

EXPLORING THE IMPACT OF SOCIAL MEDIA ALGORITHMS ON INTERPERSONAL COMMUNICATION PATTERNS AMONG NIGERIAN YOUTH: A MIXED-METHODS STUDY

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Abstract

This study investigates the impact of social media algorithms on interpersonal communication patterns among Nigerian youth through the lens of Communication Accommodation Theory (CAT), which posits that individuals adjust their communication styles to converge with or diverge from their interlocutors, influencing social relationships and identity. This mixed-methods study combines survey data and in-depth interviews to explore how Nigerian youth (18–30 years) experience and navigate algorithm-driven social media environments. Findings suggest that social media algorithms can both facilitate and hinder meaningful communication, with implications for social capital, mental health, and civic engagement. The study reveals that youth employ accommodation strategies to manage online interactions, such as code-switching and self-censoring, in response to algorithmically-curated content. The research provides insights for platform designers, policymakers, and

educators seeking to promote healthier social media use among young Nigerians.

Keywords: *Social media algorithms, interpersonal communication, Communication Accommodation Theory, Nigerian youth, social capital, mental health, civic engagement.*

Background of the Study

The rapid expansion of social media platforms has significantly transformed interpersonal communication practices globally, particularly among young people. In contemporary digital environments, communication is no longer shaped solely by human interaction but increasingly mediated by algorithmic systems that curate content, prioritize visibility, and influence interactional norms. Social media algorithms—designed to personalize user experience through data-driven content selection—now play a critical role in determining what users see, engage with, and respond to. Consequently, these algorithmic processes have profound implications for how individuals communicate, construct identities, and maintain social relationships.

Among youths, who constitute the most active demographic on social media platforms, algorithmic mediation has become a central feature of everyday communication. International studies indicate that algorithm-driven feeds shape discourse patterns by amplifying certain voices, emotional tones, and social norms while suppressing others (Bucher, 2018; Gillespie, 2020). This selective exposure influences interpersonal communication styles, encouraging conformity, strategic

self-presentation, and adaptive linguistic behaviour in online interactions. As youths navigate these spaces, communication becomes increasingly performative and responsive to perceived algorithmic rewards such as likes, shares, and visibility.

In Nigeria, social media has emerged as a dominant communicative space for youths aged 18–30, facilitating social interaction, civic participation, and identity expression. Platforms such as Facebook, Instagram, TikTok, X (formerly Twitter), and WhatsApp have become integral to social life, political discourse, and community engagement. Nigerian youths utilize these platforms not only for interpersonal interaction but also for activism, entrepreneurship, and cultural negotiation. Events such as the #EndSARS movement underscore the centrality of social media in shaping youth communication and collective action, mediated by algorithmic amplification of trending content (Ojebode et al., 2021).

Despite the growing body of research on social media use in Nigeria, much of the existing scholarship focuses on usage patterns, political mobilization, or psychological effects, with limited attention to the algorithmic mechanisms underlying these platforms and their implications for interpersonal communication. Even fewer studies explicitly examine how Nigerian youths adapt their communication styles in response to algorithmically curated environments. This gap is significant, given Nigeria's multilingual, multicultural context where linguistic flexibility, code-switching, and pragmatic adaptation are already salient features of communication.

Communication Accommodation Theory (CAT) provides a useful theoretical lens for examining these dynamics. CAT posits that individuals adjust their communicative behaviours—through convergence, divergence, or maintenance—in response to their interlocutors in order to achieve social approval, manage identity, or negotiate power relations (Giles, Coupland, & Coupland, 1991). In digital contexts, however, accommodation extends beyond human interlocutors to include algorithmic audiences. Youths increasingly adapt their language choices, tone, self-disclosure levels, and topical focus not only to peers but also to the perceived preferences of platform algorithms.

Within algorithm-driven social media environments, Nigerian youths engage in accommodation strategies such as code-switching between English, Nigerian Pidgin, and indigenous languages, self-censorship, and selective engagement to enhance visibility or avoid negative algorithmic consequences such as content suppression or online backlash. These strategies reflect a convergence not merely with interlocutors but with dominant discourses promoted by algorithmic systems. Conversely, some youths adopt divergence strategies, resisting algorithmic norms to assert identity, cultural authenticity, or political stance, though often at the cost of reduced visibility.

The implications of these accommodation practices are multifaceted. On one hand, algorithmic mediation can facilitate social capital by connecting youths to wider networks, shared interests, and supportive communities. On the other hand, it can hinder meaningful interpersonal communication by promoting superficial engagement,

emotional polarization, and performative interaction. Studies have linked prolonged exposure to algorithmically optimized content with anxiety, reduced empathy, and communicative fatigue among youths (Keles, McCrae, & Grealish, 2020). In Nigeria, where youth mental health remains under-researched and under-resourced, these effects raise critical concerns.

Furthermore, algorithmic influence extends into civic engagement. While social media algorithms can amplify youth voices and mobilize participation, they can also fragment discourse, reinforce echo chambers, and discourage nuanced dialogue. Interpersonal communication patterns shaped under these conditions may prioritize virality over deliberation, affecting the quality of civic interaction among Nigerian youths.

Given these dynamics, there is a clear need for empirical research that interrogates how social media algorithms shape interpersonal communication patterns among Nigerian youths through a robust theoretical framework. By adopting a mixed-methods approach and grounding the analysis in Communication Accommodation Theory, this study seeks to bridge existing gaps in literature. It aims to provide nuanced insights into how Nigerian youths experience, interpret, and navigate algorithm-driven social media spaces, with implications for social capital formation, mental health, and civic engagement.

Ultimately, understanding these processes is crucial for informing platform design, digital literacy education, and policy interventions aimed at promoting healthier and more inclusive communication practices in Nigeria's rapidly evolving digital landscape.

Methodology

Research Design

This study adopted a mixed-methods research design, specifically an explanatory sequential design, combining quantitative and qualitative approaches to examine the impact of social media algorithms on interpersonal communication patterns among Nigerian youth. The quantitative phase provided measurable data on patterns and relationships, while the qualitative phase offered in-depth explanations of youths' lived experiences within algorithm-driven social media environments. This design was considered appropriate given the study's focus on both behavioural trends and subjective communicative practices, as emphasized in communication and digital media research.

The study was anchored in Communication Accommodation Theory (CAT), which guided the operationalization of variables, instrument design, and interpretation of findings.

Area of the Study

The research was conducted in Imo and Anambra States, both located in southeastern Nigeria. These states were selected due to their high concentration of digitally active youths, widespread internet access, and strong engagement with social media platforms. Data were collected from selected urban and semi-urban areas, including Owerri in Imo State and Awka, Nnewi, and Onitsha in Anambra State.

Population of the Study

The population comprised Nigerian youths aged 18–30 years residing in Imo and Anambra States who actively use social media platforms such as Facebook, Instagram, TikTok, X (formerly Twitter), and WhatsApp. This age bracket aligns with Nigeria's youth classification and represents the demographic most exposed to algorithm-mediated communication environments.

Sample Size and Sampling Techniques

For the quantitative component, a sample size of 450 respondents was determined to be adequate for statistical analysis and representativeness. A multistage sampling technique was employed:

Stage One: Purposive selection of major urban centres based on population density and digital connectivity.

Stage Two: Stratified sampling based on age group (18–24; 25–30), gender, and educational status.

Stage Three: Simple random sampling within each stratum to select respondents.

For the qualitative component, 20 participants (10 from each state) were selected using purposive sampling. Selection criteria included frequency of social media use, diversity of platform engagement, and willingness to articulate personal communication experiences.

Instruments for Data Collection

Quantitative Instrument

A structured questionnaire was designed by the researcher and divided into four sections: Section A (Demographic

information), Section B (Social media usage patterns), Section C (Perceived algorithmic influence), and Section D (Interpersonal communication patterns and accommodation strategies). Items were measured using a 5-point Likert scale ranging from Strongly Agree to Strongly Disagree.

Qualitative Instrument: A semi-structured interview guide was used for in-depth interviews. The guide explored participants' experiences with algorithmic content curation, communication adjustments, code-switching, self-censorship, online identity management, mental well-being, and civic engagement.

Validity and Reliability of Instruments: Content validity was established through expert review by scholars in communication studies and linguistics. A pilot study involving 30 youths (outside the study area) was conducted to refine the instruments. Reliability testing using Cronbach's Alpha yielded coefficients of 0.72 and above, indicating acceptable internal consistency.

Procedure for Data Collection: Data collection occurred in two phases. First, questionnaires were administered both physically and electronically. Upon completion of preliminary quantitative analysis, qualitative interviews were conducted to explain and contextualize emerging patterns. All participants provided informed consent prior to participation.

Method of Data Analysis

Quantitative Data Analysis Plan: Quantitative data were

analysed using the Statistical Package for the Social Sciences (SPSS). Descriptive statistics (frequencies, percentages, means, and standard deviations) were used to summarize demographic variables, social media usage patterns, and communication behaviours. Inferential statistics including chi-square tests and multiple regression analysis were employed to examine associations and predictive influences of algorithmic factors on communication outcomes. All hypotheses were tested at a 0.05 level of significance.

Qualitative Data Analysis Plan: Interview data were transcribed verbatim and analysed using thematic analysis. The process involved familiarization with the data, initial coding, theme development, and theme refinement and interpretation. Themes were mapped onto CAT concepts such as convergence, divergence, and maintenance, as well as emergent algorithm-specific accommodation practices. Findings were triangulated with quantitative results to enhance credibility.

Operational Definitions of Variables

Social Media Algorithms: Automated systems that curate, rank, and recommend content based on user behaviour and engagement patterns.

Interpersonal Communication Patterns: The ways youths interact with others, both online and offline, including frequency, depth, and style of communication.

Communication Accommodation: Deliberate adjustments in language, tone, content, or self-presentation to align with or resist perceived audiences or norms.

Code-Switching: Alternating between English, Nigerian Pidgin, and indigenous languages during online interaction.

Self-Censorship: The intentional restriction of opinions or expressions to avoid negative algorithmic or social consequences.

Social Capital: The perceived benefits derived from social networks, including support, trust, and connectedness.

Mental Health: Self-reported emotional well-being, including stress, anxiety, and social fatigue related to social media use.

Civic Engagement: Participation in social, political, or community discourse through online platforms.

Ethical Considerations: Ethical approval was obtained from the relevant institutional ethics committee. Participants were assured of anonymity, confidentiality, and voluntary participation. Data were securely stored and used strictly for academic purposes.

Data Presentation and Analysis

Quantitative Data Presentation

A total of 450 questionnaires were distributed across Imo and Anambra States. 432 copies were correctly completed and returned, yielding a response rate of 96%, which was considered adequate for statistical analysis.

Demographic Characteristics of Respondents: The demographic analysis revealed that 52.3% of respondents were female, while 47.7% were male. Respondents aged

18–24 years constituted 58.1%, while those aged 25–30 years accounted for 41.9%. A majority (64.6%) were students, while 35.4% were non-students engaged in various occupations.

Regarding social media usage, 91.2% reported daily use of at least two platforms, with WhatsApp, Instagram, TikTok, and X being the most frequently used platforms. This confirms the high level of exposure of Nigerian youth to algorithmically curated digital environments.

Algorithmic Exposure and Communication Patterns

Descriptive statistics showed that 78.4% of respondents agreed that social media platforms frequently display content similar to what they had previously engaged with. Similarly, 71.6% reported that trending topics often influence what they post or discuss online.

On interpersonal communication patterns, 66.9% indicated that they now communicate more online than face-to-face, while 59.8% reported a decline in the depth of offline conversations. Notably, 62.5% acknowledged modifying their language or opinions online to fit perceived audience expectations.

Accommodation Strategies: Analysis of accommodation behaviours revealed that 69.3% frequently engaged in code-switching depending on platform and audience, 61.7% admitted to self-censorship to avoid backlash or reduced visibility, and 54.2% altered tone or content to align with trending narratives.

Regression analysis indicated that algorithmic personalization significantly predicted communication accommodation behaviours ($\beta = .43, p < .05$), suggesting a

strong relationship between algorithm exposure and interpersonal communication adjustment.

Qualitative Data Presentation

Thematic analysis of interview data produced four major themes: Algorithm-Aware Communication, Strategic Accommodation and Self-Presentation, Emotional and Mental Health Implications, and Civic Engagement and Discursive Fragmentation.

Participants demonstrated a high level of awareness of algorithmic operations, often describing their feeds as “predictable” or “controlling.” Many reported consciously adjusting their communication to maintain relevance or avoid invisibility.

Discussion of Results

The findings of this study demonstrate that social media algorithms exert a significant influence on interpersonal communication patterns among Nigerian youth in Imo and Anambra States. Consistent with Communication Accommodation Theory, youths actively adjust their communication styles in response to perceived algorithmic and social cues, engaging in both convergence and divergence strategies (Giles et al., 1991).

The high prevalence of code-switching aligns with Nigeria’s multilingual context but is intensified by algorithmic visibility pressures. Youths converge linguistically and ideologically to dominant narratives promoted within algorithmically curated spaces, supporting earlier findings that algorithms shape discourse

norms and communicative behaviour (Bucher, 2018; Gillespie, 2020).

Self-censorship emerged as a dominant accommodation strategy. This finding corroborates studies indicating that algorithmic amplification of controversy encourages users to suppress dissenting or nuanced views to avoid negative social or emotional outcomes (Sunstein, 2017). Such practices, while adaptive, may undermine authentic interpersonal communication and critical dialogue.

The study also revealed mixed implications for social capital. While algorithms facilitated network expansion and connectivity, they simultaneously reduced communicative depth and empathy, echoing prior research linking algorithmic social media use to emotional fatigue and anxiety among youth (Keles et al., 2020).

In terms of civic engagement, the findings suggest that algorithmic amplification promotes participation but fragments discourse. Youths reported engaging more frequently in civic conversations online, yet these interactions were often polarized and performative rather than deliberative. This supports existing scholarship on the dual role of algorithms in mobilization and discursive limitation (Van Dijck et al., 2018).

Overall, the findings extend CAT into digital contexts by demonstrating that accommodation is no longer directed solely toward human interlocutors but also toward algorithmically structured audiences.

Recommendations

Based on the findings of this study, the following recommendations are made:

Platform Design Responsibility: Social media companies should increase algorithmic transparency and design systems that promote content diversity and meaningful interaction rather than purely engagement-driven visibility.

Digital Literacy Education: Educational institutions should integrate algorithm literacy into curricula to help youths critically understand and navigate algorithmic influence on communication and identity.

Mental Health Interventions: Policymakers and NGOs should develop youth-focused digital well-being initiatives addressing anxiety, self-censorship, and social comparison linked to algorithmic environments.

Promotion of Inclusive Civic Dialogue: Civil society organizations should leverage social media for structured civic engagement that encourages respectful dialogue and mitigates polarization.

Further Research: Future studies should explore longitudinal effects of algorithmic accommodation and extend analysis to rural youth populations and other geopolitical zones in Nigeria.

Conclusion

This study investigated the impact of social media algorithms on interpersonal communication patterns among Nigerian youth using a mixed-methods approach grounded in Communication Accommodation Theory. The findings reveal that algorithmic mediation significantly shapes how youths communicate, adapt linguistically, manage identity, and engage socially and civically.

While social media algorithms enhance connectivity and participation, they also encourage strategic accommodation practices such as code-switching and self-censorship, with implications for communication depth, mental health, and democratic discourse. The study concludes that algorithmic influence represents a critical communicative force in contemporary Nigerian youth culture, necessitating intentional interventions by platform designers, educators, and policymakers.

By situating algorithmic influence within CAT, this research contributes theoretically and empirically to communication studies and offers context-specific insights relevant to Nigeria's digital landscape.

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