4. Technology and accessibility – Although less prevalent, some students identified the role of new technologies in motivating their sustainable practices. The appeal of convenient, tech-driven solutions for sustainability implies that the integration of technology can make sustainable practices more accessible and engaging. Social media can apply technological innovations by sharing tips and tools that make sustainability more attainable for students.

These themes divulge that student motivations for sustainable consumption practices go beyond individual benefits. Students are driven by a strong sense of environmental stewardship, a desire to live by their values, and a commitment to social change. Additionally, access to new technologies can be a factor in some cases. Understanding these different motivations can help universities develop targeted social media strategies to empower eco-citizens, raise awareness of sustainable consumption practices, and encourage student collaboration on campus.

Participation in Sustainable Consumption Initiatives

The findings regarding student participation in sustainable consumption initiatives publicized via social media are overwhelmingly positive, with 98.70% of students reporting engagement in at least one initiative. This reflects the power of social media as a tool for mobilizing students and spreading awareness about sustainability efforts. Social media platforms enable the easy dissemination of sustainability-related campaigns, making it possible to engage many students quickly. This finding supports previous research (Meng et al., 2023) that features the power of social media in promoting environmental causes and generating active participation.

Motivations for Sustainable Consumption Participation

The study identifies several key motivations for students' participation in sustainable consumption practices on campus, with environmental concerns being the most dominant motivator (83.70%). This aligns with the broader global trend of increased environmental consciousness among younger generations. However, personal health benefits (75.43%) and the alignment with personal values (72.17%) are also significant drivers, indicating that students are motivated by both intrinsic and extrinsic factors. While environmental concerns remain the primary motivator, the intersection of health, values, and social responsibility points to the complexity of student motivations. Social media campaigns that integrate these different motivators by showcasing both the environmental and personal benefits of sustainable consumption are likely to connect more strongly with students.

Interestingly, financial benefits (41.09%) were cited as a motivation by a proportion of students, which leads to the conclusion that while students appreciate the potential cost savings associated with sustainable consumption, this may not be the strongest driver. To increase participation, campaigns may need to make clear the longer-term financial and environmental advantages of sustainable choices.

Implications for sustainable consumption

The results confirm a strong awareness and active participation in sustainable consumption practices among students, with environmental concerns and personal values serving as the primary motivators. The thematic analysis showed that students are motivated by a combination of environmental stewardship, social change, and personal values. These outcomes align with previous studies (García-González et al., 2022; Longoria et al., 2021) that prioritize the importance of universities in promoting sustainability and the role of social media in engaging students. The results prove evidence that while students are committed to sustainable behaviors, more targeted interventions and educational efforts are needed to address the knowledge-action gap and facilitate broader participation in practices like composting. By leveraging the power of social media and aligning sustainability initiatives with students' core values, universities can create a more sustainable campus culture and empower students to become responsible, eco-conscious consumers.

Collaboration and Social Media

Social Media Platform Used to Promote Sustainable Consumption

The data in Table 4 demonstrates the primary role social media plays in facilitating student collaboration for sustainability efforts on campus. Facebook, with 58.04% of students using it for communication and engagement, is the dominant platform for organizing and promoting sustainability initiatives. This prevalence is supported by Facebook's unique functionalities, such as structured group features, event management tools, and an extensive user base, which create an ideal ecosystem for collaboration.

However, the presence of multiple other platforms like Line (18.04%), Instagram (15.87%), and TikTok (4.57%) points to a diversified social media domain. Each platform offers distinct advantages for promoting sustainability. For instance, Instagram's emphasis on visually engaging content aligns with the principles of visual storytelling, supporting more emotional and persuasive advocacy for sustainability initiatives. TikTok, with its focus on short-form videos, encourages fast-paced, interactive learning and could be seen as well-suited for engaging younger audiences through creative content.

On the other hand, platforms like Twitter (2.17%), with a focus on text-based discourse, appear less favored by students for this purpose. This reflects a mismatch between the platform's text-heavy nature and students' preference for more dynamic, multimedia-rich communication tools in the context of sustainability engagement.

Table 4

Collaboration and Social Media

	Characteristics	Descriptive Statistics
Social media platform used to promote sustainable consumption	Facebook Line Instagram TikTok X (Twitter) Skip	267 (58.04%) 83 (18.04%) 73 (15.87%) 21 (4.57%) 10 (2.17%) 6 (1.30%)
Social media features utilized for organizing and promoting sustainable consumption initiatives on campus	Sharing information and updates Coordinating efforts and responsibilities Recruiting participants Promoting the initiative to the campus community	367 (79.78%) 321 (69.78%) 287 (62.39%) 158 (34.35%)
Effectiveness of social media for facilitating collaboration on sustainable consumption initiatives	Very effective Somewhat effective Neutral Somewhat ineffective Not effective at all Skip	408 (88.70%) 39 (8.48%) 5 (1.09%) 2 (0.43%) 0 (0%) 6 (1.30%

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Table 4

Collaboration and Social Media

	Characteristics	Descriptive Statistics
Other methods of communication to collaborate with other students on projects or initiatives	Text messaging	374 (81.30%)
	In-person meetings	351 (76.30%)
	Video conferencing platforms	238 (51.74%)
	Email	185 (40.22%)
	Project management tools	67 (14.57%)
	Online forums or discussion boards	55 (11.96%)
Ways to improve social media platforms to support student collaboration on sustainable consumption initiatives	Improve features for group communication and collaboration (e.g., project management tools, task delegation).	379 (82.39%)
	Increase educational content and resources related to sustainable consumption.	344 (74.78%)
	Facilitate easier event creation and promotion for sustainability initiatives.	311 (67.61%)
	Enhance content discovery for sustainable consumption initiatives.	297 (64.57%)

Social Media as a Mechanism for Collaboration

The results from Table 4 show that social media is not just a promotional tool but also a significant facilitator of collaboration. A substantial 69.78% of respondents reported using social media for organizing initiatives, exchanging resources, and engaging in collective problem-solving. This brings to light the potential of social media as a collaborative space. Furthermore, 79.78% emphasized the value of real-time updates, discussion forums, and brainstorming opportunities through social media. By enabling discussions and knowledge exchange in real-time, social media allows for the rapid mobilization of resources and ideas, thus accelerating the progress of sustainability initiatives on campus.

Thematic Analysis

Through a thematic analysis of open-ended responses, several ways in which social media generates collaboration on sustainable consumption initiatives were identified. The themes identified are consistent with Social Network Theory (Borgatti et al., 2009), which explains that the strength and breadth of social ties facilitate the spread of information and the formation of collaborative networks.

1. Connecting with a wider community - Social media platforms enable students to engage with a broader network of like-minded individuals and experts, thus enhancing collaboration. As one student noted, social media helps them *"connect with mentors"* and *"reach a wider audience,"* which supports the idea that these platforms not only facilitate interaction but also extend the community beyond the immediate circle, aligning with network centrality concepts from Social Network Theory.

2. Facilitating communication and discussion - Responses such as *"facilitate group discussions"* and *"share thoughts and experiences"* assert the importance of social media in initiating dialogue and feedback loops, which are central to collaborative learning and innovation.

3. Event promotion and organization - The ability to launch and organize events is another theme identified in student responses. This illustrates how social media functions as an organizational tool that supports event management and logistical coordination, enhancing the outreach and impact of sustainability initiatives.

4. Knowledge sharing and resource exchange - Students mentioned that *"sharing links to websites and tools"* and *"giving suggestions for improvement"* showcase how social media develops knowledge exchange. Participants can share resources, best practices, and improvement ideas, collectively building a more productive and impactful initiative.

5. Empowering advocacy and expanding impact - *"Advocate for change,"* as mentioned by the student, reveals the power of social media to extend the initiative's reach beyond immediate participants. Students can use these platforms to raise awareness, attract new members, and advocate for broader campus-wide adoption of sustainable consumption practices.

6. Building relationships and expertise - This theme largely centers on how social media can facilitate connections with peers and experts who share valuable guidance and expertise. One student mentioned *"connect with mentors"*. Students can learn from experienced professionals and collaborate with them to enhance the initiative's impact.

7. Tracking progress and celebrating success - Students mentioned *"track engagement metricss"* and *"celebrate the initiative's success,s"* highlighting social media's ability to monitor progress and celebrate achievements.

8. Engaging activities and content creation - *"Hosting interactive workshops"*, the student said, makes it clear that social media can create engaging content and activities, developing a more dynamic and collaborative experience.

These themes showcase how social media platforms are instrumental in facilitating collaboration for sustainable consumption initiatives on campus. Social media sustains connections, communication, knowledge sharing, and advocacy, empowering students to work together and create a more sustainable campus environment.

Effectiveness of social media for facilitating collaboration

The data from Table 4 strongly supports social media's effectiveness as a collaboration tool. An impressive 88.70% of respondents rated social media as 'Very effective' in facilitating teamwork, with only 10% perceiving it as 'Somewhat effective' or less. This overwhelmingly positive reception indicates that, despite some challenges, students recognize its role in streamlining communication, reinforcing engagement, and optimizing collaboration.

Other methods of communication to collaborate with other students on projects or initiatives

Beyond social media, traditional communication methods remain relevant. Table 4 shows that text messaging (81.30%) and in-person meetings (76.30%) continue to remain key in student collaboration. However, social media delivers unique affordances that extend beyond these traditional methods. The thematic analysis of open-ended responses delineates several ways students deploy social media platforms to enhance collaboration for sustainable consumption initiatives. These responses were coded and clustered into the following themes:

1. Social media groups for ongoing discussions and brainstorming - Students mentioned using social media groups *"to brainstorm ideas"* and *"share knowledge"*. These groups are virtual spaces for ongoing discussion, supporting creativity, and knowledge exchange.

2. Utilizing features for real-time collaboration - Student responses like *"facilitate group discussions"* and *"real-time communication"* imply that students likely use features like live chats or video conferencing functions within social media platforms for brainstorming sessions or quick check-ins.

3. Content creation and knowledge sharing - One student wrote, *"sharing links to websites and tools"* showcases how students use social media to share resources and best practices. Platforms can be a central repository for project documents, educational materials, and inspirational content related to sustainable consumption.

4. Event promotion and volunteer recruitment - The Response of one of the students reads, *"promoting and organizing events,"* in which social media excels that allows students to share information about upcoming initiatives and leverage their networks to attract new volunteers and broaden participation.

Improving Social Media for Enhanced Collaboration

While in-person meetings and traditional communication methods remain viable, these creative uses of social media functionalities exemplify how students extend collaboration beyond basic communication. Social media platforms can be powerful tools for facilitating discussions, brainstorming ideas, sharing resources, and promoting initiatives, thereby contributing to a more collaborative and impactful approach to sustainable consumption on campus. Table 4 demonstrates a strong student desire for social media platforms to be more supportive of collaboration and learning around sustainable consumption initiatives. The key findings include:

1. Improve features for group communication and collaboration - Most respondents (82.39%) point out the need for more robust tools to streamline teamwork. This implies that current social media platforms lack essential project management functionalities such as task assignments, real-time document editing, and structured discussion forums. Integrating these features would enhance coordination and productivity among students working on sustainability initiatives.

2. Increase educational content and resources related to sustainable consumption - A significant portion of students (74.78%) expressed a need for better integration of sustainability-related academic materials. This points out the importance of linking social media platforms with credible educational resources, potentially through collaborations with academic institutions and sustainability organizations. Such partnerships could equip students with curated content, research results, and interactive learning modules to support their initiatives.

3. Facilitate easier event creation and promotion for sustainability initiatives - With 67.61% of respondents stating difficulties in event management, there is a clear demand for more intuitive event planning and promotional tools. Social media platforms could introduce event templates, automated invitations, and sustainability-focused event hubs to streamline the process, thereby supporting greater participation in sustainability-related activities.

4. Enhance content discovery for sustainable consumption initiatives - The challenge of finding relevant sustainability-related information was noted by 64.57% of students, indicating a gap in content visibility. To address this, platforms could refine their algorithms to prioritize sustainability content, introduce dedicated sustainability channels, and enable user-driven content tagging to improve accessibility to credible and relevant materials.

These findings point to the potential that while social media is a practical tool for student collaboration, optimizing its functionality through targeted improvements can significantly enhance its impact on sustainable consumption initiatives.

Thematic Analysis

The thematic analysis of open-ended responses outlines several areas for improvement in social media platforms to enhance student collaboration on sustainable consumption initiatives. The top priorities identified by students include accessibility and inclusivity, transparency and user control, and information quality. Students mentioned the need for *"more language options"* and *"accessibility features for users with disabilities"* to facilitate broader participation regardless of linguistic background or physical ability. Additionally, students also mentioned *"increased transparency about data collection"* and *"enhanced user control and integration with other tools,"* reflecting a desire for a safer and more user-driven online experience. Maintaining the quality of information is another primary concern, with students saying they need to *"reduce the spread of misinformation"* and enforce accuracy in sustainability-related content.

Beyond these top concerns, students also observed additional factors that could further enhance the functionality of social media for collaboration. Students mentioned developing features that *"develop features that cater to different learning styles,"* as well as integrating educational resources such as online workshops about sustainability. The social impact of these platforms was another key consideration, students said, to *"promote cultural exchang"* and encourage the *"responsible and sustainable use of social media."* While not a primary focus, some students also expressed interest in motivational elements, mentioning *"promoting incentives and rewards"* for participation, which could help sustain engagement in sustainability initiatives.

Overall, students prioritize accessibility, information quality, and user control to create a more inclusive, transparent, and responsible digital environment that facilitates meaningful collaboration. Addressing these concerns through targeted improvements in platform design and institutional support can empower students to drive more result-oriented and impactful sustainability initiatives.

Findings that support the research questions (RQs)

RQ1. Beyond the standard functionalities offered by social media platforms, what creative methods do students utilize to collaborate on sustainable consumption initiatives?

Students employ several innovative methods beyond standard social media features to collaborate on sustainability initiatives. They use targeted advertising, influencer marketing, and content scheduling tools to enhance visibility and engagement (Table 2). Live Q&A sessions and sustainability challenges encourage participation and real-time interaction (Thematic Analysis). Social media groups act as collaborative spaces for brainstorming, knowledge sharing, and tracking progress. Additionally, students brought to attention the need for better analytics tools to measure engagement and refine strategies. Many also switch between platforms, revealing the necessity for integrated project management features (Table 4).

RQ2. How can social media platforms be further tailored to support the diverse range of student-led sustainable consumption practices on campus?

Students call for improvements to several enhancements to tailor social media for sustainability collaboration. Improved group communication features (e.g., real-time document editing, structured discussion forums) would streamline coordination (Table 4). To address difficulties in discovering sustainability initiatives, they propose better content discovery tools, such as improved algorithms, dedicated sustainability channels, and user-driven content tagging (Thematic Analysis). Additionally, simplified event creation and promotion features, like automated invitations and sustainability-focused event hubs, would facilitate student-led initiatives. There is also a demand for educational content integration, where platforms could partner with universities and sustainability organizations to supply access to credible resources (Table 3). Furthermore, enabling accessibility and inclusivity through expanded language options and user-friendly features for individuals with disabilities is a key recommendation.

RQ3. What innovative features or functionalities could social media platforms implement to make it easier for students to find, collaborate on, and track the impact of sustainable consumption initiatives on campus?

Students propose various innovative features to optimize collaboration and impact tracking. A sustainability dashboard could enable students to monitor their collective impact, providing real-time information feedback. A centralized collaboration hub that integrates messaging, task management, and file sharing would reduce reliance on multiple applications, improving efficiency (Table 4). Enhanced real-time engagement tools, such as advanced live streaming for sustainability discussions, could encourage deeper participation. Gamification elements, like badges, leaderboards, and interactive challenges, would help sustain engagement in eco-friendly initiatives (Table 3). Lastly, AI-powered recommendations could personalize content discovery, connecting students with relevant sustainability initiatives, organizations, or events based on their interests, strengthening the collaborative ecosystem.

Conclusion

This study examined how students maximize social media to collaborate on sustainable consumption initiatives on campus. The findings illuminate the significant role of social media in facilitating student-led sustainability efforts, providing platforms for communication, coordination, and knowledge sharing. The results of the study, which are aligned with the study's objectives, reveal:

1. Student-selected social media functionalities - Students actively use social media platforms, particularly Line, Facebook, and Instagram, for real-time communication, project coordination, and mobilization of sustainability initiatives. These platforms enhance outreach, engagement, and information sharing.

2. Student-driven sustainable consumption practices - The study identified key sustainability efforts initiated by students, such as waste reduction, eco-friendly purchasing, and participation in clean-up initiatives. Social media has been instrumental in amplifying these activities and promoting collaboration.

3. Innovative improvements for social media platforms - The findings draw attention to the need for enhanced collaboration tools, better content discovery, and advanced analytics to measure engagement and impact. Integrating features like project management tools, real-time discussion forums, and AI-driven content recommendations can significantly improve sustainability initiatives.

To enhance student-driven sustainability efforts, social media platforms must evolve beyond their current communication-based functions and integrate more advanced collaborative features. Universities and policymakers should also recognize the potential of digital literacy and structured social media strategies in promoting sustainability. A multi-platform approach tailored to students' digital habits can create broader engagement and long-term impact.

Recommendations

For Universities

Universities should integrate social media literacy workshops into student orientation programs and sustainability initiatives. These workshops should train students on how to use social media platforms for organizing events, mobilizing volunteers, and raising awareness about sustainability efforts. By focusing on content creation, engagement strategies, and analytics tools, students can enhance their ability to measure the impact of their digital sustainability campaigns. Additionally, universities should develop interdisciplinary sustainability campaigns by establishing collaboration between faculties, such as environmental studies, business, and digital media. These campaigns should make the most of multiple platforms, such as Facebook for community-building, Instagram and TikTok for visual advocacy, and YouTube for educational outreach, to maximize student engagement. Establishing a campus sustainability hub on social media, managed by student organizations in partnership with university leadership, can operate as a centralized space for sharing best practices, promoting initiatives, and ensuring long-term participation in sustainability efforts.

For Social Media Platforms

Social media platforms should enhance their collaboration features to better support sustainability initiatives. Introducing dedicated sustainability content hubs would allow students to discover ongoing environmental projects, participate in eco-friendly challenges, and access educational materials. Additionally, an integrated *"Sustainability Impact Tracker"* could help students monitor participation rates and engagement levels, encouraging accountability and motivation. Improving event creation and promotion tools is another key area for development. Platforms like Facebook, Line, and Instagram should refine their event management features by incorporating automated reminders, interactive event maps, and integrated volunteer sign-up options to streamline the organization of sustainability-related activities. Moreover, optimizing AI-powered content discovery algorithms can help prioritize sustainability-related posts, enabling students to easily find and engage with relevant initiatives. Implementing language translation tools and accessibility features will further facilitate inclusivity, allowing students of all abilities to participate fully in digital sustainability efforts.

For Policymakers

Policymakers should integrate digital sustainability education into university curricula, thereby helping students to develop the skills necessary to employ social media for sustainability advocacy. This can be achieved through policies mandating the inclusion of digital communication strategies, responsible online communication, and sustainability campaign management in higher education programs. Additionally, governments and educational institutions should allocate funding and grants to support student-led sustainability campaigns. Financial support can be used to extend access to social media management tools, promotional materials, and event logistics, making sustainability efforts more impactful and sustainable in the long run. Finally, policymakers should develop best-practice guidelines for responsible social media use in sustainability initiatives. These guidelines should focus on preventing misinformation, protecting data privacy, and encouraging ethical digital practices to maintain student-driven sustainability campaigns that are both capable and responsible.

Limitations

This study, while insightful, has limitations. Conducted at a single university, its findings may not be generalized to wider student populations. Reliance on self-reported data introduces potential biases, and convenience sampling limits representativeness. The study's cross-sectional design also prevents establishing causality. Despite these limitations, it establishes a strong foundation for understanding student social media preferences and their role in sustainable consumption.

Future Research

Future research should expand to multiple universities to enhance the generalizability of findings and better understand how social media supports student-led sustainability initiatives across different contexts. A mixed-methods approach, combining quantitative and qualitative data, could yield deeper comprehension into student experiences and engagement. Additionally, examining the long-term impact of social media campaigns on student behavior and campus sustainability practices would help assess their sustained impact over time. Lastly, exploring emerging social media platforms and new functionalities could reveal innovative ways to further support student-driven sustainability efforts.

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