AI-DRIVEN NEWS PERSONALIZATION IN NIGERIA: ENHANCING USER ENGAGEMENT AND INFORMATION ACCESSIBILITY

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Abstract

This study investigates the adoption and effects of artificial intelligence (AI) technologies in news personalization within Nigeria's media sector. As Africa's most populous nation, Nigeria's digital news consumption presents unique challenges for media organizations, necessitating the delivery of tailored content to diverse audiences. Through qualitative interviews with 15 journalists from leading news outlets in Abuja and Lagos, this research examines the extent to which AI-based personalization tools are being integrated, their impact on editorial decisions, and their influence on audience engagement and information accessibility. The findings indicate that while Nigerian media organizations have implemented AI-driven recommendation systems, they face three key challenges: limited technological infrastructure, algorithmic bias, and the need to preserve content diversity. Additionally, the study reveals that effective news personalization requires a synergy between robust algorithms and human editorial oversight, ensuring that content aligns with the cultural context of Nigeria. This research contributes to the literature on automated news personalization, offering insights from the perspective of developing economies.
Keywords: Artificial intelligence, news personalization, Nigerian media, recommendation systems, algorithmic journalism, information accessibility, user engagement

Introduction

The introduction of digital technologies has profoundly transformed the global media landscape, revolutionizing news production and distribution methods. Traditional media organizations have been largely supplanted by multiple digital platforms, as consumers now access news directly through online channels (Gaskins & Jerit, 2012). In this shifting environment, news organizations increasingly turn to artificial intelligence (AI) to enhance content delivery, improve user engagement, and maintain relevance in an increasingly fragmented information ecosystem (Thurman et al., 2019). AI is now widely employed to personalize content, tailoring news to individual preferences by analyzing behavioral patterns and user characteristics. This approach has emerged as a primary application of AI in news delivery, enabling news organizations to increase user satisfaction and engagement through recommendation algorithms, content filters, and predictive analytics (Wallace, 2017; Möller et al., 2018). However, these technological advancements raise critical concerns regarding information diversity, algorithmic transparency, and the evolving relationship between news producers and their audiences (Helberger, 2019).

While there has been tremendous research on AI-driven news personalization globally, most of such research has concentrated on Western media markets with limited studies on how such technologies are being implemented and experienced in developing media environments particularly in Africa (Mabweazara, 2021). Nigeria, as African's largest economy and the most populated African nation, presents a compelling case study for examining the adoption and impact of AI-driven personalization in a diverse and rapidly evolving media landscape (Ola-Oluwa, 2024).

The Nigerian media sector has undergone major digital evolution in recent times because of expanding internet usage and smartphone adoption combined with an eager young audience seeking digital content (Datareportal, 2022). The Nigerian Communications Commission (2023) reports that 154.8 million Nigerians subscribed to the

internet in December 2022 while the penetration rate stood at approximately 70% (Akintaro, 2023). The country benefits from a demographic advantage where 70% of its population consists of people under thirty years old who use mobile devices to access information (Statista, 2024). Major Nigerian media companies The Punch, Business Day, Daily Post, HumAngle, the Guardian have rapidly implemented digital-first approaches across various platforms according to Adeyemo (2023). New technology based on AI operates as a solution for news outlets to enhance their content distribution approach while serving individual audience requirements. Legit.ng functions as one of Nigeria's most popular digital-only news operators which uses these technologies to create customized news feeds for users thus keeping them engaged with topics they find interesting (Newman et al., 2024). However, the positive digital expansion of Nigerian news media faces multiple hurdles in deploying AI-driven personalization strategies (Gbaden, Gambo and Shem, 2024). The erratic power supply along with restricted internet connectivity in rural regions and expensive data rates for the average Nigerian citizen limit consistent digital news consumption (Adeleke, 2020).

The implementation of AI-driven personalization in Nigeria also requires cultural modifications when it implements AI-driven personalization systems. The broad array of ethno-linguistic groups including 250 ethnic communities and 500 languages across Nigeria challenges Western-developed algorithms (Inuwa-Dutse, 2025). The extensive cultural diversity of Nigeria requires enhanced methods of content and user preference classification beyond Western market standards. News organizations in Nigeria have adapted their personalization strategies because the majority of people access the internet through mobile devices. DataReportal (2023) reports that mobile phones represent the primary method for internet access in Nigeria since they are used by 98.4% of users while computers are utilized by only 29.7% of users. Mobile device predominance in Nigerian news delivery led to developed news content specifically designed for mobile convenience through short visually-oriented summaries that adapt based on user habits.

The personalization of news in Nigeria however creates challenges for media equity standards as well as issues regarding democratic information exchange (Musa and Antwi-Boateng, 2023). The history of ethnic and religious tensions in the country creates conditions where algorithmic filter bubbles might deepen social divisions (Porlezza and Schapals (2024). Research conducted by Porlezza and Schapals (2024) demonstrates that correct designing of personalization systems using deliberate diversity metrics with user preferences can lead to improved exposure to different viewpoints. AI systems hold promise to improve rather than degrade public discourse diversity in multicultural populations when they incorporate active measures against the identified issues during their design phase (Mariyono and Hidayatullah, 2024). News organizations throughout Nigeria currently employ AI tools to perform transcription duties and metadata tagging while showing the capability of AI to create personalized news content (Talabi et al., 2024). Through the application of artificial intelligence, chatbots deliver customized solutions to customer questions which boosts interaction with users (Huseynov, 2023). However, while Nigerian media organizations demonstrate innovative adoption of Western technology models, the adoption of unique approaches that serve local audience behaviour patterns and preferences are sparse (Gondwe, 2024; Sholala et al., 2024; Samuel-Okon and Abejide (2024).

The research focuses on understanding the AI-driven personalization practices of Nigerian news organizations together with the challenges they encounter as well as user engagement and information accessibility effects. Research on digital news consumption in Nigeria has grown in recent years but lacks sufficient empirical studies about how AI technologies adapt to local Nigerian news consumer needs and preferences and constraints. Studies usually explore AI technologial implementation in journalism (Thurman, 2019) or Nigerian digital media consumption (Okafor, 2019), without combining these areas in detail. The present research explores firsthand investigatation of Nigerian journalists and media personnel to develop understanding about implementing AI-based technologies within developing media industries. Local creative approaches to personalization strategies within Nigeria will help develop worldwide comprehension of AI use across different cultural environments. The research results will deliver operational benefits for media development and information equity and democratic participation in digital society as well as advance theoretical concepts about global media technology diffusion and localization.

The study of AI-driven news personalization implementation in Nigeria serves practical purposes for building news delivery systems that better serve diverse media audiences. The continued spread of AI technologies throughout global media demands research which provides cultural and regional components as a basis for better choices by those who handle and develop media content and policymakers. The findings from this research lead to an improved comprehension of AI-driven changes affecting news provider-consumer relationships within the Global South media sector.

Research Objectives

This study is guided by the following research objectives:

1. To examine how Nigerian news organizations are implementing AI-driven personalization technologies and the factors influencing their adoption decisions.
2. To analyze how AI-driven personalized news affects user engagement and information availability among Nigerian news consumers.

Research Questions

Based on the research objectives, this study seeks to answer the following research questions:

1. How are Nigerian news organizations implementing AI-driven personalization technologies, and what factors influence their adoption decisions?
2. In what ways does AI-driven news personalization impact user engagement and information accessibility among Nigerian news consumers?

Literature Review

AI-Driven News Personalization: Global Context

Since artificial intelligence applications entered news assembly and content dissemination media organizations began running their operations differently and presenting news content to their audience members. The main application of AI technology in journalism now presents as news personalization which helps organizations customize their content for distinct user behaviors and preferences (Thurman and Schifferes, 2012). The recommendation algorithms of this approach analyze user data consists of historical data together with demographic data and contextual data to produce personalized content suggestions (Karimi, et al., 2018).

Personalized technology systems enhance user interaction according to research because they improve content appropriateness while decreasing intrusive content and leading to improved news satisfaction (Möller et al., 2018). According to Nielsen and Gade (2016) personal news recommendation methods generated longer user platform duration along with superior click-through performance and improved user loyalty than generic recommendation methods. Bodó, et al. (2019) proved that personalized content discovery helps readers find information which they might not encounter when dealing with the vast amount of online material. Academic experts have recognized both positive and negative implications which arise from news personalization methods. The existence of "filter bubbles" creates a primary information exposure problem according to which users mostly view material that matches their current opinions and interests (Pariser, 2011). The authors Nechushtai and Lewis (2019) state that when personalization reaches excessive levels it constrains citizens from encountering diverse views which compromises the democratic purposes of news media. Helberger (2019) explores concerns regarding user transparency regarding algorithms as well as about user control as well as ethical matters related to the collection and utilization of user data through personalization practices.

The methods used for technical news personalization have made substantial progress during the last several years. During early stages of personalization systems content-based filtering served as the main recommendation method by suggesting content items that matched previous user consumption (Karimi, et al., 2018). The present news personalization industry depends on analytical approaches which combine collaborative filtering with behavioral user pattern detection and deep learning models that detect intricate behavioral and content patterns (Raza and Ding, 2021).

Media Technology Adoption in African Contexts

Digital technologies have taken distinctive forms in African media systems because they operate differently from Western media systems. Mabweazara (2021) suggests that newsrooms across Africa adopt new technologies by integrating innovative elements into their current operational models instead of making complete systemic changes. The approach disrupts systems whereby technology forces determine outcomes because it places emphasis on the way local contributors direct technology implementation and reception.

Various elements affecting technology adoption have been identified through digital journalism research across African states. The adoption of digital innovation faces major obstacles because African regions suffer from weak internet connectivity and unstable power grids along with expensive data fees (Mare, 2014). The practical application of digital technologies within Nigerian newsrooms faced resource and organizational obstacles according to Owe et al. (2023).

Socio-economic elements together with infrastructure determine how African media industries adopt technology. The levels of digital literacy and device accessibility together with economic disparities determine the approach of media organizations to digital innovation while shaping audience interaction with digital media content (Mabweazara 2015). Bosch (2019) explains that digital media innovations in Africa succeed best when they

include specific adaptations to address local conditions by using mobile-first designs and data-saving features. The adoption and implementation of technology is also influenced by cultural elements. Research indicates that media technologies should adapt to local African cultures instead of adopting Western media systems as they exist (Gondwe, 2024).

Nigerian Media Landscape and Digital Transformation

The Nigerian media environment experienced major changes during recent years because of political liberalization together with economic developments and technological advancements. After Nigeria transitioned to democracy its media sector experienced explosive growth because private media companies joined state-owned outlets producing numerous print and broadcast and digital platforms (Olukotun 2017).

Digital transformations proceed rapidly throughout Nigerian media industries as more people acquire smartphones and internet access expands. The Digital 2022 Report by DataReportal showed Nigeria had 109.2 million internet users during January 2022 which amounted to a 51% penetration rate (Kemp, 2022). Mobile phones function as the main internet access point since they generate 91.5% of web traffic (NOI Polls, 2022).

The changes within Nigerian media have driven traditional organizations to launch digital platforms while they investigate alternative content delivery solutions. Adesina (2021) outlines the online transformations of Nigerian newspapers which include digital editions and mobile apps and social media distribution methods for digital readers. Broadcast organizations have developed digital streaming platforms and on-demand content delivery systems according to Felix (2024).

The media environment of Nigeria now incorporates new digital-native news organizations who have established themselves as prominent stakeholders. Premium Times and The Cable along with Pulse Nigeria implement data analytics to understand their audiences better for optimized content delivery (Olukotun, 2017). The organizations maintain loose operational structures which provide them faster capabilities to embrace technological innovations like AI-driven personalization. The digital transformation of Nigerian media encounters various obstacles during its development process. Digital access remains unequal in Nigeria because urban-rural differences and economic conditions affect internet usage rates according to the Nigerian Communications Commission (2023). The combination of content that is not relevant to Nigerian audiences and language diversity proves challenging because most Nigerians use indigenous languages instead of English as their main language (Akindele, Oladepo and Akano, 2022). Public distrust along with misinformation worries limit the way people interact with online news platforms (NOI Polls, 2022).

AI and Personalization in Developing Media Markets

There is a paucity of research regarding AI-driven personalization for developing media markets since most investigations have concentrated on Western markets. Personalization technologies deployed in developing marketplaces show significant variations compared to Western experiences because they need to adapt to local infrastructure structures and market characteristics together with user behavior patterns (Mabweazara, 2021).

Digital media innovation within sub-Saharan Africa faced implementation barriers according to Wasserman and Madrid-Morales (2019) because news organizations faced challenges from inadequate technical expertise and insufficient funds and limited data acquisition abilities. According to Mare (2014) digital innovations within African newsrooms often take shape according to current limitations instead of creating direct Western copycat models.

Available studies which investigate personalization in developing markets present both opportunities and challenges to successful implementation. The studies conducted by Dwivedi et al. (2021) demonstrated that personalized news applications succeeded in engaging urban smartphone users whereas these users beyond urban areas were excluded due to insufficient connectivity and device capacities. Personalization algorithms developed for Western markets display altered performance outcomes in Latin American regions because audiences in these areas have their own distinct cultural patterns and information consumption habits according to (Freuler and Iglesias, 2018). Different personalization concerns emerge in developing markets according to existing research. Developing market research reveals different critical issues than Western bearers as it explores the impact on marginalized populations with minimal online presence and data access (Mutsvairo and Ragnedda, 2019).

Theoretical Framework

This research is guided by the Technology Acceptance Model (TAM), originally developed by Davis (1989) and subsequently expanded by various scholars (Venkatesh and Davis, 2000; Venkatesh and Bala, 2008). TAM provides a theoretical framework for understanding how users come to accept and use technology, which is

particularly relevant for examining the adoption and implementation of AI-driven personalization in Nigerian news organizations.

The fundamental premise of TAM is that technology adoption is influenced by two primary factors: perceived usefulness (PU)—the degree to which a person believes that using a particular system would enhance job performance—and perceived ease of use (PEOU)—the degree to which a person believes that using a particular system would be free of effort (Davis, 1989). These perceptions influence attitudes toward technology, behavioral intentions to use it, and ultimately, actual usage behavior. TAM has been expanded over time to incorporate additional variables that influence technology acceptance. The TAM2 model, developed by Venkatesh and Davis (2000), introduced social influence processes (subjective norm, voluntariness, and image) and cognitive instrumental processes (job relevance, output quality, result demonstrability) as determinants of perceived usefulness. Later, Venkatesh and Bala (2008) proposed TAM3, which added factors influencing perceived ease of use, including computer self-efficacy, perceptions of external control, computer anxiety, and computer playfulness.

In the context of this research, TAM provides a valuable framework for examining how Nigerian journalists and media organizations perceive and approach AI-driven personalization technologies. The model helps explain why certain organizations might readily adopt these technologies while others hesitate, based on perceptions of usefulness and ease of use within their specific operational context. For instance, perceived usefulness might be influenced by expectations about audience engagement, competitive pressure, or strategic objectives, while perceived ease of use might be affected by technical infrastructure, available expertise, or organizational resources.

Research Methodology

This study employed a qualitative research design to investigate the implementation of AI-driven news personalization in Nigerian media organizations and its impact on user engagement and information accessibility. Qualitative research provided an ideal framework because it enables comprehensive studies of complex phenomena which naturally occur in their environments as described by Creswell and Poth (2018). Qualitative research suits the study of AI-driven personalization in African media since it offers flexibility to discover new themes while developing comprehensive descriptions about this phenomenon (Braun and Clarke, 2006).

The researchers used purposive sampling to select 15 journalists working in Lagos and Abuja news organizations which serve as Nigeria's commercial and political centres. The research focused on these cities because they serve as the base for leading national media companies and function as important centers for media progress in Nigeria. The study used 15 participants as a suitable number per qualitative research guidelines which helps reach theoretical saturation while keeping analysis depth achievable (Guest et al., 2006).

The research used these criteria to choose participants:
1. Current employment in a Nigerian news organization with digital operations
2. Professional experience of at least three years in journalism
3. Involvement in digital content strategy, audience development, or technological implementation
4. Those who have experience or knowledge of personalization technologies

The final sample included participants who worked for traditional print media with digital operations (5 participants) and broadcast organizations with online platforms (4 participants) as well as digital-native news outlets (6 participants). The study included organizations from a range of contexts which made it possible to compare results between different settings. The study participants filled different positions that included editors (4), digital strategists (3), audience development managers (3), technology officers (2) and senior reporters with digital responsibilities (3).

Analysis and Results

Research Question 1: Implementation of AI-Driven Personalization in Nigerian News Organizations

The analysis of interview data revealed several key themes relating to AI-driven personalization technology adoption by Nigerian news organizations together with the elements that affect their choice of implementation. The identified themes demonstrate the current state of personalization in Nigeria's media environment and the many elements that affect how organizations carry out personalization projects.

Current Implementation Approaches

Different types of Nigerian news organizations have adopted distinct methods regarding personalization strategies. The implementation of recommendation algorithms for content suggestions through behaviour analysis remains the most advanced practice within digital-native organizations since five out of six participants in this

category adopt this system based on user preferences and behavioural data. A Lagos-based digital-native outlet digital strategist explained the following about their personalization strategies:
"*Our organization deployed a recommendation engine which examines readers' article choices combined with spending duration for different content pages along with their site navigation behaviour. Such technological integration enables us to recommend related content that helps users stay active on the platform*" (Participant 2).
Print media companies running digital operations adopted more cautious approaches to personalization by mainly utilizing simple ways to personalize content selection through user preferences and geographical location. According to Participant 5, these statements reflect their current approach:
"*Our recommendation system enables users to customize email digests by choosing subjects during registration although we have not adopted complex AI algorithms in this process. It is a starting point for us, while we develop capabilities to deliver advanced personalized services*." (Technology Officer, Print-based organization).

Broadcast organizations with online platforms fell between the two groups above, but displayed different levels of personalization capabilities. Broadcast participants reported implementing moderate personalization approaches on their digital platforms which focused on providing on-demand content recommendations yet most others were either designing or newly executing this feature. However, regardless of organization type, the majority of participants characterized their personalization initiatives as "works in progress" rather than fully operational systems. Most participants further pointed out that organizations deployed personalization solutions through successive enhancements starting with basic forms while technical development and end-user acceptance grew. The step-by-step implementation method commonly appeared as a solution to limited resources and uncertainties about return on investment.

Technical Approaches and Implementation Challenges

The different technical approaches to personalization across the sample varied substantially because organizations had different resource availability and technical capabilities and strategic goals. Advanced organizations within the sample base chose external third-party solutions instead of creating their own proprietary systems. As one audience development manager stated:
"*The organization lacks the necessary funding to develop its own recommendation system independently. A personalization layer exists through a service that operates with our content management system. The solution needs customization along with training for our particular content set and audience, but it remains more economical than internal development*." (Audience Development Manager, Digital-native organization)
Several technical obstacles presented themselves as main hurdles preventing organizations from implementing personalization solutions. The implementation decisions of organizations were influenced by their infrastructure limitations which primarily included inconsistent internet connectivity and power supply. A senior editor at an Abuja-based organization stated:
"*The technical situation in Nigeria requires organizations to exercise careful awareness. The deployment of demanding personalization techniques results in negative user experiences since they depend on strong network capacity and computing power. Our development strategy focuses on building less complex systems which maintain operational stability during connectivity issues*." (Senior Editor, Broadcast organization)
The collection of data together with its quality issues presented additional challenges. Participants mentioned that privacy regulations along with technical restrictions and personal data sharing reluctance created obstacles for them to share personal information. Several participants identified inadequate user authentication protocols between anonymous content viewers and those who identified themselves because these practices reduced their ability to create detailed user profiles.
The adoption of personalization systems posed another significant challenge for organizations possessing legacy systems because they required integration with their existing content management systems (CMS). A technology officer described this issue:
"*The present CMS system lacks personalization features during its original implementation. The process of adding new capabilities proved difficult because it produced temporary solutions which do not match the performance level of modern systems*." (Technology Officer, Print-based organization)

Factors Influencing Adoption Decisions

The research results showed various organizational factors which determine personalization adoption decisions aligning with the Technology Acceptance Model framework. The participants identified perceived usefulness as their main motivation because they saw potential advantages for attracting audiences and gaining competitive advantages. As one digital strategist explained:
"*The current media landscape demands organizations to fight against both traditional news companies and social networks because those platforms already provide deeply customized content. Organizational implementation of personalization makes our content remain valuable for users demanding customized experiences*." (Digital Strategist, Digital-native organization)

Audience metrics and feedback reinforced perceptions of usefulness, with several participants reporting positive outcomes from early personalization efforts. An audience development manager stated:
"*After we implemented even fundamental personalization features in our email newsletter delivery system we gained a 23% surge in open rates and click-through rates increased by about 30%. The collected data served as evidence to secure additional funding for personalization system development*." (Audience Development Manager, Digital-native organization)
Participants however perceived the difficulty of use as a major obstacle towards wider implementation since they reported encountering technical obstacles and resource limitations together with integration problems. Organizations with constrained technical expertise tended to adopt basic solutions because they wanted to handle their operations using current staff capabilities.

Research Question 2: Impact of AI-Driven News Personalization on User Engagement and Information Accessibility
The second research question examined the impact of AI-driven news personalization on user engagement and information accessibility among Nigerian news consumers. The analysis showed various themes that describe these effects which demonstrated beneficial aspects and new potential risks.

Impact on User Engagement
Users demonstrated regularly positive results with their engagement metrics after organizations deployed personalized functionality in their systems. Personalization features at an advanced level produced higher results for session duration and page view counts in addition to increase in visit frequency for organizations. A Lagos-based organization digital strategist provided specific metrics to demonstrate the results,
"*Our recommendation system resulted in a 35% increase of session duration together with a 40% elevation of articles read per session. The decrease in bounce rate reached almost 20% which revealed users spent longer time exploring content above their original entry point*." (Digital Strategist, Digital-native organization)
Users benefited most from personalized recommendations since these helped prevent single-content readers from discontinuing their platform usage. The recommended additional relevant material through personalization enabled users to discover new content so they spent more time engaged on the platform. An audience development manager explained:
"*…Before personalization users typically read one article and departed from the platform. Through its recommendation system our platform presents users with related content that typically attracts their attention. A large number of users now explore recommendation sequences that extend up to four articles thus boosting overall platform usage*." (Audience Development Manager, Digital-native organization)
The customization feature led to exceptional improvements, with several participants noting that personalization helped address the challenges of limited screen space and attention spans on mobile devices. A technology officer observed:
"*Relevant content recommendations bring exceptional value to users who need to manage time limitations while working with mobile screens. The implementation of personalization brought improved mobile retention numbers to exceed those of desktop retention rates*." (Technology Officer, Digital-native organization)
Participants experiencing personalized content participated more actively in comment sections besides sharing content socially because it aligned better with their interests. Higher content relevance was cited as the reason users engaged strongly and tended to share information which strongly matched their personal interests.
Several participants acknowledged that the benefits of user engagement varied between different groups of users. A senior editor noted:
"*Personalization delivers its highest engagement augmentation effects to audience members who belong to the younger demographic along with digital fluency. Personalized features do not impact users who are both older in age and less comfortable with technology which means we must develop distinct approaches for each audience segmen*t." (Senior Editor, Print-based organization)

Impact on Information Accessibility
Research participants discovered several effects of personalization on information accessibility which were both positive and negative. On the positive side, personalization systems enable users to find important information that would otherwise disappear in the overwhelming amount of daily publications. A digital strategist explained:
"The growing number of media outlets in Nigeria leads to excessive information access challenges for users. The personalization system reveals content which matches individual needs and preferences thereby making vital information available through the overwhelming amount of information." (Digital Strategist, Digital-native organization)
Several participants also highlighted the potential of personalization to address language and regional accessibility barriers. An editor from a news organization that publishes in multiple languages noted:

"*The organization is running experiments which base personalization services on language option preferences and regional information needs. The personalization approach benefits Nigerian users since it provides content that matches their regional issues alongside their preferred language selection*." (Editor, Broadcast organization)
Participants however expressed concerns about potential threats to information diversity as well as reduced exposure to multiple viewpoints. The research participants showed understanding of how filter bubbles operate and expressed varying levels of concerns about how personalization affects what users see and read. A senior reporter reflected:
"*Serious conflicts arise from reconciling public demand with their need to learn as citizens. The presentation of political content by algorithms that matches current perspectives creates a possibility of increased polarization instead of informed political dialogue*." (Senior Reporter, Print-based organization)
Several organizations developed particular strategies to prevent information exposure from becoming too narrow. Organizations implemented various strategies to promote content diversity such as purposeful recommendation system content inclusion and editorial content placement emphasis and discovery features for presenting users with non-personalized content. An audience development manager explained their methods as follows:
"*The system maintains both personalization features and diverse content presentation. Our system uses user behavior to generate most recommendations yet implements a mechanism that introduces expanded content to users rather than sticking to their established preferences through 20% of recommendations*." (Audience Development Manager, Digital-native organization)
Infrastructure limitations further acted as a major determining factor that shaped how personalization affected information accessibility. The Nigerian media industry faces data affordability problems alongside connectivity issues which drive content discovery optimization but create new duties for media organizations. A technology officer explained:
"*Users who pay for data usage must discover relevant content quickly because this improves their economic efficiency. Our responsibility grows higher because we must guarantee our recommendations do not exclusively support already prevailing opinions*." (Technology Officer, Broadcast organization)

Balancing Algorithmic and Editorial Judgment
A recurring theme across both engagement and accessibility involved finding proper equilibrium between automated recommendation systems and editorial review decisions. Stakeholders unanimously agreed that editorial supervision must remain in place to create effective personalization methods instead of complete automation in content selection. An editor stated:
"*The organization uses personalization as a supporting tool rather than a replacement for editorial judgment. Editors at our organization decide which stories will receive excessive visibility but personalization functions as a tool to customize supplementary discoveries and content presentation*." (Editor, Print-based organization)
Different organizations merged their systems to integrate algorithms with human editors who supervise content selections. Editorial selection maintained its position in main content areas alongside personalized recommendation blocks and customized sections and related content suggestions. A digital strategist explained this perspective by saying:
"*The front page features strong editorial selections of essential stories that all readers should encounter independently of their individual preferences. The main application of personalization occurs within recommendation areas and sub-section organization beneath the featured stories*". (Digital Strategist, Digital-native organization)
Professionals emphasized the hybrid solution because it preserved journalistic standards after adopting personalization methods. The participants believed this intermediate approach solved worries about information variety while enhancing user engagement by presenting more suitable content discovery experiences.

Discussion of Results
The research examined how organizations adopt new technology and how this adoption affects user behavior and information availability in the Nigerian media environment. This research discussion links results of the study with established literature to demonstrate theoretical and practical value. The discussions are based on the two research questions drawn up for the study.
The first research question examined how Nigerian news organizations are implementing AI-driven personalization technologies and the factors influencing their adoption decisions. From the results, it was revealed that Nigerian news organizations implement AI-driven personalization technologies through a balanced mix of caution and strategy because of their available resources and infrastructure challenges as well as their organizational objectives. Digital-native media outlets emerged first because they used recommendation engines which enhanced user engagement while supporting the global media's move toward algorithm-based editorial selection (Thurman et al., 2019). Additionally, the majority of Nigerian organizations choose basic filtering systems and third-party solutions over advanced machine learning models which Western counterparts frequently

use (Karimi et al., 2018). The news outlets follow Mabweazara's (2021) observation that African newsrooms gradually integrate technology instead of pursuing disruptive innovation.

The analysis also established that Nigeria's infrastructure system represents the main factor influencing adoption decisions of news systems. Organizations operating in developing media markets made mobile-first systems their priority because they needed to deal with erratic power supply and inconsistent internet connectivity and high data costs (Mare 2014; Adeleke 2020). The limitations in infrastructure requires organizations to develop innovative solutions by implementing basic recommendation systems which operated both when disconnected and when connectivity returned. The research confirms García-Avilés et al. (2023) that infrastructure limitations in the Global South create technological adaptation outcomes which produce editorial systems that unite automated processes with human editorial control.

The perceived difficulty of use which participants asserted as another factor influencing adoption decisions of AI systems infers that organizations made their adoption decisions based on the Technology Acceptance Model (TAM) where they valued perceived usefulness more than ease of use (Venkatesh and Bala, 2008). Many media outlets also demonstrated reluctance by choosing fundamental email customization instead of information-based algorithmic programs. This divide demonstrates how different resource levels and organizational cultures influence technology acceptance according to the findings presented by Bosch (2019) in her study of African media innovation.

The second research question analyzed how AI-driven personalized news affects user engagement and information availability among Nigerian news consumers. From the findings it was inferred that the implementation of AI personalization produced measurable enhancements in user engagement metrics particularly among tech-savvy young users. Multiple studies worldwide back up personalization (Möller et al., 2018; Nielsen & Gade, 2016) as users sustain attention when they spend more time on the website, visit fewer pages and click on more links. The mobile recommendation approach delivered enhanced effects because 98.4% of Nigerian news consumers use smartphones as their main news platform (DataReportal, 2023). Organizations used screen and connection management to deliver content that maximized user value from constrained mobile data amounts which one participant called the data affordability imperative. The practice matches Bosch's (2019) recommendation for mobile-first design approaches in African digital journalism.

Statistical evaluation demonstrated notable improvements in user engagement but the research discovered serious conflicts between user-targeted content and the delivery of various news information. The study participants recognized how algorithmic filter bubbles could potentially worsen Nigeria's existing religious and ethnic conflicts which become especially problematic in diverse communities (Porlezza and Schapals, 2024). Organizations took protective measures by manually selecting recommendations to present users with diverse points of view during this period. The combined method reflects Diakopoulos' (2019) worldwide ethical model for algorithmic journalism by enabling human editors to maintain democratic discourse requirements alongside relevance.

The study further demonstrated both advantages and contradictions regarding how information accessibility was affected. Technology received from personalization systems enabled better content discovery among diverse language speakers and delivered regional and multilingual customization which Western search engines did not provide (Inuwa-Dutse, 2025). The infrastructure limitations generated fresh inequities because limited connectivity among rural users prevented them from receiving complete personalization benefits thus sustaining the urban-rural information divide (Samuel-Okon & Abejide, 2024). Moreover, the research reveals problems with AI-based information democratization frameworks because they create new inequality lines even though they aimed to eliminate discrimination.

Overall, the study demonstrates that AI personalization functions as a sociotechnical procedure which takes shape through specific local conditions. The Technology Acceptance Model (TAM) requires expansion to address real-world developing-market conditions because infrastructure constraints and cultural diversity affect implementation processes. The research results similarly undermine basic notions that all algorithmic news production follows the same model. Nigerian journalists focused on preventing polarization effects and delivering accessible content because these values represent the characteristics of their postcolonial heritage rather than the Western concern about filter bubbles and transparency (Helberger, 2019; Pariser, 2011). The authors Mutsvairo and Ragnedda (2019) argue that personalization ethics need new conceptual frameworks to work in diverse societies which have weak civic trust. The research thus demonstrates that developing markets need to redefine their personalization success criteria because of specific market requirements. This is because organization success in Nigeria is determined by both cultural alignment with local languages and systems that operatedwithout

requiring high data capabilities. The evaluation standards thus propose that Global South AI systems should emphasize flexibility instead of complex algorithms. Such a process will lead to the development AI systems that are cost-friendly and can fight algorithmic discrimination (Inuwa-Dutse, 2025).

Conclusion

The research studied how AI-powered news customization services affect user connection and news availability within Nigerian media companies. Research findings demonstrate that news media industries are undergoing change because news organizations use personalization strategies at different rates while facing multiple factors that affect their implementation practices.

Nigerian news organizations use personalization technologies through specific technological adaptations instead of adopting Western news models in their entirety. Organizations follow strategic approaches to personalization which depend on their operational needs together with resource limitations and audience demographics. Mabweazara (2021) describes how African newsrooms adopt technological systems by combining novel approaches with their established operational methods.

The research indicates AI news personalization holds great promise to boost audience connection to content while maximizing operational effectiveness among Nigerian news enterprises. Efficient implementation of algorithmic systems needs a balanced relationship between automated systems benefits and basic journalism principles such as distributing diverse content and maintaining editorial control and ensuring fair access to information. The research supports the development of personalization technology solutions that adapt to Nigerian cultural and economic and infrastructural requirements. This research proves the necessity to develop combined approaches which unite efficient algorithmic processing with human editorial strategies to make personalization serve as an enhancer of public dialogue.

Recommendations

1. News organizations should merge systems which use algorithms together with human direction to maintain equilibrium between custom-designed content selection and wide-ranging topical variety.
2. News organizations should provide training opportunities for their staff members to master AI technologies for improved overall technical capabilities.
3. Companies should create minimalistic personalization structures that work well on mobile platforms to fix network issues while making information more affordable for users.
4. The system should contain built-in metrics which activate deliberate exposure to various viewpoints and multiple perspectives.
5. Personality-based content delivery should consider Nigeria's multiple languages and regional differences to create information that matches audience taste.
6. The pathway through which algorithms pick and suggest content should always remain transparent for users to establish trust in the system.
7. The news organization should work alongside regulators to handle data privacy issues while continuing to help the development of news distribution technology.
8. System performance should be monitored continuously to measure personalization effects on both user engagement results and editorial value standards which allows necessary adjustments to systems.

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