International Journal Of
Internet Culture And Social Dynamics
VOL 01 | No. 1 | 2026
P-I-SSN: XXXXXXXXX | E-I-SSN: XXXXXXXXX

THE INFLUENCE OF SOCIAL MEDIA ALGORITHMS ON DIGITAL CULTURE AND ONLINE USER BEHAVIOR

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ABSTRACT

Social media algorithms have become a significant force in shaping digital culture and influencing online user behavior. Platforms such as Facebook, Instagram, TikTok, YouTube, and X use algorithmic recommendation systems to organize, filter, and personalize the content displayed to users. These algorithms analyze individual interests, browsing histories, likes, comments, shares, viewing duration, and interaction patterns to recommend content that is likely to attract attention and encourage engagement. This research examines how social media algorithms influence digital communication, cultural preferences, online participation, information consumption, and social interaction. It also explores the relationship between algorithmic personalization and user behavior, including the development of digital identities, content preferences, online trends, and information-sharing practices. Particular attention is given to filter bubbles, echo chambers, algorithmic bias, privacy concerns, and the potential reduction of exposure to diverse viewpoints. The study adopts a qualitative research approach based on a review and thematic analysis of recent academic literature published during 2025 and 2026. The research highlights that algorithms do not simply distribute information but also participate in shaping the cultural experiences and behavioral patterns of online communities. It argues that greater algorithmic transparency, digital literacy, responsible platform governance, and informed user participation are necessary to create a more inclusive and balanced digital environment.

KEYWORDS:*Social Media Algorithms, Digital Culture, Online User Behavior, Algorithmic Personalization, Artificial Intelligence, Digital Communication, Social Networking Platforms, Content Recommendation, User Engagement, Filter Bubbles, Echo Chambers, Algorithmic Bias, Digital Identity, Information Consumption, Online Communities, Social Interaction, Digital Literacy, Platform Governance, Privacy Awareness, and Internet Culture.*

INTRODUCTION

Social media has become an essential part of contemporary society, transforming the ways individuals communicate, exchange information, develop relationships, and participate in cultural activities. Platforms such as Facebook, Instagram, TikTok, YouTube, and X have created digital environments in which people can share personal experiences, express opinions, access information, and interact with communities across geographical and cultural boundaries. Over time, these platforms have developed sophisticated algorithmic systems that determine how information is selected, organized, recommended, and presented to individual users. Social media algorithms operate through artificial intelligence, machine learning, data analysis, and predictive technologies that examine users' online activities to identify their interests and preferences. Ahmmad, M., Shahzad, K., Iqbal, A., & Latif, M. (2025, August). found thatThese systems influence what people see, which discussions receive attention, what cultural trends become popular, and how online communities develop. As users interact with digital content through likes, comments, shares, searches, and viewing activities, algorithms continuously collect behavioral information and adjust recommendations according to their predicted interests. Consequently, the relationship between social media platforms and their audiences has changed from simple information sharing to a personalized and algorithmically organized communication

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environment.The growing influence of algorithms has created important changes in digital culture. Online trends, entertainment preferences, fashion choices, political discussions, educational content, and social movements are increasingly shaped by algorithmic recommendation systems. Content that receives higher engagement may become more visible, allowing particular ideas, lifestyles, and cultural expressions to reach larger audiences. However, algorithmic personalization also raises concerns regarding information diversity, privacy, digital dependency, and the formation of filter bubbles. Dekker, C. A., Baumgartner, S. E., & Sumter, S. R. (2025). Elaborated on Users may repeatedly encounter similar information, opinions, and cultural perspectives because recommendation systems prioritize content that matches their previous interactions. Recent research has demonstrated that algorithmic systems can influence content exposure, engagement patterns, and users' understanding of online information, although their effects depend on individual preferences and platform characteristics (Dekker et al., 2025; Baumann et al., 2026). Furthermore, algorithms may influence how individuals understand their digital identities and participate in online communities. Baumann, F., Arora, N., Rahwan, I., & Czaplicka, A. (2026). Explained thatTherefore, understanding the relationship between social media algorithms, digital culture, and online user behavior is increasingly important. This research investigates the ways algorithmic recommendation systems influence digital communication, cultural participation, information consumption, and individual online activities while considering the opportunities and challenges associated with algorithmically managed social media environments.

RESEARCH OBJECTIVE

1. To examine the influence of social media algorithms on digital culture and online user behavior, particularly regarding content consumption, social interaction, cultural preferences, and digital participation.

RESEARCH QUESTION

1. How do social media algorithms influence digital culture and shape the online behavior, content preferences, and social interactions of users?

LITERATURE REVIEW

The development of social media algorithms has significantly transformed the structure and character of contemporary digital culture. Digital culture refers to the values, communication practices, social relationships, creative activities, and cultural expressions that develop through digital technologies and online platforms. Social media platforms have become major spaces for producing, distributing, and consuming cultural information. Unlike traditional communication systems, where audiences generally receive information through relatively standardized channels, modern social media platforms personalize content according to users' interests and behavioral patterns. Cao, Y. (2026). Explains thatAlgorithms determine the visibility of posts, videos, images, advertisements, and discussions through automated ranking and recommendation

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processes. These mechanisms influence which cultural expressions receive attention and which remain less visible. Entrena-Serrano (2025) explains that the interface design of TikTok changes the ways users discover, select, and consume digital content. The relationship between users and algorithmic systems is therefore not limited to information delivery but also involves the organization of everyday cultural experiences.Digital culture has become increasingly influenced by viral trends, short-form videos, online challenges, influencers, and algorithmically recommended entertainment. These cultural activities spread rapidly because recommendation systems identify content that generates considerable user interaction. As a result, individuals can participate in cultural conversations beyond their geographical communities. However, the same systems may concentrate visibility around particular types of content and dominant cultural expressions. Algorithmic systems can consequently influence which languages, lifestyles, artistic expressions, and social practices become popular online. Baumann et al. (2026) demonstrate that algorithmic amplification can increase the visibility of content aligned with users' previously expressed interests. Coppolillo, E., Mungari, S., Ritacco, E., Fabbri, F., Minici, M., Bonchi, F., & Manco, G. (2025). revealed thatTheir findings highlight the relationship between recommendation systems, content exposure, and the diversity of digital information. Therefore, social media algorithms should be understood as important cultural intermediaries that influence how contemporary societies create, share, and experience culture.

Algorithmic personalization is one of the most important characteristics of modern social media platforms. It refers to the process through which platforms use collected information about users to recommend content that matches their interests, preferences, and previous activities. These systems analyze different behavioral indicators, including viewing duration, search history, likes, comments, shares, and followed accounts. Based on these indicators, platforms develop predictions about what users may want to watch, read, or interact with in the future. Personalization provides convenience by reducing the effort required to find relevant information. It also helps users discover educational resources, entertainment, professional opportunities, and communities that match their interests.However, personalized recommendations may also influence the amount of time users spend on social media and the types of information they consume. Dekker et al. (2025), in their study of TikTok users, examined the effects of reducing algorithmic personalization. Their research found that participants used TikTok less frequently and for shorter periods during a less personalized feed condition, although they perceived their usage as more controlled and less enjoyable. This finding suggests that personalization can contribute to engagement by making content more relevant and attractive to individual users. Coppolillo et al. (2025) also examined the possibility of algorithmic drift, referring to changes in user preferences that may emerge through repeated interactions with recommendation systems. Their work emphasizes the importance of understanding the long-term relationship between user preferences and algorithmic recommendations. These studies indicate that personalization is not simply a technical process; it may become part of the broader behavioral environment in which users develop their interests and consumption habits.Online user behavior includes the activities individuals perform while interacting with social media platforms, such as browsing, watching videos, commenting, sharing information, following accounts, and participating in online discussions.

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Algorithms influence these activities by determining which content appears in users' feeds and how frequently particular categories of information are recommended. When users repeatedly encounter content that matches their interests, they may become more likely to interact with similar material. This process creates a feedback relationship in which user activities influence recommendations while recommendations influence subsequent user activities.Their research highlights the importance of users' understanding of recommendation systems in developing trust and evaluating personalized content. These findings suggest that online behavior is shaped by both technological recommendation mechanisms and individual interpretations of the information presented to them. Users are not entirely passive recipients of algorithmically selected content; they also make decisions about whether to accept, reject, share, or ignore recommendations.Filter bubbles and echo chambers are important concerns in discussions about algorithmically managed social media environments. A filter bubble occurs when personalization systems repeatedly expose users to information that reflects their existing interests, preferences, or viewpoints. An echo chamber develops when individuals mainly interact with information and communities that reinforce similar opinions and beliefs. Both phenomena may reduce exposure to different perspectives and create limitations in the diversity of online information consumption.Ahmmad et al. (2025) conducted a systematic review examining filter bubbles, echo chambers, and algorithmic bias in relation to youth engagement on social media. Their review highlights the continuing importance of understanding how personalized content environments influence information diversity and online experiences. However, the relationship between recommendation algorithms and echo chambers should not be understood as automatic or universal. Users also exercise personal choices by following particular accounts, searching for specific subjects, and avoiding certain discussions. Hosseinmardi et al. (2026) emphasize that both algorithmic curation and human agency must be considered when examining patterns of online information consumption. Their review suggests that evidence concerning the overall effects of algorithmic curation remains complex and that individual preferences also play an important role.

METHODOLOGY

The present study adopts a qualitative research methodology to examine the influence of social media algorithms on digital culture and online user behavior. A qualitative approach is appropriate because the research focuses on understanding the experiences, practices, perceptions, and social implications associated with algorithmically recommended content. The study uses secondary data obtained from recent academic journal articles, systematic reviews, research publications, and scholarly studies published during 2025 and 2026. Relevant literature addresses algorithmic personalization, recommendation systems, digital identity, online engagement, filter bubbles, information diversity, social interaction, and algorithmic governance. The selected studies are examined to identify recurring patterns, similarities, differences, and emerging research perspectives. Particular attention is given to research investigating how recommendation systems influence content exposure, user preferences, cultural trends, and online participation. The study also considers the role of individual agency and digital literacy in shaping users' responses to algorithmically organized information. The collected literature is

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organized into thematic categories and analyzed through qualitative thematic analysis. This approach provides an opportunity to develop an integrated understanding of the relationship between technological recommendation mechanisms and contemporary digital culture. Academic credibility, relevance, publication dates, and the relationship of each source to the research question are considered during the literature selection process.

RESEARCH DESIGN

The study follows a qualitative, descriptive, and exploratory research design based on a structured review of secondary academic literature. The descriptive component explains the major characteristics of social media algorithms and their influence on online communication and content consumption. The exploratory component investigates the broader cultural and behavioral implications of algorithmic recommendations, including the formation of digital identities, changes in user preferences, and the development of online communities. The research design is organized around the central research question concerning the influence of social media algorithms on digital culture and user behavior. Academic studies published in 2025 and 2026 are used as the principal evidence base. The literature is examined comparatively to identify areas of agreement, conflicting findings, and gaps in existing knowledge. Rather than treating algorithms as the only determinants of online behavior, the design recognizes the interaction between platform recommendation systems, individual preferences, social influences, and cultural contexts. This approach allows the research to investigate algorithmic influence from a broader social and technological perspective. The study does not claim to conduct a new survey or experiment; instead, it synthesizes existing research to develop an evidence-based understanding of the research topic.

DATA ANALYSIS

The collected secondary literature is analyzed using thematic analysis. Initially, relevant academic publications are reviewed to identify information connected with social media algorithms, content recommendation, online engagement, digital identity, cultural participation, and social interaction. The selected material is then organized into major analytical themes. The first theme focuses on algorithmic personalization and examines how recommendation systems select and present information according to users' interests. The second theme investigates online user behavior, including browsing patterns, viewing activities, sharing practices, and engagement. The third theme explores digital culture and examines how algorithms contribute to the visibility and circulation of online trends, cultural expressions, and social discussions. The fourth theme addresses information diversity, filter bubbles, and echo chambers. The fifth theme considers digital identity, privacy, algorithmic awareness, and ethical platform governance. Findings from different studies are compared to identify common conclusions and contrasting perspectives. For example, research on TikTok personalization is examined alongside studies of algorithmic amplification and human agency to understand the relationship between recommendation systems and individual choices. The analysis also distinguishes between findings supported by empirical studies and broader interpretations proposed by review articles.

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This process allows the research to identify major patterns while recognizing that algorithmic influence differs across platforms, users, and cultural environments.

FINDINGS

The thematic analysis of the reviewed literature identifies several important findings regarding the influence of social media algorithms on digital culture and online user behavior.First, algorithmic personalization significantly influences content exposure. Recommendation systems organize users' feeds according to their previous interactions, interests, and viewing activities. This process makes relevant content easier to discover and can increase the attractiveness of social media platforms. Research by Dekker et al. (2025) indicates that reduced personalization can change the frequency and duration of TikTok use.Second, algorithms contribute to the development of digital cultural trends. Viral videos, online challenges, fashion trends, entertainment preferences, and cultural discussions can receive increased visibility through recommendation systems. These systems influence how cultural information circulates and how users participate in online communities.Third, algorithmic recommendations influence online engagement and information consumption. Users may interact more frequently with content that reflects their interests. However, engagement-based ranking can also increase the visibility of emotionally charged or controversial information, as demonstrated by the 2025 PNAS Nexus study.Fourth, personalized recommendations may create challenges for information diversity. Repeated exposure to similar content can limit opportunities to encounter different viewpoints. Research by Ahmmad et al. (2025) and Baumann et al. (2026) highlights the importance of examining filter bubbles, echo chambers, and algorithmic amplification.Fifth, algorithms interact with the development of digital identity. Personalized advertisements, lifestyle content, influencers, and cultural representations can influence users' perceptions of their interests and social preferences. Kang et al. (2026) provide evidence that users connect algorithmically curated content with their identities and desired future selves.Sixth, user awareness and digital literacy are important for understanding algorithmic influence. Individuals who understand recommendation systems may become more conscious of how their activities affect content selection. Nevertheless, awareness does not necessarily provide complete control over algorithmic recommendations.Finally, algorithmic governance and transparency remain important challenges. Privacy protection, fairness, accountability, and cultural diversity require greater attention from social media companies, policymakers, researchers, and digital users.Overall, the findings suggest that social media algorithms are influential components of contemporary digital culture. Their effects are not entirely negative or positive; they depend on platform design, user choices, recommendation practices, and the social context in which digital communication takes place.

CONCLUSION

The study concludes that social media algorithms play an increasingly important role in shaping digital culture and influencing online user behavior. Through personalized recommendations, automated content ranking, and engagement-based distribution, these systems influence what

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individuals see, how they communicate, and which cultural trends become visible within online environments. Algorithms provide several benefits, including convenient access to relevant information, improved content discovery, opportunities for community participation, and greater visibility for creative expressions. They also enable individuals to connect with people who share similar interests and participate in cultural discussions beyond geographical boundaries. However, the growing influence of algorithmic systems creates important challenges related to information diversity, privacy, digital identity, user autonomy, and the potential development of filter bubbles and echo chambers. The reviewed research also demonstrates that algorithmic influence should not be examined independently of human agency because users' interests, decisions, and online activities contribute to the content they encounter. Therefore, a balanced digital environment requires cooperation among platform developers, researchers, policymakers, and users. Social media companies should improve transparency and accountability in recommendation systems, while users should develop digital literacy and actively explore diverse information sources. Future research should investigate these relationships through empirical studies involving different age groups, cultural communities, and social media platforms. Ultimately, understanding the relationship between algorithms and human behavior is essential for developing a more inclusive, responsible, and culturally diverse digital society.

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