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Digital representation of Mount Merbabu on social media: The gap between landscape aesthetics and geohistorical interpretation

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Abstract
This study aims to analyze the digital representation of the geohistorical landscape of Mount Merbabu specifically the Suwanting hiking trail on social media, and to examine its implications for heritage-based tourism and responsible digital citizenship. Employing an exploratory qualitative approach, the research analyzes 100 pieces of social media content, incorporates field observations, and includes interviews with content creators. The findings indicate that the digital representation of Mount Merbabu is dominated by landscape aesthetics and the hiking experience; 47% of the content focuses on the savanna, while 32% centers on the hiking trail. This dominance suggests that visual appeal takes precedence over historical and cultural interpretation within the primary content categories. Interviews further reveal that visual beauty is the primary consideration for creators when producing content, whereas historical and cultural information is relatively difficult to find. These findings highlight a gap between the aesthetic representation of the landscape and its geohistorical interpretation. Consequently, digital content concerning Mount Merbabu has the potential to be developed beyond mere tourism promotion serving instead as an educational tool that integrates accurate and responsible information regarding geography, history, culture, and conservation.
Keywords: Mount Merbabu; digital representation; geohistorical landscape; social media; digital citizenship

A. INTRODUCTION

Advances in digital technology have transformed how tourist destinations are portrayed, marketed, and perceived by the public. Social media allows user-generated content such as photos, short videos, written posts, and stories to circulate far beyond their point of origin. Digital storytelling serves not only as a promotional tool but also helps shape the image of a destination, the identity of a place, and the way people understand and appreciate an environment or landscape. (Agustina & Sakinah, 2026; Maryami & Alifahmi, 2026). In this context, a destination is not merely a physical place,

but also a digital space that is continuously produced, consumed, and understood by society.

One way to understand the relationship between a physical place and the meanings that develop within it is through the concept of a geohistorical landscape. This concept integrates perspectives from both geography and history to comprehend a given region. Geography examines the physical characteristics and location of an area such as its landforms, relief, pathways, vegetation, elevation, and environmental conditions while history focuses on the events, traces of human activity, societal progress, traditions, narratives, and memories that have taken shape within that space. Consequently, a geohistorical landscape is not merely viewed as a stretch of terrain, but rather as a space forged through the reciprocal influence between geographical conditions and historical processes. A landscape is a setting where the physical environment, human activities, historical experiences, and cultural meanings converge and continue to evolve over time.

In this study, the concept of the geohistorical landscape of Mount Merbabu is understood through three interrelated aspects: the geographical, the historical, and the geohistorical. The geographical dimension encompasses the environmental and spatial characteristics of Mount Merbabu such as landforms, accessible routes, highlands, mountain peaks, and the scenery which collectively shape the experience of being within that space. The historical dimension explores historical traces, significant sites, traditions, folklore, local knowledge, and cultural narratives associated with the mountain. Meanwhile, the geohistorical dimension examines the interplay between geographical conditions, historical processes, and human life, revealing how the unique environment of Mount Merbabu has influenced human activities, history, culture, and the construction of meaning for the place. These three dimensions do not function in isolation; rather, they reinforce one another to define Mount Merbabu as a landscape possessing geographical, historical, and cultural value. The geohistorical character of Mount Merbabu creates opportunities for the interpretation of digital heritage. Digital storytelling can link landscape features with history, local knowledge, cultural narratives, and environmental values, thereby rendering tourism content more educational and contextually rich. (Pramesti, et al., 2026) (Santano et al., 2025).

The characteristics of a landscape are conveyed through visual content within digital spaces. Photographs, videos, text, descriptions, and social media narratives reveal how individuals select, present, and perceive a landscape. For instance, visual depictions of Mount Merbabu might showcase the beauty of its savannas, hiking trails, summit, expansive vistas, and the experience of traversing the terrain. However, if such representations focus solely on aesthetic appeal, information regarding the history, culture, environment, and the significance the landscape holds for local communities may fail to be effectively communicated. Consequently, the images examined in this study are not merely regarded as aesthetically pleasing visuals; rather, they serve as a means to highlight or, conversely, to obscure aspects of a place's geography, history, and geohistory.

The dominance of such visual representations creates challenges in understanding the development of heritage-based tourism. While scenic imagery may attract visitors, it does not necessarily convey the history, cultural practices, collective memories, or environmental values associated with a given place. Research into the interpretation of digital heritage suggests that digital media can integrate visual experiences with an understanding of culture and sustainable tourism, as outlined by Pramesti and her team in 2026.(Pramesti, et al., 2026). Therefore, digital representations of geohistorical landscapes need to be developed not merely to promote tourist destinations, but also as a means to interpret various geographical, historical, and cultural elements.

Heritage, in this context, is not limited to physical objects left behind; it also encompasses the natural environment, historical traces, orally transmitted stories, customs, the collective memory of a community, the knowledge held by local residents, and cultural practices that continue to this day. Digital media can preserve these various forms of heritage and convey them to a wider audience. (Santano et al., 2025). However, creating and disseminating content about heritage must be done with a sense of responsibility regarding the information provided. Content creators should be able to distinguish between historically-based information and folklore or local beliefs, provide context for cultural information, respect the values of the local community, and remain mindful of the environment that may be affected.

This requirement relates to the concept of responsible digital citizenship. In this study, digital citizenship is not viewed as something to be measured, but rather as an ethical framework for understanding how people create, disseminate, and consume information regarding geohistorical landscapes within the digital sphere. The principles of responsible digital citizenship in this research encompass the obligation to convey accurate information, respect local history and culture, honor the community and the values inherent to a given region, show concern for the preservation of the environment, and engage critically within the digital space. Consequently, these principles of digital citizenship are derived from the characteristics of the geohistorical landscapes embedded in digital content: the more complex the geographical, historical, and cultural values of a place, the more critical it becomes to ensure that its representation is accurate, contextual, ethical, and responsible.

An approach that combines the study of history and religion is essential for understanding a place with a historical and cultural background (Amalina, 2020). It is suggested that integrating the study of history with the Islamic faith can be achieved by using the Quran as a frame of reference for learning about and understanding history for instance, by identifying Quranic verses that pertain to historical events and reflecting on the importance of drawing lessons from the past. This approach demonstrates that history serves not merely as a means to recount past events, but also as a way to contemplate values, human existence, and the ways in which human beings interact with their environment.

Previous research on Mount Merbabu has largely focused on ecological issues, conservation, biodiversity, and spatial aspects, including studies on Acacia decurrens, forest conditions, and carbon storage. (Sulton et al., 2023; Suryawan, n.d.; Untoro et al., 2017). Meanwhile, research in other contexts suggests that social media can serve as a space for negotiating cultural identity and the meaning of place. (Agustina, n.d.) (Agustina & Sakinah, 2026), meanwhile, the interpretation of digital heritage can strengthen cultural understanding within the context of sustainable tourism (Pramesti, et al., 2026). However, studies linking the geographical characteristics of Mount Merbabu with historical traces, cultural narratives, visual representations, and the principles of responsible digital citizenship remain limited.

Based on these distinctions, this study examines Mount Merbabu as a geohistorical landscape, as expressed through digital content. The analysis focuses on three primary aspects geography, history, and geohistory and how these are visually presented within digital content. Furthermore, these representations are analyzed to identify the values, attitudes, and forms of digital citizenship ethics that can be derived from the empirical findings. This study does not seek to measure the formation or level of digital citizenship; rather, it focuses on identifying principles of responsibility within digital citizenship that emerge as relevant, based on the characteristics of Mount Merbabu's geohistorical landscape.

B. METHOD

1. Research Design

This study employs an exploratory qualitative approach to analyze the digital representation of the geohistorical landscape of Mount Merbabu on social media. The primary unit of analysis consists of 100 publicly accessible posts 50 from TikTok and 50 from Instagram. Data were gathered through social media content analysis, field observations, semi-structured interviews with content creators, and supporting documentation. These diverse data sources were used to enrich and compare interpretations regarding the landscape, history, culture, and visual aesthetics of Mount Merbabu. The research focuses on the patterns of representation and the meanings that emerge within the digital content, rather than on measuring changes in visitor behavior or the impact of such content on digital citizenship.

2. Research Location

The research was conducted in the Mount Merbabu area, with a primary focus on the Suwanting hiking trail. Mount Merbabu is a stratovolcano in Central Java, reaching an elevation of 3,145 meters above sea level. The Suwanting trail was selected because its features including the savanna landscape, views of the surrounding mountains, and sites such as the Triangulation Peak (Puncak Triangulasi) and Kenteng Songo are highly relevant to the study's geohistorical focus.

3. Research Subjects

a. The primary data source consists of public posts on TikTok and Instagram concerning Mount Merbabu. The data comprises primary material, specifically 100 social media items 50 from Instagram and 50 from TikTok. These items were selected purposively from publicly accessible posts on TikTok and Instagram using the keywords and hashtags #Merbabu, #Suwanting, #MerbabuHike, and #MountMerbabu. To qualify, the content must be directly related to hiking or the representation of landscapes within the Mount Merbabu area and must contain visual or textual information relevant to its topography, history, culture, or aesthetics. The content was screened for relevance based on the following criteria:

Table 1. Mebabu Digital Content Criteria

N0	**Selection Criteria**	**Description**
1	Platform	TikTok and Instagram
2	Keywords	#Merbabu, #Suwanting, #MerbabuHike, #MountMerbabu
3	Content type	Public photos/videos related to hiking or the landscapes of Mount Merbabu
4	Content period	2024–2026
5	Relevance	Highlighting topography, historical sites, culture, or landscape aesthetics
6	Filtering	Irrelevant content was removed; the final dataset contains 50 items.

Platform	Number of items	Role
TikTok	50	Primary digital dataset
Instagram	50	Primary digital dataset
Total	100	Primary digital dataset

b. Supporting informants: interviews were conducted with three informants in the field. These three individuals, selected through purposive sampling, provide contextual triangulation: Mr. Sutresno (a resident of Suwanting Village), Mr. Agus (a forest entrance official/community informant), and

Ridwan (a hiker who has climbed Mount Merbabu). Their distinct roles offer diverse perspectives local, management-related, and visitor-oriented. Additionally, a content creator who focuses on Mount Merbabu was interviewed, representing the visual content creator perspective.

c. Object of study: digital representation of Mount Merbabu and the gap between landscape aesthetics and geohistorical interpretation.

4. Data Collection Techniques

Data collection was carried out using three complementary methods: field observation, social media content analysis, and semi-structured interviews.

a. Interviews: The type of interview employed is semi-structured, utilizing open-ended questions regarding local history, significant sites, traditions, myths, community relations, and tourism while in the field. Inquiries are also directed toward informants who have uploaded content about Mount Merbabu, focusing on the visual aspects and the extent to which the underlying history and culture are represented. These interviews serve as evidence of oral history and provide contextual insight.
b. Field observations were carried out along the Suwanting Route to document the landscape and conditions of the sites observed, including savannas, peaks, trails, camping areas, historical sites, cultural elements and tourism facilities. Observations are used to compare digital representations with physical conditions.
c. Social media content is identified and selected using keywords and predetermined inclusion criteria. Relevant items are cataloged by platform and analyzed using a categorical framework consisting of three categories: Geography, History, and Geohistory. This framework is then compared against evidence from interviews and observations to strengthen the credibility of the interpretations.

C. RESULTS and DISCUSSION

Mount Merbabu as a Geographical, Historical, and Cultural Landscape

Mount Merbabu (Central Java, Indonesia) is a landscape with multifaceted geographical, historical, and cultural dimensions. Geographically, it is a prominent Quaternary stratovolcano part of the Merapi–Merbabu volcanic complex whose ecological and topographical characteristics help shape the regional climate, biodiversity, and land-use patterns. Mount Merbabu can be understood as a landscape forged through the interplay between geographical conditions, historical evolution, and human cultural activities. This perspective views the mountain not merely as a natural landform, but as a space that undergoes transformation through the ongoing interaction between humans and their environment. Consequently, any study of Mount Merbabu must take into account the area's physical characteristics, historical vestiges, and the social and cultural practices that have developed within its surroundings.

Mount Merbabu is located in Central Java, in a region where tectonic and volcanic activity has influenced the formation of the landscape and the surrounding environmental conditions. The mountain's elevation and the characteristics of its volcanic soil help shape land-use patterns, vegetation distribution, and microclimatic conditions, both in the highland areas and at the foot of the mountain (Leadbetter & Sastrawan, 2023; Raihan et al., 2024). These geographical conditions are part of the environment that supports the lives of the people around Merbabu. Water availability, slope slope and land characteristics are related to space use and community activities.

However, the relationship between the environment and human life does not occur unilaterally. Communities also develop ways to utilize and adapt to the available natural conditions. Thus, the geographical dimensions of Mount Merbabu need to be understood as a basis for the environment that interacts with human activities (Ashari & Widodo, 2019).

Historically, Mount Merbabu has played a role in the volcanic history of the island of Java, as well as in the multifaceted narratives surrounding state formation, governance, and cultural-religious exchange in Central Java. From a cultural perspective, Merbabu is woven into local ritual life, oral traditions, and contemporary tourism including mountaineeringwhich intersects with the local economy and conservation efforts. The historical significance of Mount Merbabu can be traced through archaeological remains and the manuscript traditions that flourished in the Merapi–Merbabu region. One notable piece of evidence is the Merapi–Merbabu manuscript tradition, which attests to the existence of literary activity within the mountainous regions of Java (Leadbetter & Sastrawan, 2024) It is explained that these manuscripts exhibit a diversity of content, language, and script. The subject matter encompasses history, religion, politics, poetry, lexicography, and other forms of knowledge. Furthermore, these manuscripts reveal the connections between highland communities and the broader cultural environment.

These findings refute the notion that highland communities in the past were always isolated from cultural developments in the lowlands. On the contrary, the Merapi–Merbabu manuscript tradition demonstrates that highland societies engaged in intellectual pursuits and participated in the exchange of knowledge and cultural influences. Thus, the Merbabu region served not merely as a geographical backdrop for human life, but also as a space for literacy-related activities and the historical development of Java. (Leadbetter & Sastrawan, 2024). This demonstrates that mountain ranges do not always act as barriers to interaction between communities contrary to the overly simplistic deterministic perspective. Instead, the mountainous geographical landscape can become an integral part of the processes of interaction and cultural development. Thus, Mount Merbabu can be understood as a space where geographical factors intersect with historical dynamics, encompassing the exchange of knowledge and the evolution of cultural traditions among the surrounding communities.

In addition to the manuscript tradition, the slopes of Mount Merbabu also contain archaeological remains related to past religious life (Budiana & Aditya, 2026) The Ngadirojo archaeological site in Boyolali features findings such as retaining wall structures, ancient stairs, and an inscription on the slopes of Mount Merbabu. These discoveries indicate that the area holds evidence of past human activity, warranting further archaeological investigation. The presence of these remains underscores the significance of Mount Merbabu as a historical space linked to the development of social and religious life among the Javanese people.

From a global historical perspective, people living in the Javanese highlands not only adapt to natural conditions, but also play an active role in changing and utilizing the environment to meet economic and cultural needs. On the other hand, landscape conditions also influence the way people work, carry out traditions and build social relationships. This reciprocal relationship between humans and the environment is the basis for understanding Mount Merbabu as a cultural landscape, namely a space formed through interactions between natural conditions and human activities over time. Palm leaf manuscripts and archives originating from the highlands of Southeast Asia, including those relating to Merbabu–Merapi, show that mountain communities were connected to literary traditions and cultural exchange. This evidence challenges the assumption that mountain communities tend to be closed to change and maintain traditions without accepting external influences. The Merapi–Merbabu manuscript

tradition shows that the mountain peoples of Java interacted with a wider cultural network and accepted and developed various new influences. This shows that the Merbabu area is not only an area far from cultural centers, but also acts as a place for the production, dissemination and exchange of knowledge and culture. Thus, Merbabu can be understood as an active part of the dynamics of Javanese history and culture, not just an isolated and unchanged peripheral area (Leadbetter & Sastrawan, 2023).

Another significant element within the historical and cultural dimension of Mount Merbabu is the Kenteng Songo Peak. The existence of this site is linked not only to the physical characteristics of the summit area but also to the cultural meanings that have developed among the surrounding community (Rahmawati & Ardhian, 2025) The study identifies the Kenteng Songo peak as a site considered sacred by the local community in the Selo area. Through interviews with local residents, the research uncovered various myths, the "15 Suro" tradition, and specific customs associated with the site. These findings indicate that the Merbabu landscape has been shaped not only by natural processes but also by social relationships and cultural meanings passed down through generations. From the perspective of a geohistorical landscape, Kenteng Songo can be understood as a space where the physical environment, collective memory, traditions, and community beliefs converge. Nevertheless, the sacred significance attributed to the site by the community should be distinguished from archaeological evidence regarding the origins, chronology, and original function of the stones found in the area.

Mount Merbabu also possesses a cultural dimension, evident in the relationship between the local community and their environment, as well as the traditions that have developed around it. In this context, the landscape serves not merely a practical function as a living space; it also embodies social values and cultural significance for the community. This relationship can be traced through local traditions, archaeological remains, and cultural practices passed down from generation to generation..

Based on these three dimensions, Mount Merbabu can be understood as a landscape where natural processes, historical journeys, and cultural life converge. The geographical dimension describes the environmental characteristics that form the foundation for human existence. The historical dimension reveals traces of human activity through manuscripts and archaeological remains. Meanwhile, the cultural dimension helps explain how communities develop relationships, practices, and meanings in relation to the environment they inhabit. These three dimensions complement one another in understanding the transformations within the Merbabu region: geographical conditions provide the context for human life, historical vestiges offer evidence of past activities, and cultural traditions demonstrate both the continuity and the evolution of the relationship between society and its environment. Consequently, Mount Merbabu can be examined as a geohistorical landscape one that not only preserves natural characteristics but also documents the dynamics of human life over time.

This integrative understanding is essential for the research and preservation of the Merbabu area. Such an approach allows for the simultaneous consideration of environmental conditions, historical vestiges, and local community traditions. Consequently, Mount Merbabu is viewed not merely as a natural tourist destination or a conservation area, but as a landscape possessing historical and cultural value that warrants both understanding and preservation.

Dominance of Visual and Aesthetic Representation in Mount Merbabu Digital Content

An analysis of 100 social media posts concerning Mount Merbabu reveals that the digital representation of this area is dominated by natural landscapes and hiking experiences. In terms of content distribution, savannas appear in 47 posts (47%),

while hiking trails feature in 32 posts (32%); together, these two categories account for 79% of the total sample. Other content includes "Pos 3" (Post 3), the *Pintu Rimba* (forest entrance), camping areas, valleys, as well as various summit locations and specific sites. Visually, the posts showcase savannas, mountain panoramas, hiking trails, summits, seas of clouds, and sunrise or sunset moments. This pattern indicates that, within the research sample, Mount Merbabu is represented primarily through the beauty of its landscape and nature-based tourism activities, rather than through its geographical, historical, or cultural context. These findings align with research on the digital narratives of destinations, which suggests that social media plays a role in shaping the image of a place through the specific images and stories selected by those who post them. (Agustina & Sakinah, 2026; Alifahmi, & Maryami, 2026).

Table 2. Visual Representation of Digital Content for Mount Merbabu

Content Type	Amount	Percentage	Patterns of visual representation and aesthetics	Tendency toward representation
Savanna	47	47%	Expanses of savanna, open vegetation, iconic trees, and mountain panoramas	The dominance of natural landscape beauty
Hiking Trail (track)	32	32%	The route, the landscapes encountered during the ascent, and the views from the trail	Travel experiences and hiking activities
Post 3	7	7%	Rest area and landscape around the hiking trailhead	Climbing experience and location markers
Pintu Rimba	4	4%	The starting area of the journey and the atmosphere of the forest environment	Access to the climbing area
Camping area (camp)	3	3%	An area for setting up tents and enjoying the natural surroundings	Recreation and experience of being in nature
Kenteng Songo Peak	3	3%	The landscape of the summit area in relation to the Kenteng Songo site	A representation of a peak landscape that has the potential to contain historical context
Valley	2	2%	The shape of the landscape and panorama of the lower area among the surrounding elevations	Beauty and geographical character
Puncak Triangulasi	1	1%	Representation of the summit area as a mountaineering destination	Summit panorama and location marker
Kenteng Songo Site	1	1%	Representation of a location identified as a site	Potential for historical and cultural interpretation
Total			**100**	

Source: Processed from the researcher's coding of 50 TikTok posts and 50 Instagram posts

This dominance can be analyzed through the concept of the "tourist gaze" that has been developed (Urry & Larsen, 2011). This perspective explains that a tourism experience is linked to how a place is perceived, selected, and enjoyed as a tourist attraction. In the context of social media, this process is reflected in the selection of subjects that possess visual appeal and can effectively represent the experience of visiting. Savannas and hiking trails emerge as the two most prominent categories in the research data, as they represent both the character of the landscape and the experience

of exploring a mountainous region. Consequently, the dominance of these two categories not only indicates the frequency with which these subjects appear but also reveals the nature of the digital image of Mount Merbabu—an image constructed through visual and tourism-related experiences. Nevertheless, the distribution of these categories does not, in itself, prove that content creators are intentionally disregarding history and culture. To understand the processes underlying the selection of these subjects, these quantitative findings must be examined in conjunction with interview data and an analysis of the narratives accompanying the posts.

An interview with content creator Mas Tegar (@tegarakbarn) reinforces findings regarding the importance of aesthetic considerations in content production. The informant explained that the selection of filming locations is influenced by visual assessments and perceptions of a site's beauty. The timing of filming is also a key consideration, particularly during sunrise and sunset. The morning hours following sunrise are valued for their high visual quality, whereas midday is generally avoided due to higher temperatures. Furthermore, the interplay between the green of the vegetation and the blue of the sky is considered a visually compelling element. This insight demonstrates that aesthetics play a role in determining the subjects, timing, and angles of shots. Consequently, the patterns of representation identified in the data relate not only to the physical characteristics of Mount Merbabu but also to the creator's deliberate choices in selecting specific aspects of the landscape deemed attractive for presentation to an audience. These findings align with discussions concerning the role of visuals in social media communication and the shaping of destination imagery. (Maryami & Alifahmi, 2026).

From the perspective of visual methodology (Rose, 2023), Images cannot be analyzed solely based on the objects visible within them; they must also be understood through the manner in which they are represented and the context that surrounds them. This perspective helps clarify the distinction between merely displaying a landscape and providing an interpretation of its meaning. A photograph of a savanna, for instance, may clearly show the vegetation and terrain of Mount Merbabu, yet it may fail to convey the relationship between that environment and human activity, spatial transformation, or local history. Similarly, an image of a site with historical significance does not necessarily provide a historical understanding unless accompanied by relevant information. Consequently, the mere presence of a geographical feature or historical site in a post cannot be equated with a deep geohistorical interpretation. Analysis must take into account the interplay between visual elements, textual descriptions, and the context provided by the creator.

This gap becomes apparent when digital representations are compared with information gathered through field interviews. Mr. Agus explains that the opening of the Suwanting Trail is linked to groups with a commitment to nature conservation; furthermore, many place names originate from the local community, and *the Suroan tradition* is still practiced by the local people. Such information provides social and cultural dimensions that cannot be captured merely by observing the beauty of the landscape. However, the analysis presented in this study indicates that this information is absent from the 100 pieces of content examined. Mas Tegar also suggests that historical and cultural content could serve as an educational resource, yet he has encountered very few accounts that address these topics. This suggests that the limited representation of history and culture should be understood not only in terms of the creators' aesthetic preferences but also in light of the availability and dissemination of information that could be used to construct geohistorical narratives. Nevertheless, since this information is derived from interviews, the claim regarding the limitations of digital content should be viewed as a contextual finding one that warrants further investigation through an analysis of the content of the posts themselves and relevant documentary sources.

When viewed through the lens of the UNESCO cultural landscape perspective, these findings highlight the importance of understanding Mount Merbabu not merely as a natural landscape, but also as a space intrinsically linked to the social and cultural life of the community (UNESCO World Heritage Centre., n.d.). The concept of a cultural landscape emphasizes the interconnectedness between the natural environment and human activities that shape the character of a place. Within this framework, the naming of locations, local traditions, and the history of how routes were established and utilized can all contribute to the interpretation of a landscape, provided there is sufficient supporting evidence. Consequently, the savannas and hiking trails that dominate digital content can serve as a gateway to explaining the relationship between geographical conditions and human experience. The issue lies not in the sheer number of landscape images, but in the extent to which these images are linked to relevant historical and cultural contexts. This perspective also asserts that a geohistorical interpretation need not replace aesthetic representation; rather, it can enrich the meaning derived from the visualization of a landscape.

These findings also need to be placed within the context of previous research on Mount Merbabu, which has largely focused on ecological, conservation, and regional aspects (Sulton et al., 2023; Suryawan, 2015 n.d.; Untoro et al., 2017). This tendency may provide some context for understanding why the creators interviewed have encountered few sources or narratives regarding the history and culture of Merbabu. However, the prevalence of research focused on ecology and conservation does not necessarily prove that such historical and cultural sources are unavailable. A more balanced conclusion is that the development of geohistorical content requires the identification, verification, and presentation of information that can link geographical characteristics with local history and community knowledge.

Overall, the research findings indicate a disparity between the success of social media in showcasing the visual appeal of Mount Merbabu and its potential for conveying geohistorical interpretations. While social media is effective at presenting savannas, mountain panoramas, and the hiking experience as easily recognizable imagery, its educational potential hinges on the information and context that accompany these representations. Research on digital heritage interpretation suggests that digital media can bridge the gap between visual experiences and cultural understanding within the context of sustainable tourism (Pramesti, et al., 2026), Meanwhile, research on the digitization of cultural heritage highlights its potential to expand the communication of heritage values to the public (Santano et al., 2025). Thus, both perspectives underscore the importance of developing content that not only highlights the beauty of the landscape but also accurately conveys its geographical, historical, and cultural significance. This development approach allows the digital representation of Mount Merbabu to shift from merely offering an experience of "viewing beauty" toward an experience of "understanding the meaning of the landscape" all while preserving the visual appeal that serves as its core strength.

Principles of Responsible Digital Citizenship in the Representation of Merbabu

The digital representation of Mount Merbabu concerns not only how the landscape is displayed but also the responsibilities involved in producing and disseminating information regarding its environment, history, and culture. The prevalence of content featuring savannas and hiking trails across the 100 posts analyzed highlights a strong visual orientation in the construction of Merbabu's digital image. Nevertheless, these findings do not necessarily imply that aesthetically oriented content is inherently irresponsible. The critical issue is how such visual appeal is balanced with the accuracy of information, respect for local knowledge, and the provision of context that enables the audience to develop a more holistic

understanding of the landscape. Within the framework of this study, these principles are not intended to measure an individual's level of digital citizenship; rather, they serve as ethical guidelines for creating and engaging with information about geohistorical landscapes. This approach aligns with the perspective that digital citizenship encompasses the values, ethics, and responsibilities associated with the use of digital spaces including its connection to sustainability (Damanik, et al., 2025).

This perspective can be explained through the Council of Europe's Digital Citizenship Education framework (Richardson & Milovidov, 2022) Digital citizenship is framed as a set of knowledge, skills, attitudes, and values that enable individuals to participate in the digital environment in a critical, ethical, and responsible manner. This framework encompasses media and information literacy, ethics and empathy, active participation, as well as rights and responsibilities. In the context of representations of Mount Merbabu, the principles of digital citizenship can be used to evaluate not only a creator's ability to produce engaging content but also their responsibility in presenting information and shaping public understanding of the place being represented.

The first principle is media and information literacy specifically, the ability to examine, evaluate, and present information accurately. Media and information literacy encompasses the capacity to critically locate, evaluate, and produce information and media content. This principle is highly relevant to the geohistorical representation of Mount Merbabu, as photographs or videos of a location are often insufficient to fully convey its historical and cultural significance. Information regarding the origins of place names, local traditions, or the history of how trails were established, for instance, must be distinguished based on its source and level of verifiability. While accounts from local residents serve as valuable sources for oral history, if such information is to be presented as historical fact, it must be placed within its proper context and whenever possible cross-referenced with documentary sources or other relevant evidence. Consequently, responsible digital citizenship requires creators to go beyond merely attaching historical narratives to make their content appear informative; they must also ensure that the information provided rests on a verifiable and accountable foundation. This perspective aligns with research that positions local wisdom as an ethical basis for digital citizenship (Nanda, 2026) as well as the importance of observing ethics when using social media, so that content does not evolve into speech that harms others (Prabandari et al., 2021).

The second principle concerns digital ethics and respect for local communities and cultures. Within the framework of the Council of Europe, digital citizenship encompasses ethics, empathy, and respect for diversity. In the context of representing Mount Merbabu, this means that the communities living around the area should not merely be positioned as peripheral elements of a tourism narrative; rather, they must be recognized as stakeholders who possess their own experiences, knowledge, and socio-cultural connections to the landscape. Information regarding traditions such as *Suroan*, place-naming, and local history gathered through this research has the potential to enrich digital representations, provided it is presented contextually and with due regard for the perspectives of the communities themselves. Creators must also ensure they obtain consent when recording or publishing content featuring individuals in situations that require such permission, and they should avoid reducing traditions to mere spectacles for consumption. This principle frames digital representation as a communicative practice that carries real-world consequences for how communities and their cultures are perceived by an audience.

The third principle concerns the responsibility to shape public understanding of landscapes. Research data indicates that savannas and hiking trails are the most dominant categories of content. From the perspective of media and information literacy, this dominance serves as a starting point for developing content that goes

beyond merely presenting panoramas; it can also link visual elements with relevant geographical, historical, and cultural information. A post about a hiking trail, for instance, could include details on the area's geographical characteristics or the history behind a location's name provided such information has been verified. Similarly, a visualization of a savanna could be accompanied by notes on its environmental characteristics and the importance of preserving the area. This approach does not require every post to become an extensive historical treatise. Brief explanations, source citations, or additional references can broaden the context without diminishing the visual appeal that constitutes the core strength of social media.

The fourth principle is digital participation that supports the preservation and exchange of knowledge. The Council of Europe identifies active participation as a dimension of digital citizenship defined as meaningful and responsible engagement in societal life through digital spaces. In the context of Mount Merbabu, this principle can be realized through collaboration among content creators, local communities, site managers, researchers, and individuals possessing historical or cultural knowledge. Such collaboration has the potential to broaden the range of narratives in circulation, ensuring that the representation of Merbabu is not solely dependent on the perspectives of tourists or visual content creators. Local residents can contribute by explaining place names and traditions, while researchers or relevant institutions can assist in verifying historical information. Nevertheless, this form of participation should be understood as a recommendation for development, rather than a practice that has been shown to be present across all the content analyzed.

Digital responsibility also encompasses an environmental dimension. When social media content features Mount Merbabu as a tourist destination, such representations could be complemented by messages that encourage responsible visitor behavior for instance, by respecting local regulations and maintaining cleanliness. However, as this study did not measure the impact of these posts on audience behavior, it cannot be concluded that the prevalence of aesthetically-driven content directly leads to environmental damage or irresponsible tourism. A more accurate argument is that content creators have the opportunity to integrate information regarding environmental conservation into content that is already visually engaging. In this way, the promotion of a destination and the communication of messages concerning environmental responsibility can go hand in hand.

Based on the preceding discussion, the principles of responsible digital citizenship provide a normative framework for broadening the scope of digital representations of Mount Merbabu. While earlier findings point to a dominance of landscape aesthetics, the perspective of digital citizenship helps explain how such content can be developed to be more accurate, ethical, contextual, and participatory. This underscores the importance of the public's ability to engage critically and effectively with media content and digital technologies. In the context of this research, this implies that creators should not merely select and display visual objects; they must also consider the validity of the information, the socio-cultural context, and their responsibility for the messages conveyed. Conversely, audiences must possess the capacity to evaluate information critically, distinguish between visual documentation and historical interpretation, and verify sources before accepting or disseminating any claims.

Thus, responsible digital citizenship in the representation of Mount Merbabu does not entail a reduction in aesthetic content; rather, it expands the function of such content. The beauty of the landscape can serve as a gateway to introduce the public to the interconnections between the environment, history, and culture. The challenge lies in ensuring that the development of these narratives is grounded in reliable, accountable information and conducted with respect for the local community. This approach allows social media to function not merely as a space for visual promotion,

but also as a medium for sharing knowledge and fostering a more responsible appreciation for the landscape and its cultural heritage.

D. CONCLUSION

This research indicates that the digital representation of Mount Merbabu on social media specifically TikTok and Instagram is dominated by landscape aesthetics and the hiking experience. Among the 100 pieces of content analyzed, the "savanna" category accounts for 47% and "hiking trails" for 32%, together comprising 79% of the total sample. These findings reveal that Mount Merbabu is represented primarily through its visual beauty and nature-based tourism activities, rather than through information regarding its geographical, historical, or cultural context. Interviews with content creators further suggest that the selection of subjects, timing, and camera angles is driven by aesthetic considerations. This pattern can be understood through the lens of the "tourist gaze," a concept that explains how a place is constructed into an object of observation and a tourism experience.

Nevertheless, visual dominance does not mean that social media lacks the potential to convey geohistorical knowledge. Interview findings regarding place naming, the history of trails, and community traditions reveal social and cultural dimensions that can enrich the interpretation of the Merbabu landscape. A notable gap lies in the weak connection between visual representations and explanations of their historical and cultural context. Therefore, the analysis of digital representations must go beyond merely identifying the objects displayed; it should also examine the narratives, sources of information, and meanings that accompany the content. From the perspective of a cultural landscape, Mount Merbabu should be understood not merely as a natural terrain with aesthetic appeal, but also as a space intertwined with human experience and the socio-cultural life of the community.

This research also underscores the relevance of responsible digital citizenship principles in the development of representations of Mount Merbabu. Content creators have the opportunity to combine visual appeal with accurate, contextual, and accountable geographical, historical, and cultural information. Collaboration with local communities, researchers, and site managers can help enrich the narrative while ensuring the precision of information regarding the landscape and cultural heritage. Thus, the development of digital representations of Mount Merbabu need not diminish its aesthetic elements; rather, it should expand its function as a medium for sharing knowledge and fostering an appreciation for the local environment and history.

Overall, the contribution of this research lies in identifying the dominance of aesthetics within the digital representation of Mount Merbabu and emphasizing the importance of linking landscape visualization with geohistorical interpretation. However, the findings are limited to the content analyzed and the contextual information gathered through interviews; therefore, they cannot be used to draw conclusions regarding the impact of these representations on audience understanding or behavior. Future research could develop more detailed coding for historical and cultural narratives, expand the involvement of local communities, and examine how audiences perceive digital content concerning Mount Merbabu. Such efforts could help transform the representation of Mount Merbabu shifting it from a mere visual object or tourist destination into a geographical, historical, and cultural landscape that is understood in a more holistic manner.

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