

Pro-environmental Campaign Exposure via Instagram and Pro-environmental Awareness

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Abstract. Environmental degradation is a global challenge that demands collective action, and pro-environmental campaigns are essential in promoting pro-environmental awareness. In the digital age, social media platforms like Instagram have become powerful tools for conducting these campaigns. This study investigates the relationship between the characteristics of Instagram users and pro-environmental campaign exposure via Instagram on pro-environmental awareness among users. Focusing on the Instagram account @sayapilihbumi, data were collected from 82 respondents using an accidental sampling method. The findings reveal high exposure to environmental campaigns via Instagram and pro-environmental awareness among users. The results reveal no relationship between the characteristics of Instagram users and pro-environmental awareness. However, Spearman's rank correlation analysis confirms a significant positive relationship between pro-environmental campaign exposure via Instagram and pro-environmental awareness. The study highlights the potential of social media, particularly Instagram, as an effective avenue for fostering environmental consciousness.

Keywords: pro-environmental campaign exposure, pro-environmental awareness, Instagram followers

1 Introduction

Environmental degradation is a critical global issue, and Indonesia is no exception. According to Greenpeace (2020) [1], Indonesia faces several significant ecological challenges, including the degradation of coral reefs and forests, widespread plastic dependency, and severe air pollution. Human activities are a major contributor to these issues, as the exploitation of natural resources intensifies to meet the growing demands of an increasing population. However, this resource extraction often disregards the environment's natural capacity to regenerate, accelerating the rate of environmental destruction. Urgent measures are needed to address this unsustainable exploitation and prevent further damage.

Raising public awareness and participation in environmental protection is essential for fostering pro-environmental behaviour. Pro-environmental behaviour reflects an individual's awareness and concern for environmental degradation and sustainability. According to Kollmuss and Agyeman (2002) [2], such behaviour stems from a conscious effort to minimize the negative impacts of human actions on the environment. This includes practices like reducing resource consumption, conserving energy, using non-toxic materials, and minimizing waste production. Pro-environmental awareness refers to an individual's knowledge, attitudes, and actions toward

environmental care, manifested through their daily behaviors aimed at preserving the environment.

To effectively promote pro-environmental awareness, it is crucial to use the right media to reach a broader audience. Social media offers a powerful platform for disseminating information without the constraints of time and space. It allows users to connect and communicate with others, both in the physical and virtual worlds, making it an ideal tool for sharing information (Zarella, 2011) [3]. One of the most popular social media platforms in Indonesia is Instagram, an application that enables users to upload photos and videos, enhanced by various features such as followers, captions, hashtags, and InstaStories. According to NapoleonCat (2020) [4], Instagram has 78.6 million users in Indonesia, with the largest age demographic being 18-24 years old, accounting for 36.9%. Instagram's diverse features make it a popular platform for both individuals and organizations, offering an effective way to engage with a large audience. Given its extensive reach and user-friendly features, Instagram is well-suited for spreading pro-environmental awareness to the public.

Campaigns are structured communication efforts to influence a target audience within a specific timeframe (Sastropetro, 1988) [5]. They enable individuals or groups with objectives to persuade others to support their cause. Pro-environmental campaigns on social media aim to enhance public awareness of environmental issues and encourage sustainable behaviours. Such awareness is crucial but must be complemented by government policies promoting environmental conservation. Environmental awareness reflects a deeper respect for the rights of all people and living organisms to enjoy and coexist with nature, underscoring the need for collective responsibility in protecting the environment.

Social media enables the rapid dissemination of information to a large audience, making platforms like Instagram popular for running campaigns, including pro-environmental initiatives. Organizations such as WWF, Earth Hour, Greenpeace, 4ocean, and SayaPilihBumi use Instagram to raise environmental awareness. According to GWI data cited by goodnewsfromindonesia.id (2020) [6], Instagram is the most widely used social media platform in Indonesia, making it an ideal channel for sharing information with vast audiences. One such environmental community, SayaPilihBumi, uses the Instagram account @sayapilihbumi to promote environmental conservation efforts. Key factors contributing to the success of their pro-environmental campaigns include strong community engagement and the characteristics of their Instagram followers. Ultimately, the effectiveness of the campaign is measured by its ability to increase pro-environmental awareness among its audience.

Raising pro-environmental awareness through Instagram is crucial, as exposure plays a key role in increasing awareness. Exposure refers to the extent to which an audience engages with messages shared through a medium (Effendi, 1990) [7]. Media exposure measures how effectively a platform reaches its audience—how many people read, listen, or watch content across various channels. In the context of Instagram, the visibility of pro-environmental campaigns is evaluated based on factors such as message frequency, user feedback, message appeal, and clarity of communication. Instagram users' perception of these factors determines the effectiveness of campaigns, such as those run by @sayapilihbumi, in promoting environmental awareness. The greater the exposure Instagram followers have to pro-environmental content shared by @sayapilihbumi, the more they engage with environmental information, ultimately leading to increased pro-environmental awareness.

This research is essential because social media is increasingly being used for pro-environmental campaigns, but Instagram, as a highly popular social media platform, has not been evaluated for pro-environmental campaigns in changing behavior. Despite the growing use of social media for pro-environmental campaigns, several research gaps need to be addressed. While previous studies highlight the role of Twitter and Chinese social media platforms (WeChat and Xiaohongshu) as social media in raising environmental awareness (Fernandez et al., 2017; Meng et al., 2023) [8] [9], limited research has examined whether Instagram exposure to such campaigns performs identically. While Instagram is widely used, there is a lack of comparative studies analysing how it performs in pro-environmental awareness compared to other platforms. However, analyzing how Instagram performs in raising pro-environmental awareness is essential for fostering pro-environmental behavior. Existing research often generalises the impact of social media campaigns without considering the specific characteristics of different user segments (Lee, Jan, & Huang, 2020) [10]. However, it is critical for understanding how different user segments respond to pro-environmental campaigns.

Based on the research gaps, the following research problems are identified: 1) What are the key characteristics of Instagram users? 2) How are pro-environmental campaigns being exposed to Instagram users? 3) What is the level of pro-environmental awareness among Instagram users? 4) What is the relationship between the characteristics of Instagram users and their level of pro-environmental awareness? 5) How does the exposure to pro-environmental campaigns on Instagram relate to users' pro-environmental awareness? These questions will guide the research in exploring the influence of Instagram campaigns on environmental consciousness.

2 Literature Review

2.1 Instagram as Social Media

Social media is the latest development of new internet-based web development technologies, which makes it easier for everyone to be able to communicate, participate, share and form a network online so that they can disseminate their content. According to Zarella (2011) [11], social media is a site where people communicate with their friends, whom they know in the real world and the virtual world. So social media is one form of internet development. Through social media, a person can connect with everyone who is a member of the same social media to share information and communicate. Social media has an interactive nature so that through social media we can directly interact with others, either through comments on social media or likes on other people's posts.

Instagram is a social media that is widely used by Indonesians. Instagram users use it to access the feature services available in it. Instagram is an application that allows users to share photos and videos and then disseminate them to other social media such as Facebook, Twitter and others (Putri 2013) [12]. Instagram can be used on all iOS and Android-based smartphones. The name Instagram comes from the word "insta" derived from the word "instant", like a Polaroid camera which in its time was better known as "instant photos". Instagram can also display photos instantly, like polaroids in its display, while the word "gram" comes from the word "telegram" referring to the way telegrams work to send information to others quickly. Similarly, Instagram can upload photos using the internet network, so that the information you want to convey can be received quickly. That's why Instagram comes from "instant telegram".

The development of Instagram from the beginning of its creation until now is very rapid. Instagram is widely used because it has many advantages in terms of feature services. Instagram

features are followers and following, uploading photos and videos, camera, photo effects, photo titles (captions), arroba, geotagging, like marks, comment columns, popular (explore) and sharing to other social networks. In August 2016, Instagram added new features to the app, namely the Instagram Stories and Instagram Live features. Instagram Stories is a feature that users can use by uploading photos or videos that will disappear after 24 hours. In this feature, it is possible to upload unlimited photos or videos, accompanied by text and drawing tools that make photos or videos directly captioned or accented that can support uploads (Instagram, 2016) [13]. According to Instagram (2016) [14], the Instagram Live feature is used to broadcast live broadcasts on each user account. This feature is supported by a comment column that can be turned on or off when broadcasting live.

The use of Instagram features can be used to deliver pro-environment campaigns with interesting visual content, either through photo or video uploads, Instagram Stories, or Instagram Live. Pictorial and moving content (audiovisual) is seen by many people because it is more attention-grabbing and easier to understand. In addition to sharing photos and videos, Instagram has a feature that makes it easy for users to disseminate uploads that contain information, namely the share feature. According to Qashmal and Ahmadi (2015) [15] this social media facilitates users to upload photos and videos along with effects to support them, there are also supporting features such as likes and comments available on each uploaded photo. In addition, Instagram also provides a hashtag feature (#) which is presented in the caption of photos and videos uploaded by the account owner to make it easier for Instagram users to find the information they need. Previous research by Ulfa (2017) [16] showed that the use of social media can be used to campaign for environmental awareness. By using the hashtag feature, Instagram social media users can more widely access information about environmental awareness.

2.2 Instagram Users

Social media users are audiences or individuals who use social media based on the features available on social media applications. Social media is related to its use. According to GWI data, quoted by Yudo (2021) [17], Instagram is the most social media used by the Indonesian population. Social media users in this study are individuals who engage with Instagram, utilizing the various features available within the Instagram application, which is so on as Instagram users. Instagram users are individuals who follow accounts that provide information.

Instagram users have diverse characteristics, which can influence their level of pro-environmental awareness. As regular consumers of Instagram content, users may perceive phenomena, including environmental issues, differently. According to Sumarwan (2004) [18], individual characteristics can be categorized based on demographic, social, and economic factors. Demographic characteristics include age, gender, education, occupation, and income, all of which can shape how users interact with and respond to pro-environmental campaigns on Instagram.

2.3 Pro-environmental Campaign Exposure via Instagram

Exposure refers to the degree to which an individual engages with a message conveyed through a particular medium, encompassing activities such as listening, viewing, and reading (Shore as cited by Samsi, 2005) [19]. It measures how much attention is given to the content shared via

different channels. Exposure can be evaluated based on factors such as the amount of time spent on the platform, the types of media content consumed, and the relationship users establish with the content and the platform itself (Rakhmat, 2013) [20].

Media exposure is crucial because it highlights the effectiveness of a medium in reaching and influencing its audience. According to Shimp (2014) [21], media exposure can be analyzed through several indicators: 1) exposure and popularity, 2) ability to attract and retain attention, 3) quality of engagement with users, 4) usability and targeting effectiveness, 5) frequency of user visits to social media accounts, 6) frequency of message dissemination and user feedback, 7) appeal and clarity of messages, and 8) the pathways users take to access social media content. In a previous study by Permatasari (2015) [22], exposure was assessed using indicators such as message frequency, feedback frequency, message appeal, and clarity of message delivery. Understanding these elements of exposure helps in evaluating the impact of social media campaigns and optimizing strategies to enhance their reach and effectiveness.

A campaign is a targeted communication activity designed to influence a specific audience within a defined period (Sastropetro, 1988) [23]. Rice and Paisley (1981) [24] emphasize that campaigns seek to shape individual and public opinions, beliefs, behaviors, and interests through the effectiveness of the message and the communicator's appeal. In the context of pro-environmental campaigns, the goal is to inspire behavioral changes that promote sustainability and environmental preservation. According to Kaiser et al. (2007) [25], pro-environmental behavior can be measured across six key indicators: (1) energy conservation, (2) sustainable mobility and transportation, (3) waste prevention, (4) recycling, (5) mindful consumerism, and (6) nature preservation efforts. These indicators serve as benchmarks to assess how deeply individuals engage in environmentally responsible practices.

In terms of exposure to pro-environmental campaigns, these efforts involve mass communication strategies aimed at influencing public awareness and encouraging participation in environmental conservation. The level of exposure—how frequently and effectively the campaign reaches its audience—directly impacts the adoption of pro-environmental behaviors. Through consistent messaging and engagement on platforms like social media, campaigns can significantly contribute to raising environmental awareness and fostering sustainable actions.

2.4 Pro-environmental Awareness

Priyono (1996) [26] suggests that environmental awareness means being knowledgeable about the environment and understanding to seek action solutions regarding environmental issues, it can be concluded that the indicators of awareness are knowledge and understanding. Pro-environmental awareness is crucial, especially in a world where environmental pollution and degradation are increasingly difficult to avoid. Public awareness, reflected in active participation in environmental initiatives, is essential to complement government policies aimed at environmental preservation. Environmental awareness goes beyond simply maintaining a clean and aesthetically pleasing environment; it encompasses a fundamental human responsibility to respect the rights of others and the natural world.

An individual is considered environmentally aware when, in terms of knowledge, they can understand, apply, analyze, synthesize, and evaluate pro-environmental practices. This awareness extends to attitudes, where individuals demonstrate acceptance, responsiveness, respect, and responsibility toward environmental issues. Furthermore, environmentally

conscious actions are measured through perception, guided responses, mechanisms of behaviour, and the adoption of sustainable practices. In summary, pro-environmental awareness is a comprehensive state where an individual: 1) Knows to understand and define environmental issues and preservation methods; 2) Develops a genuine sense of care and responsibility for the environment; 3) Takes proactive steps to minimize harmful impacts and contribute to environmental sustainability. This holistic awareness combines knowledge, emotion, and action to drive meaningful change.

2.5 Research Framework

The exposure of pro-environmental campaigns on social media plays a significant role in raising users' awareness of environmental issues. This exposure is shaped by several key factors, including the frequency of messages received. The more frequently Instagram users encounter pro-environmental campaign messages, the greater their awareness becomes in terms of knowledge, attitudes, and behaviour. Regular exposure to such content helps reinforce environmental messages, making users more conscious of sustainable practices. Additionally, the frequency of feedback from users and campaign creators, such as @sayapilihbumi, is crucial. High levels of interaction and engagement from the campaign creator build trust with users, which further enhances their environmental awareness and commitment to pro-environmental behaviour.

Message attractiveness is another important factor. The more engaging and appealing the content, the more likely users are to absorb the message, leading to an increase in environmental awareness among users. Visually compelling and creatively designed campaigns are more effective in capturing attention and driving change. Lastly, clarity of information is essential. The clearer and more understandable the content, the more likely followers are to engage with it and seek further information. Clear, concise messaging fosters curiosity and motivates users to learn more about environmental issues, ultimately raising their awareness and encouraging pro-environmental actions. In summary, pro-environmental campaign exposure on social media enhances awareness by leveraging message frequency, user feedback, message attractiveness, and clarity of communication, all of which contribute to fostering a deeper understanding and commitment to environmental conservation among social media users.

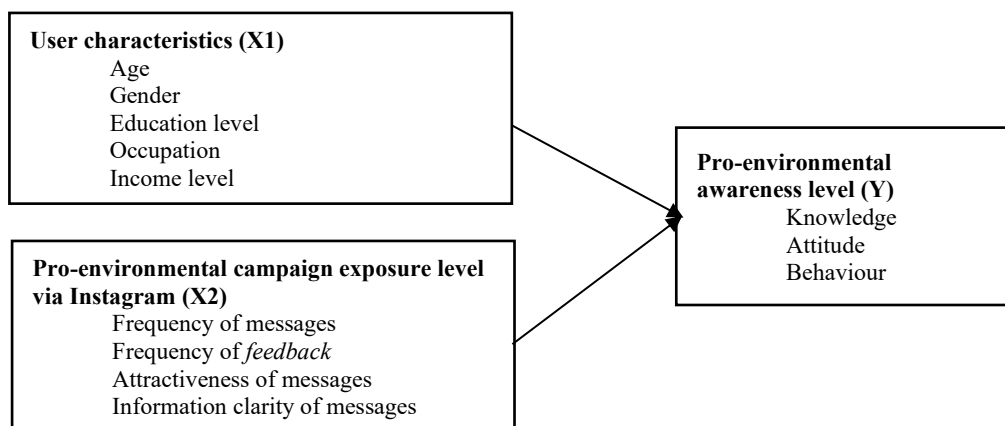


Figure 1. Research Framework

Based on the above research framework, it is hypothesized that:

1. There is a relationship between users' characteristics and the level of pro-environmental awareness.
2. There is a relationship between the level of pro-environmental exposure via Instagram and the level of pro-environmental awareness.

3 Method

The research was conducted using a survey design with an online questionnaire as data collection. Instagram users in this study are individuals who are active users of Instagram social media who follow the @sayapilihbumi account, as many as 46 thousand recorded on June 5, 2020. The number of respondents in this study was 82 people based on calculations using the Slovin formula.

G-forms were distributed to 82 followers of @sayapilihbumi, who were selected accidentally. The online questionnaire was developed to obtain data on followers' characteristics, the level of pro-environmental exposure via Instagram, and the level of pro-environmental awareness. The Cronbach's Alpha reliability test and Pearson product-moment validity test show that the online questionnaire is reliable and valid. Research hypotheses were tested using Pearson Chi-square and Rank Spearman tests.

The informants in this study are the @sayapilihbumi account manager and followers of the @sayapilihbumi account, as many as 10 persons who are respondents to fill out online questionnaires, which were selected intentionally based on the informant's willingness to be interviewed.

4 Overview of @sayapilihbumi's Instagram Account

SayaPilihBumi is a movement initially launched by National Geographic Indonesia in response to the growing climate change crisis and its contributing factors, both globally and within Indonesia. One of the primary focuses of the SayaPilihBumi movement was addressing the issue of plastic waste, a significant environmental problem in Indonesia. The emphasis on plastic waste was chosen due to the widespread use of single-use plastics for everyday needs, coupled with the public's lack of awareness about proper waste management and the harmful environmental impact of plastic pollution. This movement seeks to raise awareness and promote sustainable practices, particularly in reducing plastic waste, to combat environmental degradation and climate change. Sayapilihbumi was officially established on September 19, 2018, by bringing the issue of the earth, which can make Indonesia free from waste problems and create better environmental conditions. SayaPilihBumi aims to invite people to make behavioural changes in their daily lives and to become wise and responsible individuals for the waste produced through small things that we can start.



Figure 2. Logo of @sayapilihbumi Movement

Source: Facebook [27]

The development of environmental problems in Indonesia is increasingly widespread and does not only include plastic problems. This makes SayaPilihBumi begin to expand to other environmental issues such as energy, consumerism, food and so on as seen in the uploads on the Instagram account @sayapilihbumi. In addition to social media or online platforms, the dissemination of information about the environment is also supported by collaborative actions with various parties, such as environmentalist communities, campus organizations, and well-known product brands in Indonesia such as Pepsodent. Collaborative actions with various parties produce environmental events that will further educate the people who participate in the event. As a social movement that aims to fix environmental problems, SayaPilihBumi established Facebook and Instagram accounts under the name SayaPilihBumi to disseminate environmental education to the public. The Instagram account @sayapilihbumi as of September 2020 has 49.6 thousand followers followed by various characteristics. The purpose of establishing a social media account is as an easily accessible medium between the SayaPilihBumi and the community or audience, as well as a medium that can disseminate information widely without space and time restrictions.

The @sayapilihbumi Instagram account is actively managed by the editorial team so that it can convey information about the environment regularly to followers. The following is the content uploaded on the @sayapilihbumi account:

1. *Information*

The content shared by the @sayapilihbumi Instagram account includes a variety of environmental information, such as key environmental facts, reminders about important environmental days, and practical tips for incorporating eco-friendly habits into daily life. These posts aim to educate and inspire followers to adopt more sustainable behaviours.

2. *Event*

SayaPilihBumi collaborates with various organizations and groups that focus on environmental issues to expand its network and broaden the reach of its message. These collaborative efforts result in environmental events that are open to the public, providing valuable information about environmental challenges and potential solutions. The @sayapilihbumi Instagram account regularly posts schedules for these events, encouraging followers to participate. Events typically include seminars, webinars, discussions, and environmental campaign activities, all designed to raise awareness and engage the community in pro-environmental actions.

3. *Reposts*

The @sayapilihbumi account frequently reposts photos shared by other Instagram users that align with environmental themes. This practice serves as a form of interaction and engagement with users who share similar environmental concerns. By reposting relevant

content, SayaPilihBumi fosters a sense of community, strengthens connections with like-minded individuals and organizations, and helps to expand its network of environmental advocates. This collaborative approach not only amplifies the message of environmental awareness but also encourages greater participation and visibility for the cause.

5 Results and Discussion

5.1 Users' Characteristics

The data in Table 1 shows that the majority of respondents are female, with 56 respondents (68.3%), compared to 26 male respondents (31.7%). This higher response rate among women is attributed to their quicker reaction in replying to direct messages, as well as their greater willingness to engage. Supporting this observation, a survey by NapoleonCat (2020) [28] found that 51.1% of Instagram users in September 2020 were female, while 48.9% were male. It is also in line with Lee and Huang (2020) [29] that the majority of Instagram users are women. This suggests that women tend to use Instagram more frequently than men, contributing to the higher number of female respondents.

Table 1. Users' Characteristics

Variable	Category	N	%
Gender	Male	26	31.7
	Female	56	68.3
Age	Early adolescence (13 – 17 years old)	5	6.1
	Late adolescence (18 – 24 years old)	57	69.5
	Adults (> 24 years old)	20	24.4
Education level	Elementary – Junior High School	3	3.7
	Senior High School	38	46.3
	University	41	50.0
Status	Student	6	7.3
	University student	43	52.4
	Civil servant	9	11.0
	Employee	8	9.8
	Entrepreneur	9	11.0
	Freelancer	1	1.2
	Farmer	1	1.2
	Housewife	3	3.6
	Unemployment	2	2.4
Income level	Low (< 1.900.000)	56	68.33
	Medium (1.900.000 – 4.200.000)	12	14.6
	High (> 4.200.000)	14	17.1

The data also reveal that most respondents fall into the late adolescence to early adulthood category (18–24 years). This aligns with the findings from the NapoleonCat survey (2020) [30], which identifies 18–24 as the largest age group among Instagram users. This group is more active on Instagram, consistent with Prihatiningsih's (2017) [31] research, which shows that teenagers use Instagram for cognitive, affective, personal integration, social integration, and entertainment purposes. It is also consistent with Lee and Huang (2020) [32] that the majority of Instagram users are young adults. In contrast, respondents over 24 years old are fewer in

number. Many of them are employed as housewives, state civil servants, entrepreneurs, or private employees, and their busy work schedules leave them with less time to engage with social media and respond to direct messages. This explains the lower response rate from this age group.

The largest group of respondents falls into the high education category, specifically those with a Diploma or Bachelor's degree, comprising 41 respondents (50%). Respondents with a high school or equivalent education level follow closely, with 38 respondents (46.3%). The smallest group, representing the low education category, consists of only 3 respondents (3.6%) who have a junior high school or equivalent education level. This distribution can be explained by the nature of the @sayapilihbumi Instagram account, which focuses on environmental issues. People with a higher level of education tend to have more knowledge and awareness of topics like the environment. Therefore, those with higher educational backgrounds are more likely to follow and engage with such content, as their broader knowledge allows them to understand and connect with environmental concerns more effectively.

Table 1 indicates that the majority of respondents are students, with 43 respondents making up 54.2% of the total. Entrepreneurs and State Civil Servants are tied for second place, with 9 respondents each, representing 11%. This is followed by 8 respondents who are employees (9.8%), and 6 respondents who are students (7.3%). Other categories include housewives (3 respondents, 3.6%), freelancers and farmers (1 respondent each, 1.2%), and 2 respondents who are currently unemployed (2.4%). The table highlights that students are the most active group on social media compared to other job categories. This trend suggests that students have more time or interest in engaging with platforms like Instagram, possibly due to their flexible schedules and greater involvement in online communities.

Table 1 shows that the majority of respondents fall into the low-income category, with 56 respondents (68.3%) earning less than Rp 1,900,000 per month. In the medium-income category, there are 12 respondents (14.6%), while 14 respondents (17.1%) fall into the high-income category. The dominance of respondents in the low-income category is consistent with the education level data, where most respondents are students. Since students generally do not have a steady income and are often financially supported by their parents, it explains why a significant portion of respondents report lower income levels.

5.2 Pro-environmental Campaign Exposure Level via Instagram @sayapilihbumi

User exposure to media plays a critical role in determining whether a message can effectively reach users. According to Effendi (1990) [33], media exposure refers to the intensity with which an audience is exposed to the messages disseminated by a medium. In the case of the @sayapilihbumi Instagram campaign account, media exposure can be measured through various factors related to the content and interaction on the platform. The message content conveyed by @sayapilihbumi through photos, videos, and information uploads provides a foundation for assessing the account's effectiveness. The frequency of message feedback is reflected in the campaign account's responsiveness to its users, highlighting its engagement levels. The attractiveness of the message can be gauged by users' interest and willingness to access and engage with the content. Finally, the clarity of the information is evident in how well the content is presented and understood by users on Instagram.

Table 2 reveals that social media viewability is largely in the moderate category, with 56 respondents (68.3%). It also highlights variations across different indicators. The message frequency and feedback frequency indicators are rated in the low to moderate categories, while the message attractiveness and information clarity indicators are rated higher. The information clarity indicator is especially strong, with 51 respondents (62.2%) rating it in the high category, suggesting that most respondents find the messages on Instagram easy to understand. On the other hand, the frequency of feedback indicator shows a weakness, with 39 respondents (47.6%) placing it in the low category. This indicates that the admin of the @sayapilihbumi Instagram account interacts less frequently with users, reflecting a gap in engagement and responsiveness. While the content is clear and attractive, improvements could be made in fostering more two-way communication with users.

Table 2 Number and percentage of respondents based on the Pro-environmental Campaign Exposure Level via Instagram

Pro-environmental Campaign Exposure Level via Instagram	Low		Moderate		High		Total	
	n	%	n	%	n	%	n	%
Messages frequency	26	31.7	43	52.4	13	15.9	82	100
Feedback frequency	39	47.6	38	46.3	5	6.1	82	100
Messages attractiveness	0	0	40	48.8	42	51.2	82	100
Information clarity	0	0	31	37.8	51	62.2	82	100

5.3 Pro-environmental Awareness Level

The assessment of pro-environmental awareness is evaluated by examining changes in knowledge, attitudes, and behaviours toward the environment. Social media, particularly Instagram, serves as a powerful platform for environmental campaigns. The @sayapilihbumi Instagram account specifically aims to enhance pro-environmental awareness among its users by promoting eco-friendly practices and environmental education. In this study, the measurement of pro-environmental awareness is categorized into three key areas: 1) Knowledge – Understanding environmental issues, their causes, and solutions, 2) Attitude – The development of a positive and responsible mindset toward environmental preservation, and 3) Behaviour – Observable actions taken by individuals to minimize their environmental impact and contribute to sustainability. By focusing on these dimensions, the campaign strives to foster a holistic shift in users' environmental awareness and practices.

Table 3 Number and percentage of respondents based on the Pro-environmental Awareness Level

Pro-environmental Awareness Level	Knowledge		Attitude		Behaviour	
	N	%	N	%	n	%
Low	0	0	0	0	0	0
Moderate	6	7,3	4	4,9	24	29,3
High	76	92,7	78	95,1	58	70,7
Total	82	100	82	100	82	100

Table 3 indicates that respondents demonstrated a high level of pro-environmental awareness across all indicators. Specifically, 92.7% of respondents scored high on the knowledge indicator, 95.1% on the attitude indicator, and 70.7% on the behaviour indicator. This suggests that the majority of respondents possess strong environmental knowledge, exhibit a positive attitude or

inclination to care for the environment and engage in pro-environmental behaviours. However, while knowledge and attitude are notably high, there is a slightly lower percentage for behaviour, indicating room for improvement in translating awareness into consistent environmental actions.

5.4 Relationship between Instagram User Characteristics and Pro-environmental Awareness Level

Table 4 shows no relationship between age, gender, education level, status and income level with the level of pro-environmental awareness. Age does not determine the level of pro-environmental awareness because both adolescents and adults can have high pro-environmental awareness. However, the unidirectional relationship between age and the level of pro-environmental awareness shows a tendency for adolescents to have a higher level of pro-environmental awareness than adults. Gender does not determine the level of pro-environmental awareness because women and men have the same opportunity to have pro-environmental awareness. Education level does not determine the level of pro-environmental awareness because respondents with low to high education levels can have pro-environmental awareness. Instagram user status does not determine the level of pro-environmental awareness because any status has the opportunity to have pro-environmental awareness. Income level does not determine the level of pro-environmental awareness because both respondents with low and high-income levels can have pro-environmental awareness.

Table 4 Correlation value and significance of the relationship between Instagram user characteristics and pro-environmental awareness level

Instagram User Characteristics	Pro-environmental Awareness	
	<i>R</i>	<i>P</i>
Age	-.037	.744
Gender	.137	.711
Education level	.066	.555
Status	.857	.355
Income level	.021	.850

5.5 Relationship between Pro-environmental Campaign Exposure Level via Instagram and Pro-environmental Awareness Level

Based on the results in Table 5, the Spearman Rank correlation test reveals a significant relationship between exposure to pro-environmental campaigns via Instagram and the level of pro-environmental awareness. This positive, unidirectional relationship suggests that as the frequency of messages, feedback, message attractiveness, and clarity of information increase, so does the level of pro-environmental awareness among respondents. These findings highlight that the degree of exposure to the pro-environmental campaign directly impacts the respondents' environmental consciousness. This emphasizes the importance of enhancing campaign visibility and engagement to foster greater awareness. For the @sayapilihbumi campaign, it would be beneficial to focus on increasing the visibility of its content to users to maximize its impact on pro-environmental awareness. As Lee and Huang (2020) [34] suggested that visual appeal is crucial for capturing audience attention, as users are more likely to engage with emotionally compelling and aesthetically pleasing content, with videos and stories driving higher interaction rates than static images.

Table 5 Correlation value and significance of the relationship between Pro-environmental Campaign Exposure Level via Instagram and pro-environmental awareness level

Pro-environmental Campaign Exposure Level via Instagram	Pro-environmental Awareness Level	
	<i>R_s</i>	<i>p</i>
Messages frequency	0,380**	0.000
Feedback frequency	0,288**	0,009
Messages attractiveness	0,321**	0,003
Information clarity	0,350**	0,001

Additionally, the study shows that while message frequency is strong, the frequency of feedback on the @sayapilihbumi Instagram account remains in the medium range. This suggests that there is an opportunity for the campaign to increase interaction with followers, particularly by encouraging more feedback and engagement. By doing so, @sayapilihbumi could further enhance pro-environmental awareness and deepen its influence on follower behaviour.

6 Conclusion

In conclusion, the study reveals that the dominant characteristics of Instagram users engaging with the @Sayapilihbumi campaign are individuals aged 17-24 years, predominantly female, with a college-level education, primarily students, and an income level below Rp. 1,900,000. The visibility of the pro-environmental campaign through Instagram, as conveyed by the @Sayapilihbumi account, provides a clear picture of how information is received by Instagram users. The level of visibility, particularly in terms of message frequency, shows that users are adequately exposed to campaign messages. Pro-environmental awareness among users is high when individuals possess good knowledge about environmental issues, maintain positive attitudes toward environmental care, and engage in behaviours that reflect environmental concerns.

However, the study indicates that there is no significant relationship between the characteristics of Instagram users (age, gender, education, occupation, or income) and their pro-environmental awareness. This suggests that pro-environmental awareness is not dependent on demographic factors. On the other hand, the visibility of pro-environmental campaigns has a significant, positive relationship with pro-environmental awareness. This means that as the exposure to campaign messages increases, so does the level of environmental awareness among Instagram users. Therefore, increasing the visibility and engagement of the @sayapilihbumi campaign can contribute to greater environmental awareness and influence more pro-environmental behaviour among users.

7 Recommendation

Based on the findings of this study, several suggestions are proposed to enhance the effectiveness of the Instagram account @sayapilihbumi and provide directions for future research:

1. It is recommended that @sayapilihbumi create more engaging and visually appealing content to attract and retain a wider audience. Improving the aesthetics of the posts and increasing interaction with users, such as responding to comments, conducting polls, or hosting interactive campaigns, can help foster stronger connections and raise pro-environmental awareness more effectively.

2. The current study shows that most respondents were female, which limits the ability to assess pro-environmental awareness across genders. For future research, it is recommended to balance the number of male and female respondents. This would allow for a more objective comparison of pro-environmental awareness between genders, providing deeper insights into how gender influences environmental concern and behaviour.
3. In this study, the pro-environmental behaviour indicators were assessed through attitude-based responses (e.g., strongly agree, agree, disagree, strongly disagree). For future research, it is suggested to revise the questionnaire by using behaviour-based response options such as "always," "often," "rarely," and "never." This adjustment will allow for more accurate measurement of actual pro-environmental behaviour rather than just attitudes, giving a clearer picture of how awareness translates into real actions.
4. The primary goal of @sayapilihbumi's campaign is to spread environmental knowledge and encourage positive behaviour changes over time. To enhance this impact, continued focus on disseminating practical tips and actionable advice, as well as highlighting success stories, could help inspire users to adopt and maintain sustainable habits.

These recommendations aim to improve the campaign's reach and effectiveness while supporting more balanced and comprehensive future research on pro-environmental awareness.

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