Instagram Reels as a Catalyst for SDG Awareness and Action

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Abstract

The proliferation of short-form video content on social media platforms represents a potentially transformative medium for sustainability communication, particularly among youth demographics. This study examines Instagram Reels as a tool for enhancing awareness and catalyzing action regarding Sustainable Development Goals (SDGs) among graduate and postgraduate students in Uttar Pradesh, India. Employing a mixed-methods approach, the research surveyed 385 students across multiple educational institutions using a structured questionnaire designed to measure SDG awareness, Instagram usage patterns, and action-oriented behaviors. Statistical analysis revealed that exposure to SDG-related Reels significantly increased awareness scores, with Climate Action (SDG 13), Quality Education (SDG 4), and Gender Equality (SDG 5) showing the highest recognition improvements. Notably, 67% of respondents reported undertaking at least one SDG-supportive action after viewing related Reels, with higher engagement metrics correlating positively with behavioral outcomes. Content analysis identified key features of effective SDG communication via Reels, including authentic storytelling, localized context, clear actionable messages, and creative presentation. However, challenges persist regarding sustained engagement and translation of awareness into long-term behavioral change. The findings suggest significant potential for educational institutions and policymakers in Uttar Pradesh to integrate Instagram Reels and similar short-form content into formal and informal sustainability education initiatives, particularly when content is tailored to regional contexts and student interests. The research contributes to an emerging understanding of

social media as an educational tool for sustainable development awareness in developing regions.

Introduction

The digital landscape has undergone a profound transformation in recent years, with social media platforms evolving from simple networking sites into multifaceted channels that influence knowledge dissemination, attitude formation, and behavioral change. Instagram Reels, introduced globally in August 2020, represents the platform's foray into short-form video content that has rapidly gained prominence among youth demographics. These 15-60 second video clips, enhanced with effects and audio features, have revolutionized content consumption patterns, particularly among young adults who increasingly prefer bite-sized, visually engaging information. This shift in media consumption habits presents both challenges and opportunities for communicating complex social, environmental, and economic issues such as those encompassed by the United Nations' Sustainable Development Goals (SDGs).

The SDGs, adopted in 2015, represent a universal call to action to end poverty, protect the planet, and ensure prosperity for all by 2030. Comprising 17 interconnected goals, this framework addresses critical global challenges including climate change, inequality, environmental degradation, and sustainable economic growth. Despite their global significance, awareness and understanding of the SDGs remain limited among general populations, particularly in developing regions. This awareness gap represents a substantial barrier to achieving the 2030 agenda, as public engagement and grassroots action constitute essential components of the sustainable development pathway. Given that today's youth will inherit the responsibility for realizing these goals, their awareness and action become particularly crucial.

Uttar Pradesh, India's most populous state with approximately 230 million inhabitants, presents a compelling context for studying SDG awareness and action. The state faces numerous sustainable development challenges, including poverty, educational disparities, gender inequality, and environmental degradation. Simultaneously, Uttar Pradesh has experienced rapid digital transformation, with internet penetration increasing substantially over the past decade, particularly among its youth population. The state houses over 200 universities and thousands of

colleges, with an estimated 2.5 million students pursuing graduate and postgraduate education. These students represent a critical demographic for sustainable development efforts, given their educational background, potential for leadership, and digital connectedness.

Social media platforms have demonstrated significant potential as tools for social change, particularly among youth demographics. Their ability to deliver concise, visually engaging content makes them potentially effective channels for communicating complex sustainability concepts. Instagram, with its emphasis on visual storytelling, has emerged as a particularly powerful platform for cause-related communication. The introduction of Reels has further enhanced this potential by privileging short, creative content that can simplify and humanize complex issues like the SDGs. However, questions remain about whether exposure to such content translates into meaningful awareness and, more importantly, action-oriented behaviors.

The unique characteristics of Instagram Reels—brevity, visual emphasis, algorithmic distribution, and social sharing mechanisms—present both opportunities and challenges for SDG communication. On one hand, these features may help overcome attention barriers and information overload that often hinder engagement with sustainability messaging. On the other hand, the platform's entertainment orientation and content ephemerality may undermine serious engagement with complex global challenges. This tension underscores the need for empirical research examining how Reels and similar short-form content function as vehicles for sustainability awareness and action.

This study aims to bridge this knowledge gap by investigating Instagram Reels as a catalyst for SDG awareness and action among graduate and postgraduate students in Uttar Pradesh. By examining the relationship between Reels consumption, SDG awareness, and subsequent action-oriented behaviors, this research seeks to provide insights into the potential of short-form video content as a tool for advancing sustainable development education in higher education contexts. The findings aim to inform educational institutions, policymakers, content creators, and platform developers seeking to leverage social media for sustainability communication, particularly in developing regions where digital literacy is rapidly expanding among youth populations.

This research investigates the potential of Instagram Reels as an innovative medium for enhancing awareness and action regarding Sustainable Development Goals (SDGs) among higher education students in Uttar Pradesh, India. Through a stratified random sampling technique, 385 graduate and postgraduate students across major educational institutions in the state were surveyed using a structured questionnaire. The study reveals that SDG-related Reels significantly enhance awareness levels, particularly for goals focused on climate action, quality education, and gender equality. Findings indicate that engagement with SDG content on Instagram positively correlates with real-world action, with 67% of respondents reporting at least one SDG-supportive action following exposure to relevant Reels. The research demonstrates that short-form video content possesses substantial potential for sustainability communication, though effectiveness varies based on content quality, creator credibility, and presentation style. Educational institutions and policymakers in Uttar Pradesh can leverage these insights to incorporate social media-based strategies into sustainability education initiatives.

Literature Review

The intersection of social media, sustainability communication, and youth engagement has garnered increasing scholarly attention in recent years. This review examines relevant literature chronologically to trace the evolution of understanding in this field, with particular focus on Instagram and short-form video content as vehicles for sustainable development awareness and action.

Mishra, V., & Saxena, A. (2020) conducted a comprehensive analysis of digital platforms as catalysts for social change, examining youth participation in SDG initiatives through social media. Their mixed-methods study involving 300 undergraduate students across Northern India revealed that social media platforms significantly influenced awareness of sustainable development concepts, with visual content demonstrating particularly strong recall value. The researchers identified that platforms enabling user-generated content showed greater potential for fostering participatory engagement with sustainability issues, though they noted significant gaps between awareness levels and tangible action. The study highlighted the need for strategic content design that bridges information delivery with concrete action opportunities.

Verma, L., Chauhan, R., & Prasad, D. (2020) explored knowledge, attitudes, and practices regarding social media's role in sustainable development education. Their survey of 450 college students across three Indian states demonstrated that while 78% of respondents regularly encountered sustainability-related content on social media, only 23% could accurately identify more than five of the seventeen SDGs. The researchers observed that content featuring personal narratives and localized examples generated substantially higher engagement than abstract or global statistics. They concluded that social media represents an underutilized resource in formal sustainability education, recommending greater integration between institutional learning frameworks and digital content consumption.

Tiwari, M., & Reddy, K. (2021) investigated knowledge retention patterns related to short-form video content focusing on SDG educational messages. Through experimental research involving 180 postgraduate students, they compared learning outcomes across different content formats. Their findings revealed that brief video content (under 60 seconds) demonstrated 27% higher immediate recall of key SDG concepts compared to text-based information. However, retention after 30 days showed similar decline rates across formats, suggesting that repeated exposure remains crucial regardless of medium. The study emphasized the potential of short-form video for initial awareness creation while highlighting the need for reinforcement strategies to maintain knowledge retention.

Khan, F., Chatterjee, S., & Bose, A. (2021) examined the phenomenon of social media influencers as SDG ambassadors, assessing their reach and impact among college students. Their qualitative analysis of 25 influencer accounts across major platforms, combined with focus group discussions with 120 students, identified authenticity and consistent messaging as key factors determining influence effectiveness. The study found that micro-influencers with specific subject expertise generated more substantive engagement with SDG topics than celebrities with larger followings. Notably, influencer content that demonstrated personal commitment to sustainability practices showed significantly higher conversion to reported behavior change among student followers, pointing to the importance of modeling in addition to messaging.

Yadav, R., & Chaudhary, B. (2022) analyzed social media algorithms and their implications for SDG content visibility and youth engagement. Through data mining of 10,000 Instagram

posts tagged with SDG-related hashtags, they discovered significant disparities in content distribution, with entertainment-oriented sustainability content receiving 3.4 times greater algorithmic amplification than educational material. The researchers noted that algorithm-friendly content characteristics—including high emotional valence, visual appeal, and interaction-generating features—substantially determined exposure rates regardless of informational quality. The study raised important questions about platform responsibilities in promoting meaningful sustainability dialogue versus engagement-optimized content.

Banerjee, T., Singh, A., & Roy, P. (2022) explored collaborations between educational institutions and social media platforms for promoting SDG awareness among students. Their case study approach examined five university-led social media campaigns across India, documenting strategies, challenges, and outcomes. The research demonstrated that institution-backed content received higher credibility ratings from students but struggled with engagement metrics compared to peer-generated content. The study identified successful hybrid models combining institutional authority with student creativity, presenting promising frameworks for educational organizations seeking to leverage social media for sustainability education.

Sharma, P., & Gupta, K. (2023) investigated the impact of visual storytelling through Instagram on university students' awareness of climate action. Their longitudinal study tracked 240 students' knowledge and attitudes before and after a three-month period of exposure to curated climate-related Instagram content. Results showed significant improvements in both understanding of climate science concepts (32% increase) and self-reported concern levels (47% increase), with stories format and Reels demonstrating the strongest correlations with attitude change. The researchers noted gender differentials in response patterns, with female participants showing greater engagement with emotional narratives while male participants responded more strongly to solution-oriented content.

Agarwal, N., Joshi, M., & Das, S. (2023) conducted comparative research on digital activism across platforms, examining Instagram, TikTok, and YouTube effectiveness for SDG promotion. Their cross-platform analysis of 1,500 sustainability-themed posts revealed distinct engagement patterns, with Instagram generating higher awareness metrics but TikTok demonstrating stronger correlation with reported action intent. The study identified optimal content characteristics for

each platform, noting that Instagram Reels combining emotional appeals with practical action steps showed particularly strong performance across both awareness and action metrics. The researchers emphasized the importance of platform-specific content strategies rather than universal sustainability messaging approaches.

Kumar, S., & Patel, R. (2024) examined Instagram Reels and SDG awareness specifically within the context of youth in Northern India. Surveying 550 young adults aged 18-25, their research revealed that 72% of respondents had encountered SDG-related content through Reels, though recognition varied significantly by goal, with climate action and gender equality receiving substantially higher recognition than goals related to institutional strengthening or industry innovation. The study identified critical factors influencing engagement, including content localization, creator credibility, and production quality. A notable finding indicated that peer-shared Reels generated 2.3 times higher interaction rates than directly discovered content, highlighting the importance of social network effects in sustainability communication.

Mehta, A., Singh, D., & Kapoor, V. (2024) investigated short-form content as educational tools for Sustainable Development Goals, with particular focus on pedagogical applications. Their mixed-methods research combined quantitative survey data from 420 university students with qualitative analysis of learning outcomes from a controlled experiment using Reels-based sustainability curriculum supplements. The findings demonstrated significant improvements in conceptual understanding when traditional educational materials were augmented with short-form video content, particularly for complex or statistics-heavy SDG topics. The researchers developed a framework for educational Reels design, emphasizing narrative structure, emotional connection, and clear actionable conclusions as essential elements for effective sustainability education through short-form content.

Research Gap

Despite growing literature exploring social media's role in sustainability communication, two significant gaps remain unaddressed:

1. Limited investigation exists regarding the specific efficacy of Instagram Reels as a medium for SDG awareness and education among higher education students in developing regions

like Uttar Pradesh. While previous studies have examined social media broadly, the unique characteristics of Reels—including their algorithmic distribution, creative tools, and consumption patterns—require dedicated examination, particularly within geographical contexts experiencing rapid digital transformation alongside substantial sustainability challenges.

2. Insufficient understanding persists concerning the mechanisms that facilitate translation from awareness gained through short-form video content to tangible action supporting SDGs. Current research predominantly focuses on measuring awareness outcomes or general engagement metrics, with inadequate exploration of the specific content characteristics, psychological processes, and contextual factors that enable the critical step from passive consumption to active contribution toward sustainable development goals.

Research Objectives

1. Evaluate Instagram Reels' effectiveness in fostering SDG awareness among Uttar Pradesh's graduate/postgraduate students, analyzing engagement and comprehension across SDG themes.

2. Analyze the link between SDG-related Reels exposure and student-led sustainable actions, identifying drivers and barriers to translating awareness into action.

Hypotheses

1. SDG-focused Instagram Reels significantly enhance SDG awareness among students, with impact varying by content features, presentation style, and user engagement patterns.

2. A positive relationship exists between Reels engagement and SDG-related actions, influenced by content relevance, perceived impact, and actionable opportunities in students' environments.

Research Methodology

Theoretical & Conceptual Framework

This study is grounded in Social Learning Theory and the Elaboration Likelihood Model of persuasion. Social Learning Theory, developed by Albert Bandura, posits that individuals learn through observation, imitation, and modeling, particularly when the observed behavior is performed by influential or relatable figures. This framework helps explain how Instagram Reels featuring peer demonstrations of sustainable behaviors might influence student actions. The Elaboration Likelihood Model provides a framework for understanding how persuasive messages (in this case, SDG content in Reels) are processed via central and peripheral routes, depending on the receiver's motivation and ability to process the information. These theories together inform our understanding of how short-form video content might generate both awareness and action regarding sustainable development.

Type of Research

This study employs a mixed-methods approach, combining quantitative and qualitative research methodologies. The quantitative component utilizes survey instruments to measure awareness levels, engagement metrics, and action behaviors, while the qualitative component includes content analysis of popular SDG-related Reels and semi-structured interviews with selected participants to gain deeper insights into the meaning-making process.

Source of Data Collection

Primary data constitutes the main information source, collected directly from graduate and postgraduate students through structured questionnaires and interviews. Secondary data, including Instagram analytics, published research, and institutional reports on SDG initiatives in Uttar Pradesh, supplements the primary information and provides contextual understanding.

Research Instrument

A comprehensive structured questionnaire was developed with four major sections:

1. Demographic profile and Instagram usage patterns

2. SDG awareness assessment (pre and post-exposure)
3. Engagement metrics with SDG-related Reels
4. Action-oriented behaviors related to SDGs

The questionnaire employs a combination of Likert scales, multiple-choice questions, and open-ended responses. For the qualitative component, semi-structured interview guides were developed to explore participants' experiences with SDG-related content.

Population

The population for this study comprises all graduate and postgraduate students enrolled in recognized higher education institutions across Uttar Pradesh, India, estimated at approximately 2.5 million students.

Sampling Unit

Individual graduate and postgraduate students currently enrolled in degree programs at recognized universities and colleges in Uttar Pradesh serve as the sampling units.

Sample Size with Proper Calculation

Using the formula for sample size determination:

$n = [Z^2 \times p(1-p)] \div e^2$

Where:

- Z = Z score for desired confidence level (1.96 for 95% confidence)
- p = estimated proportion of the population (0.5, which gives maximum sample size)
- e = desired margin of error (0.05 or 5%)

$n = [1.96^2 \times 0.5(1-0.5)] \div 0.05$

$n = [3.8416 \times 0.25] \div 0.0025$

$n = 0.9604 \div 0.0025$

n = 384.16

Therefore, a sample size of 385 respondents was determined as appropriate for this study.

Area of the Study

The research was conducted across Uttar Pradesh, India's most populous state, with particular focus on major educational hubs including Lucknow, Kanpur, Varanasi, Allahabad, Aligarh, Meerut, and Gorakhpur. These locations were selected to ensure geographical diversity within the state and representation of various institutional types.

Sampling Technique Used

A stratified random sampling technique was employed to ensure proportionate representation across:

1. Geographical zones of Uttar Pradesh (Western, Central, Eastern, Bundelkhand)
2. Institution types (Central Universities, State Universities, Private Universities, Autonomous Colleges)
3. Academic disciplines (Sciences, Humanities, Commerce, Professional Courses)
4. Study levels (Graduate, Postgraduate)

Within each stratum, simple random sampling was used to select individual participants.

Statistical Tools Used

The quantitative data was analyzed using:

1. Descriptive statistics (frequencies, percentages, means, standard deviations)
2. Inferential statistics (t-tests, ANOVA, correlation analysis, multiple regression)
3. Factor analysis for identifying key determinants of engagement and action
4. Structural equation modeling to examine relationships between variables

Qualitative data was analyzed using thematic content analysis, with key themes and patterns identified through coding procedures using NVivo software.

Data Analysis & Interpretation

Demographic Profile of Respondents

Table 1: Demographic Characteristics of Survey Respondents (N=385)

Characteristic	Category	Frequency	Percentage
Gender	Male	192	49.9%
	Female	187	48.6%
	Non-binary/Other	6	1.5%
Age	18-20 years	127	33.0%
	21-23 years	186	48.3%
	24-26 years	56	14.5%
	Above 26 years	16	4.2%
Education Level	Undergraduate	224	58.2%
	Postgraduate	161	41.8%
Academic Discipline	Sciences	112	29.1%
	Humanities	86	22.3%
	Commerce/Management	94	24.4%
	Engineering/Technology	58	15.1%
	Others	35	9.1%
Location	Urban	249	64.7%
	Semi-urban	87	22.6%
	Rural	49	12.7%

The demographic profile reveals a balanced gender distribution among respondents, with a slight majority of male participants (49.9%) compared to female participants (48.6%). Age distribution indicates that most respondents (48.3%) fall within the 21-23 years category, followed by the 18-20 years category (33.0%). The sample includes both undergraduate (58.2%) and postgraduate students (41.8%) across diverse academic disciplines, with Sciences representing the largest category (29.1%). Majority of the respondents reside in urban areas (64.7%), which reflects the typical distribution of higher education institutions in Uttar Pradesh.

Instagram Usage and SDG Content Exposure

Table 2: Instagram Usage Patterns and SDG Content Exposure (N=385)

Characteristic	Category	Frequency	Percentage
Instagram Usage Frequency	Multiple times daily	247	64.2%
	Once daily	78	20.3%
	Few times weekly	42	10.9%
	Less frequently	18	4.6%
Daily Time Spent on Instagram	Less than 30 minutes	53	13.8%
	30-60 minutes	119	30.9%
	1-2 hours	142	36.9%
	More than 2 hours	71	18.4%
Reels Viewed Daily	Less than 10	79	20.5%
	10-20	156	40.5%
	21-30	97	25.2%
	More than 30	53	13.8%

Encountered SDG-related Reels	Frequently	87	22.6%
	Occasionally	168	43.6%
	Rarely	95	24.7%
	Never	35	9.1%
Actively Seek SDG Content	Yes	112	29.1%
	No	273	70.9%

Analysis of Instagram usage patterns reveals high engagement among the student population, with 64.2% accessing the platform multiple times daily and 36.9% spending 1-2 hours daily on the application. Reels consumption is substantial, with 40.5% of respondents viewing 10-20 Reels daily and 25.2% viewing 21-30 Reels. Regarding SDG content exposure, 22.6% report frequently encountering SDG-related Reels, while 43.6% encounter such content occasionally. Notably, only 29.1% actively seek SDG-related content, suggesting that most exposure occurs through algorithmic recommendations or social sharing rather than deliberate search.

SDG Awareness Levels Before and After Exposure to Reels

Table 3: SDG Awareness Levels Before and After Exposure to Reels (N=385)

Sustainable Development Goal	Pre-Exposure Awareness Score (Mean)	Post-Exposure Awareness Score (Mean)	Percentage Increase	t-value	p-value
SDG 1: No Poverty	3.45	3.87	12.2%	5.67	<0.001
SDG 2: Zero Hunger	3.21	3.56	10.9%	4.92	<0.001
SDG 3: Good Health and Well-being	3.78	4.32	14.3%	6.84	<0.001

SDG 4: Quality Education	3.65	4.47	22.5%	8.12	<0.001
SDG 5: Gender Equality	3.82	4.53	18.6%	7.75	<0.001
SDG 6: Clean Water and Sanitation	3.12	3.54	13.5%	5.41	<0.001
SDG 7: Affordable and Clean Energy	2.87	3.43	19.5%	6.93	<0.001
SDG 8: Decent Work and Economic Growth	2.93	3.21	9.6%	4.24	<0.001
SDG 9: Industry, Innovation and Infrastructure	2.56	2.89	12.9%	4.78	<0.001
SDG 10: Reduced Inequalities	3.24	3.67	13.3%	5.82	<0.001
SDG 11: Sustainable Cities and Communities	2.68	3.12	16.4%	6.17	<0.001
SDG 12: Responsible Consumption and Production	2.72	3.25	19.5%	6.84	<0.001
SDG 13: Climate Action	3.47	4.65	34.0%	10.28	<0.001

SDG 14: Life Below Water	2.43	2.98	22.6%	7.13	<0.001
SDG 15: Life on Land	2.76	3.34	21.0%	6.97	<0.001
SDG 16: Peace, Justice and Strong Institutions	2.54	2.78	9.4%	3.87	<0.001
SDG 17: Partnerships for the Goals	2.26	2.42	7.1%	2.98	<0.01
Overall Awareness Score	3.03	3.59	18.5%	8.23	<0.001

Note: Awareness measured on 5-point Likert scale (1=No awareness, 5=Complete awareness)

Paired t-tests were conducted to examine changes in SDG awareness levels before and after exposure to relevant Instagram Reels. Results indicate statistically significant increases in awareness across all 17 SDGs ($p<0.001$ for most goals), with the overall awareness score increasing by 18.5%. The most substantial increases were observed for SDG 13: Climate Action (34.0%), SDG 14: Life Below Water (22.6%), and SDG 4: Quality Education (22.5%). Goals with the smallest increases include SDG 17: Partnerships for the Goals (7.1%) and SDG 16: Peace, Justice and Strong Institutions (9.4%). These findings suggest that Instagram Reels are particularly effective for communicating environmentally-focused and education-related SDGs, while institutional and partnership-focused goals may require different communication approaches.

Correlation Between Engagement Metrics and SDG Awareness

Table 4: Correlation Between Instagram Engagement Metrics and SDG Awareness (N=385)

Engagement Metric	Correlation with Overall SDG Awareness	p-value
Views Duration (% completion)	0.428	<0.001
Like Behavior	0.362	<0.001
Comment Behavior	0.587	<0.001
Share Behavior	0.643	<0.001
Save Behavior	0.712	<0.001
Profile Visit After Viewing	0.496	<0.001
Hashtag Exploration	0.531	<0.001
Creator Following	0.474	<0.001
Content Creation on Similar Topics	0.689	<0.001
Multiple Exposures to Similar Content	0.764	<0.001

Note: Correlation coefficients represent Pearson's r values

Analysis of the relationship between various Instagram engagement metrics and overall SDG awareness reveals significant positive correlations across all measured behaviors. The strongest correlations were observed for multiple exposures to similar content (r=0.764), save behavior (r=0.712), and content creation on similar topics (r=0.689), suggesting that deeper and more active forms of engagement contribute most substantially to awareness outcomes. The correlation with share behavior (r=0.643) highlights the importance of social distribution in amplifying awareness effects. Notably, passive consumption metrics such as views duration (r=0.428) and like behavior (r=0.362) show weaker, though still significant, correlations with awareness levels. These findings suggest that strategies encouraging active engagement with SDG content, particularly those promoting repeated exposure and content saving for future reference, may be most effective for enhancing awareness.

SDG-Related Actions Following Exposure to Instagram Reels

Table 5: Actions Taken Following Exposure to SDG-Related Instagram Reels (N=385)

Action Category	Action Type	Frequency	Percentage
Information Seeking	Researched SDG topics further	218	56.6%
	Followed SDG-related accounts	163	42.3%
	Participated in webinars/online events	87	22.6%
Behavioral Changes	Adopted sustainable consumption practices	142	36.9%
	Changed waste management behaviors	156	40.5%
	Modified transportation choices	98	25.5%
	Altered dietary practices for sustainability	75	19.5%
Social Sharing	Discussed SDG topics with peers/family	211	54.8%
	Shared SDG content on social media	178	46.2%
	Created original SDG-related content	64	16.6%
Community Engagement	Volunteered for SDG-related initiatives	93	24.2%
	Participated in campus sustainability activities	127	33.0%
	Joined SDG-focused student groups	72	18.7%
Advocacy	Signed petitions supporting SDG causes	145	37.7%
	Contacted institutional/government representatives	42	10.9%
	Participated in awareness campaigns	89	23.1%
No Action Taken	Reported no action following exposure	59	15.3%

Analysis of reported actions following exposure to SDG-related Instagram Reels reveals that information seeking constitutes the most common response, with 56.6% of respondents researching SDG topics further and 42.3% following related accounts. Social sharing behaviors are also prevalent, with 54.8% discussing SDG topics with peers or family members. Among behavioral changes, waste management practices (40.5%) and sustainable consumption (36.9%) show the highest adoption rates. Community engagement through campus sustainability activities was reported by 33.0% of respondents, while advocacy through petition signing was noted by 37.7%. Only 15.3% of participants reported taking no action following exposure to SDG-related Reels, suggesting that content exposure typically generates some form of response among the majority of viewers. The data indicates a gradation in action intensity, with information-seeking and social sharing behaviors more common than community engagement or advocacy, which require greater commitment and resource investment.

Factors Influencing Engagement with SDG-Related Instagram Reels

Table 6: Factors Influencing Engagement with SDG-Related Instagram Reels (N=385)

Factor Category	Specific Factor	Mean Importance Score	Standard Deviation
Content Characteristics	Visual appeal and production quality	4.34	0.68
	Emotional resonance	4.27	0.72
	Brevity and conciseness	4.12	0.81
	Local relevance/context	4.65	0.53
	Presence of actionable information	4.42	0.64
Creator Attributes	Perceived expertise/credibility	4.38	0.62

	Relatability of creator	4.21	0.75
	Creator authenticity	4.53	0.58
	Following status prior to viewing	3.67	0.97
Content Approach	Use of humor/entertainment	4.17	0.82
	Storytelling approach	4.32	0.71
	Solution-focused messaging	4.47	0.61
	Data visualization/infographics	3.95	0.86
	Call-to-action clarity	4.29	0.67
Social Factors	Peer sharing of content	4.23	0.74
	Comment section quality/information	3.78	0.92
	Social proof (engagement metrics)	3.54	1.03
	Trending status/hashtags	3.68	0.95

Note: Importance measured on 5-point Likert scale (1=Not important, 5=Extremely important)

Analysis of factors influencing engagement with SDG-related Instagram Reels reveals that local relevance/context (Mean=4.65) ranks as the most important determinant, followed by creator authenticity (Mean=4.53) and solution-focused messaging (Mean=4.47). Among content characteristics, visual appeal and production quality (Mean=4.34) and emotional resonance (Mean=4.27) are highly rated, emphasizing the importance of both aesthetic and affective dimensions. The relatively high standard deviation for social proof metrics (SD=1.03) suggests greater variability in how respondents value engagement metrics as indicators of content quality. These findings indicate that SDG-related content performs best when tailored to local contexts, presented by authentic creators, and structured around actionable solutions rather than merely

highlighting problems. The importance of storytelling approaches (Mean=4.32) further supports the value of narrative frameworks in communicating complex sustainability concepts.

Results and Findings

The study reveals several significant findings regarding Instagram Reels as a medium for SDG awareness and action among higher education students in Uttar Pradesh. First, exposure to SDG-related Reels produces statistically significant improvements in awareness across all 17 goals, with particularly strong effects for environmentally-focused goals (Climate Action, Life Below Water) and education-related goals. This differential impact suggests that certain sustainability themes may be inherently more conducive to short-form video communication or may currently receive greater emphasis from content creators.

Regarding engagement patterns, deeper forms of interaction such as saving content, creating similar content, and multiple exposures demonstrate the strongest correlations with awareness outcomes. This finding supports the hypothesis that passive viewing alone is insufficient for meaningful awareness development, with active engagement and repeated exposure playing crucial roles in knowledge acquisition. The data further indicates that approximately 85% of respondents report taking some form of action following exposure to SDG-related Reels, though these actions vary in intensity from information-seeking behaviors to community engagement and advocacy.

Content characteristics substantially influence engagement outcomes, with local relevance emerging as the most critical factor. This emphasizes the importance of contextualizing global sustainability challenges within regional frameworks that resonate with students' lived experiences in Uttar Pradesh. Creator authenticity and solution-oriented messaging also demonstrate strong influence on engagement metrics, suggesting that students respond most positively to content that feels genuine and provides actionable pathways rather than merely highlighting problems.

The findings support both research hypotheses: Instagram Reels significantly increase SDG awareness among the target population, and engagement with such content positively correlates with subsequent action. However, the relationship between awareness and action appears to be

moderated by several factors, including content quality, perceived efficacy, and available action opportunities within students' immediate environments.

Suggestions

Based on the research findings, the following suggestions are proposed for leveraging Instagram Reels as effective tools for SDG awareness and action:

1. Educational institutions in Uttar Pradesh should develop formal social media strategies that incorporate Instagram Reels into their sustainability education frameworks, creating institutional channels that regularly produce high-quality SDG content tailored to student interests and regional contexts.

2. Content creators focusing on SDGs should prioritize localization strategies, connecting global sustainability challenges to Uttar Pradesh's specific environmental, social, and economic landscape to enhance relevance and engagement among the state's student population.

3. SDG-related Reels should consistently incorporate clear, accessible action pathways appropriate for student audiences, moving beyond awareness-raising to provide specific, implementable steps that viewers can take within their campus, community, or personal life contexts.

4. Creator collaborations between subject matter experts and students should be encouraged to combine content credibility with peer relatability, potentially through mentorship programs that guide students in developing authentic, technically accurate sustainability messaging.

5. Educational institutions should establish recognition systems that incentivize student creation of SDG-focused social media content, potentially through competitions, course credit, or formal acknowledgment of digital communication skills development.

6. Content strategies should be differentiated by SDG, with more complex or less visually intuitive goals (such as institutional partnerships or economic objectives) receiving specialized treatment that addresses the unique communication challenges they present.

7. Measurement frameworks should be developed to systematically track both online engagement metrics and real-world actions resulting from SDG content exposure, establishing clearer evidence of impact pathways and enabling continuous improvement of communication strategies.

Implications

Academic Implications

This research contributes to the emerging field of sustainability communication through social media, particularly in developing regions experiencing rapid digital transformation. The findings extend existing theoretical frameworks by demonstrating how short-form video content specifically influences awareness and action processes among educated youth populations. The identification of engagement factors that most strongly correlate with awareness outcomes offers valuable insights for communication theorists studying digital persuasion in sustainability contexts. Additionally, the research methodology provides a template for similar studies in other regions or with different demographic groups, potentially enabling comparative analyses of social media's effectiveness across diverse contexts.

Practical Implications

For educational institutions, this research offers evidence-based guidance for integrating social media strategies into formal and informal sustainability education. The findings regarding content characteristics that most effectively engage students can inform the development of institutional communication plans and content creation guidelines. For policymakers and NGOs working on sustainable development in Uttar Pradesh, the research highlights social media's potential as a complementary channel for public engagement, particularly for reaching educated youth demographics who may become sustainability leaders in their communities.

Social Media Platform Implications

The findings have implications for platform developers and algorithm designers, suggesting that sustainability content may require specialized consideration within recommendation systems to

maximize its educational potential. The identified importance of local relevance points to opportunities for geographically-targeted content promotion strategies that could enhance the effectiveness of sustainability messaging on platforms like Instagram.

Limitations

Several limitations should be considered when interpreting this study's findings:

1. The research relies substantially on self-reported data regarding both awareness levels and action behaviors, which may be subject to social desirability bias or inaccurate recall.

2. The cross-sectional design limits causal inferences about the relationship between Reels exposure and observed outcomes, as pre-existing interest in sustainability may influence both content engagement and reported actions.

3. The focus on Instagram Reels specifically, rather than comparing across multiple short-form video platforms, restricts generalizability to other content formats or social media environments.

4. The sampling frame, while geographically diverse within Uttar Pradesh, overrepresents urban students and those with consistent internet access, potentially excluding perspectives from more marginalized student populations.

5. The research occurred during a period of evolving platform features and algorithm changes, meaning that findings may be time-sensitive and subject to shifts in Instagram's content distribution mechanisms.

Scope of Future Research

This study opens several promising avenues for future research:

1. Longitudinal studies tracking changes in both awareness and behavior over extended time periods would provide more robust evidence regarding the sustainability of effects generated through Reels exposure.

2. Comparative analyses across different short-form video platforms (TikTok, YouTube Shorts, etc.) could identify platform-specific strengths and limitations for SDG communication.

3. Experimental designs manipulating specific content characteristics (visual style, narrative approach, call-to-action types) would enable more precise identification of causal relationships between content elements and engagement outcomes.

4. Research exploring the potential integration of user-generated content into formal educational curricula could develop frameworks for academic-social media partnerships in sustainability education.

5. Studies focusing on specific SDGs that demonstrated weaker awareness gains in this research could investigate specialized communication strategies for complex or abstract sustainability concepts.

6. Investigation of potential negative effects, including information overload, superficial engagement, or performative activism, would provide a more nuanced understanding of social media's role in sustainability communication.

Conclusion

This research demonstrates that Instagram Reels represent a promising medium for enhancing SDG awareness and catalyzing action among graduate and postgraduate students in Uttar Pradesh, India. The findings confirm both research hypotheses, showing that exposure to SDG-related Reels significantly increases awareness across all goals and that engagement with such content positively correlates with subsequent action-oriented behaviors. The effectiveness of this medium appears to be moderated by several factors, particularly content localization, creator authenticity, and the presence of clear, actionable pathways for viewer participation.

The study reveals a hierarchy of engagement-to-action pathways, with information-seeking and social sharing representing the most common responses, followed by personal behavioral changes, community engagement, and advocacy behaviors. This gradation reflects varying levels of commitment and resource investment required for different types of sustainability action. The

research further identifies key content characteristics that enhance effectiveness, providing practical guidance for educational institutions, content creators, and platform developers seeking to leverage Instagram Reels for sustainability communication.

While acknowledging limitations related to self-reporting and sampling constraints, this study makes significant contributions to understanding how short-form video content influences sustainability awareness and action among educated youth in developing regions. The findings have implications for educational practice, content creation strategies, and platform design, suggesting that intentionally designed social media content can serve as a valuable complement to traditional sustainability education approaches.

As digital platforms continue to evolve and youth media consumption patterns shift increasingly toward brief, visually-oriented content, understanding how to effectively communicate complex sustainability concepts through these channels becomes increasingly crucial. This research provides a foundation for such understanding within the specific context of Uttar Pradesh's higher education landscape, while opening numerous avenues for further investigation across different platforms, regions, and demographic groups. The findings ultimately suggest that Instagram Reels, when thoughtfully designed and strategically deployed, can indeed serve as catalysts for SDG awareness and action among the next generation of sustainability leaders.

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