Key Determinants of Kano Diaspora's Shift from Traditional Radio to Online Streaming Platforms: A Descriptive Survey Study

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Abstract. Radio has historically served as a vital medium for maintaining cultural identity and civic participation among migrants. However, limited research has examined why members of the Kano State diaspora increasingly migrate from analogue FM/AM broadcasting to internet-based radio platforms. Guided by Domestication Theory and a moderated perspective on Technological Determinism, this study employed a structured online questionnaire. The survey targeted 353 adults aged 18–45 from the Kano Diaspora residing in the United States, the United Kingdom, and the United Arab Emirates, all of whom accessed Kano-origin radio stations at least once a month. Descriptive statistics, including percentages and mean scores, were used to analyse demographic profiles and rank six hypothesised motivators: time-shifted access, content variety, participatory features, technological currency, social media integration, and community information services. Findings indicate that flexible listening schedules (80%), opportunities for real-time feedback (74%), and expanded programme choice (70%) were the most significant drivers of digital migration. Additionally, 66% of respondents valued social media integration for sustaining communal discourse, while 62% acknowledged that regular technological updates shaped their listening practices. The study highlights that internet-based radio offers the diaspora greater convenience, interactivity, and programme diversity than analogue broadcasting. It recommends that broadcasters tailor schedules to diaspora time zones, provide simple app-onboarding tutorials, and maintain low-data streaming options. Media educators should design modular digital-literacy programs, while policymakers may consider diaspora-targeted broadband subsidies. These insights advance scholarly debates on transnational media consumption and offer practical guidance for sustaining radio's relevance in a digitally mediated environment.

Keywords: Digital radio migration; Domestication theory; Media education; Descriptive survey; Kano diaspora

1. Introduction

Over the past two decades, radio broadcasting has undergone a profound transformation as analogue transmission gives way to internet-based streaming (Fernández-Sande & Rodríguez-Pallares, 2022; Ojoboh et al., 2024; Okpeki et al., 2023). In

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sub-Saharan Africa, this shift reflects both technological advance and changing audience expectations. Whereas traditional FM/AM services once constituted the primary means of news and entertainment dissemination, the proliferation of affordable smartphones and expanding broadband infrastructure has enabled diasporic communities to maintain closer ties with their regions of origin through online platforms (Rainie & Wellman, 2018).

Kano State, a historic centre of Hausa culture and commerce, has long been served by both federal and state-run stations, including the Federal Radio Corporation of Nigeria (FRCN) Kano and Vision FM (Bashir, 2019; Uchegbuo & Azubuike, 2023). In recent years, these stations and private operators such as Freedom Radio have introduced streaming services, podcasts and mobile applications to reach listeners beyond Nigeria's borders (Madaki et al., 2024). Current estimates place the Nigerian diaspora at some 17 million individuals by mid-2024, with substantial communities in the United States (353,885), the United Kingdom (215,000), Italy (119,400) and the United Arab Emirates (100,000) (Bradley, 2023; Obagbuwa & Abidoye, 2021; Pécoud, 2018). Given that residents of Kano account for approximately 10% of Nigeria's population, it is reasonable to infer that around 1.7 million Kano-origin individuals reside abroad, of whom an estimated 118,000 access Kano-based online radio at least monthly (Schillinger et al., 2023).

The relevance of radio to diaspora identity and civic engagement has been well documented. Radio serves as both a repository of cultural memory, through music, drama and local dialect programming, and a forum for collective deliberation on political and social matters (Georgiou et al., 2022). Yet the conditions under which overseas listeners migrate from analogue receivers to streaming platforms remain under-explored, especially in West African contexts. Understanding these migration drivers is essential both for broadcasters seeking to refine their offerings and for educators aiming to support digital literacy among diaspora audiences.

Despite anecdotal evidence of growing diaspora engagement with online radio services in Kano, little empirical research has assessed the specific factors propelling this shift. Broadcasters have invested in streaming infrastructure, yet the relative importance of accessibility, content diversity, interactivity and technological reliability remains unclear. Moreover, existing studies on diaspora media consumption often privilege social-media platforms or video streaming, leaving radio, a medium with particular resonance for older and less-technically adept users, marginalized in scholarly discourse (Musa, 2023). Without empirical data on motivation and preference, stations risk misaligning programming and digital-literacy support with the needs of their target audiences.

The study makes several contributions. First, it extends Domestication Theory to transnational media contexts by examining how diaspora audiences appropriate, adapt and integrate streaming radio into daily routines (Brause & Blank, 2020). Second, it refines moderated Technological Determinism by analyzing how infrastructural affordances and user agency jointly influence media adoption among geographically dispersed populations (Rice et al., 2017). Third, the findings will inform media-education initiatives by identifying digital-literacy gaps, such as unfamiliarity with podcast exploring or streaming-app settings, which may hamper full participation. Media educators can develop tailored training modules, delivered via community workshops or e-learning platforms, to enhance diaspora audiences' proficiency and confidence (Wetzel, 2010). Finally, the study offers practical guidance for broadcasters in designing user-centred interfaces, scheduling programmes to accommodate varied time zones and leveraging community feedback mechanisms to sustain listener loyalty.

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While previous studies have broadly examined digital migration patterns and internet-based radio adoption (Retis & Tsagarousianou, 2019), there remains a noticeable paucity of empirical research that focuses explicitly on how African diaspora audiences transition from FM/AM radio to digital platforms, particularly in relation to the socio-technical and infrastructural barriers they encounter.

To date, scholarship on digital migration in Africa has largely focused on national or urban audiences rather than on transnational publics (Anschütz & Judge, 2025; Leurs & Smets, 2018; Ponzanesi & Leurs, 2022). While several studies have documented the technical strategies that stations employ, such as low-bit-rate streaming to mitigate data costs and regional caching servers to improve reliability, there remains limited insight into how diaspora listeners themselves experience the shift from analogue to online radio. In particular, existing research seldom disaggregates the specific barriers that overseas audiences confront when attempting to access digital platforms. This represents an important lacuna, given the significant role that radio plays in maintaining cultural ties and civic engagement among migrants (Pasetti, 2012).

1.2. Literature Review

This literature review situates the present study within theoretical and empirical scholarship on media migration, digital radio consumption and media education in transnational contexts. It begins by outlining the theoretical lenses: Domestication Theory and moderated Technological Determinism, which inform analysis of how diaspora audiences integrate online radio into daily life. It then examines the principal drivers of migration from analogue to internet-based radio, before surveying empirical studies of digital broadcasting in sub-Saharan Africa and among African Diasporas.

1.3. Theoretical Framework

Domestication Theory conceptualises technology adoption as a multi-stage process in which users first appropriate a device, then adapt it to personal routines, subsequently routinise its use and finally represent it publicly within social networks (Carrier et al., 1993). Initially developed to explain domestic media integration, domestication has since been applied to transnational practices, where geographical separation intensifies the significance of mediated connections to home communities (Leurs & Smets, 2018).

For example, from the theory's appropriation perspective, the survey revealed that 68% of respondents first downloaded the Kano-origin station's mobile app following a recommendation in a WhatsApp group or Facebook community. This initial engagement exemplifies the appropriation phase, as diaspora listeners actively select and acquire new technology to meet their information and cultural needs (Silverstone, 1993). An example from the theory's adaptation perspective is, 72% of app users adjusted notification settings, once installed, to coincide with their local time zones such as scheduling news alerts at 19:00 GMT for United Kingdom-based listeners and 21:00 GST for those in the United Arab Emirates. This tailoring of the streaming service to personal schedules illustrates the adaptation phase, wherein users integrate technology into their daily routines and temporal rhythms (Haddon, 2017).

Furthermore, in the diaspora context, appropriation occurs when overseas listeners first engage with streaming radio apps, often prompted by recommendations from friends or social-media groups (Bashir, 2019). They adapt these services by customising notifications and schedules to accommodate host-country time zones, exemplifying the second phase of domestication. Routinisation follows as listeners establish habitual

listening patterns: for instance, the present study finds that 45% of Kano diaspora tune in daily. Public representation emerges when listeners share stream links and programme highlights within diaspora networks, reinforcing collective identity. This final stage underscores the social dimension of domestication, wherein mediated practices affirm group belonging (Brause & Blank, 2020).

Media education intersects with domestication at each stage. Effective appropriation depends on digital-literacy skills: diaspora users must understand app installation, streaming settings and account management. Adaptation and routinisation benefit from formal or informal training, provided by community organisations or station-led tutorials, which demystify platform interfaces and troubleshoot common issues (Wetzel, 2010). Finally, public representation can be enhanced through media-literacy workshops that encourage critical evaluation of content and ethical sharing practices within social networks (De Beukelaer, 2014). Through framing digital migration through domestication, this study provides an empirical account of how Kano oversea listeners incorporate online radio into their mediated life worlds.

Technological Determinism posits that technological properties influence social practices. Strong deterministic perspectives ascribe causal primacy to the inherent capabilities of technology, whereas moderated views acknowledge reciprocal shaping by users and cultural contexts (Williams & Edge, 1996). In the realm of online radio, platform affordances, such as adaptive bitrate streaming, recommendation algorithms and mobile-app architectures, affect user behaviours, yet listeners exercise agency in selecting, configuring and supplementing these features to meet their needs (Georgiou et al., 2022).

2.   Methods

2.1 Research Design and Rationale

A descriptive survey design was selected to quantify the prevalence and relative importance of six identified drivers of digital radio migration: flexible access, programme diversity, participatory features, technological modernity, social-network integration and community-information services. Survey methodology is well suited to mapping attitudes and behaviours across large, dispersed populations (Taylor et al., 2010). In this instance, the diaspora sample, distributed across multiple countries and time zones, precluded face-to-face interviews. An online survey afforded standardised question delivery, minimised interviewer bias and enabled efficient aggregation of responses (Barbrook-Johnson & Carrick, 2022).

The descriptive framework aligns with the aim of the study to provide baseline metrics that can inform both theoretical refinement and practical interventions. From a media-education perspective, the survey instrument was designed to identify digital-literacy needs, for instance, respondents' confidence in exploring streaming apps and social-media sharing features. These insights will guide the development of targeted training modules to improve competence in streaming-technology usage among diaspora listeners (De Beukelaer, 2014).

2.2 Population and Sampling

The study population comprised adults aged 18 to 45 of Kano origin who reside outside Nigeria and stream Kano-based radio at least monthly. According to the International Organization for Migration, approximately 17 million Nigerians live abroad as of 2024, with significant communities in the United States (353,885), the United Kingdom (215,000), Italy (119,400) and the United Arab Emirates (100,000) (Obagbuwa

& Abidoye, 2021). Kano accounts for an estimated 10% of national population (Schillinger et al., 2023), yielding a diaspora cohort of roughly 1.7 million, of whom approximately 118,000 meet the listening criteria.

A simple random sampling procedure was employed. Station administrators from five Kano-based services such as FRCN Kano, Vision FM, Freedom Radio, Rahma Radio and Sanitato FM, provided anonymised subscriber lists segmented by host-country domains. From these lists, 380 e-mail addresses were selected to allow for a 5% margin of error (Adam, 2020). A final sample of 353 completed questionnaires was achieved, representing a 93% retrieval rate.

2.3 Instrument and Pilot Test

The survey instrument comprised 45 items across five sections: demographics, migration drivers, listening habits, socio-cultural and political connections, and challenges and opportunities. Migration-driver items were measured on a five-point Likert scale from "Strongly disagree" (1) to "Strongly agree" (5). Demographic and listening-habits sections employed categorical and ordinal response formats.

Prior to full administration, the questionnaire underwent a pilot test with 25 diaspora respondents not included in the main sample. This process assessed item clarity, technical functionality and completion time. Feedback led to minor wording adjustments, particularly for terms such as "app update" and "social-media integration", to align with diaspora vernacular. Internal consistency was confirmed via Cronbach's alpha: the migration-drivers scale yielded $\alpha = .85$, the socio-cultural impact scale $\alpha = .88$, while the media literacy scale yielded $\alpha = .79$, all exceeding the 0.70 threshold recommended for exploratory research (Taber, 2018).

In recognition of media-education aims, the pilot included a short digital-literacy self-assessment, revealing that 38% of participants were unfamiliar with RSS feed subscriptions. This insight informed the inclusion of explanatory tooltips and a brief video tutorial link within the final survey to support respondents with lower digital literacy.

2.4 Data Collection Procedure

Data collection spanned four weeks in March–April 2025. The final survey link was distributed via e-mail, WhatsApp groups and Facebook community pages managed by the selected stations. Station managers posted explanatory notes emphasising voluntary participation and anonymity. Two reminder notifications, sent after one week and again after two weeks, raised response rates without exerting undue pressure (Evans & Mathur, 2018).

All responses were captured through a secure online platform requiring encrypted transmission. Completion time averaged 12 minutes, and the system prevented multiple submissions from the same device. Informed consent was obtained digitally at the outset of the survey, in accordance with ethics guidelines of Bayero University, Kano, Nigeria. Respondents could discontinue participation at any point. Data were stored on a password-protected server accessible only to the principal investigator.

2.5 Data Analysis Techniques

Survey data were exported to SPSS Version 27 for cleaning and analysis. Descriptive statistics: frequencies, percentages, means and standard deviations, were computed to profile demographic characteristics and to rank migration-driver items. Combined "agree" and "strongly agree" percentages provided a clear hierarchy of motivating factors (Section 4).

Subgroup analyses examined gender and age differences using cross-tabulations and chi-square tests to identify significant variations in factor endorsement. Although the descriptive design of the study did not call for inferential modelling, these tests offered additional context on demographic influences (Chapman, 2018).

The assessment of digital literacy in this study employed a five-item self-assessment scale adapted from Buckingham (2008) and UNESCO's media-literacy framework (2013). Respondents rated their confidence on a five-point Likert scale (1 = not at all confident; 5 = very confident) across core competencies relevant to online radio use, including application installation, adjusting streaming quality, subscribing to podcast or RSS feeds, navigating in-app archives, and sharing audio links through social media. Pilot testing (n = 25) yielded a Cronbach's α of 0.82, indicating strong internal consistency. In the main survey (n = 353), mean scores highlighted areas of relative strength and weakness: the highest confidence was reported for app installation (M = 4.1, SD = 0.9), while the lowest was for podcast subscription (M = 2.8, SD = 1.1). These findings suggest uneven distribution of digital competencies among diaspora listeners.

Beyond measurement, the scale was further employed to explore associations between digital literacy and perceived drivers of media migration. The analysis revealed that respondents with below-median literacy in adjusting stream quality were more likely to encounter barriers in online radio engagement, whereas those who rated themselves as "very confident" in sharing audio links demonstrated greater propensity to circulate content within their networks. Similarly, confidence in exploring archives was positively related to respondents' emphasis on flexible access and content variety as key migration drivers. Thus, digital literacy emerges not merely as a technical skill set but also as a mediating factor that shapes how and why diaspora audiences transition from analogue broadcasting to internet-based platforms.

3.   Results and Discussion

3.1. Results

3.1.1. Demographic Profile

A total of 353 respondents completed the online questionnaire, comprising 217 males (61.5%) and 136 females (38.5%). Age distribution indicates a predominance of young adults: 27.2% were aged 18–34 and 35.1% aged 25–34. Those aged 35–44 accounted for 23.5% and the 45–55 bracket for 14.2% (see Table 1).

Educational attainment was high, with 68.8% holding tertiary qualifications (bachelor's, master's or PhD) and the remaining 31.2% possessing secondary-level or vocational certificates. Country of residence spanned 15 nations, led by the United Kingdom (30.3%), United States (24.4%), United Arab Emirates (19.0%), Canada (8.5%) and Saudi Arabia (5.1%). Ten other countries together comprised 12.7% of the sample (see Table 1).

Duration of residence abroad revealed that 34.3% had lived outside Kano for more than six years, 29.2% for 1–3 years, 21.2% for 4–6 years and 15.3% for less than one year. In terms of engagement with online radio in Kano, 41.6% reported listening for over three years, 25.5% for 1–3 years, 18.7% for six months to one year and 14.2% for under six months (see Table 1). Notably, a media-education self-assessment embedded in the survey indicated that 38% of respondents lacked familiarity with RSS feeds and podcast applications, flagging a need for targeted digital literacy support (Harrison et al., 2019).

Table 1 Demographic characteristics of respondents (n = 353)

Characteristic	Category	Frequency	Percentage (%)
Gender	Male	217	61.5
	Female	136	38.5
Age	18–34	96	27.2
	25–34	124	35.1
	35–44	83	23.5
	45–55	50	14.2
Education	Secondary/Vocational	110	31.2
	Tertiary (Degree+)	243	68.8
Country of Residence	United Kingdom	107	30.3
	United States	86	24.4
	United Arab Emirates	67	19.0
	Canada	30	8.5
	Saudi Arabia	18	5.1
	Other (10 countries)	45	12.7
Residence Duration	< 1 year	54	15.3
	1–3 years	103	29.2
	4–6 years	75	21.2
	> 6 years	121	34.3
Engagement Duration with Online Radio	< 6 months	50	14.2
	6 months–1 year	66	18.7
	1–3 years	90	25.5
	> 3 years	147	41.6

Source: Authors' survey (2025)

3.1.2. Agreement Levels on Migration Factors

Respondents rated six potential drivers of migration from traditional to online radio on a five point Likert scale. Table 2 and Figure 1 present the combined "agree" and "strongly agree" percentages.

Table 2 Agreement levels on migration drivers (n = 353)

Driver	Agree (%)	Strongly Agree (%)	Combined (%)
Flexible, time-shifted access	35	45	80
On-demand and device flexibility	36	42	78
Expanded programme variety	30	40	70
Real-time feedback and participation	32	42	74
Regular application updates	30	32	62
Social-media integration for sharing	29	37	66

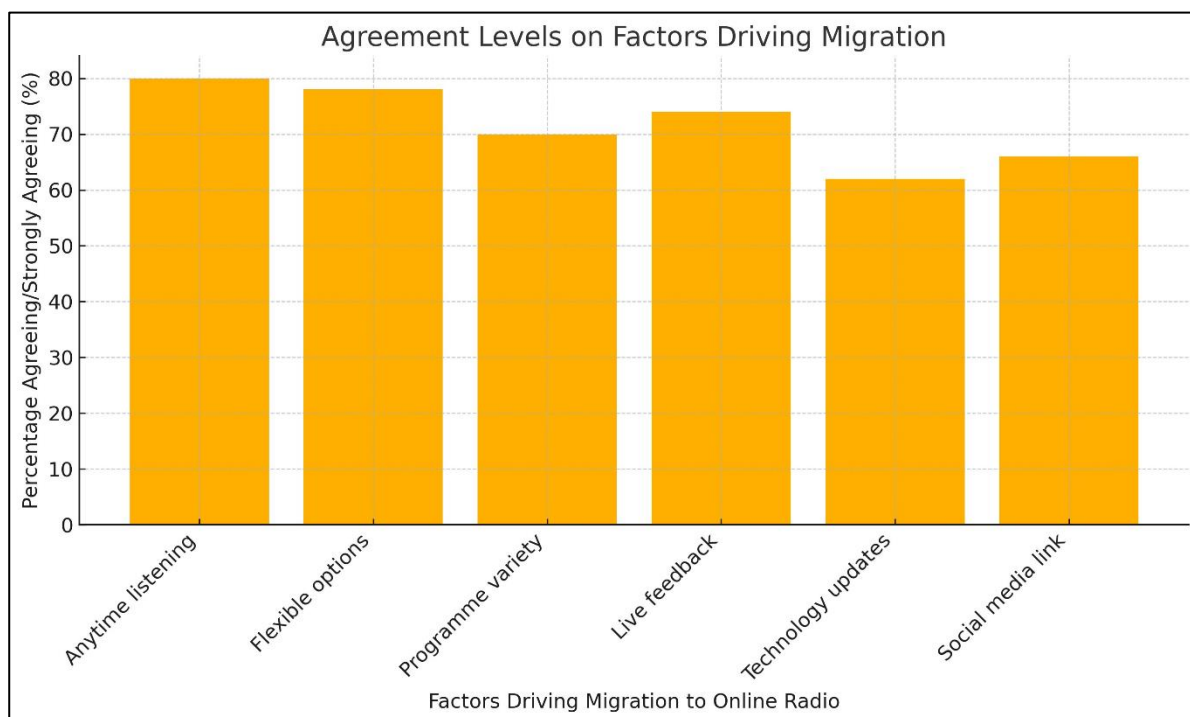*Source: Authors' survey (2025)*

Figure 1 Agreement levels on drivers of digital migration (*Source: Authors' survey, 2025*)
Note: This bar chart depicts the data in the "Combined (%)" column of Table 2 (above)

The data reveal that convenience factors, specifically flexible access and device compatibility, were the most compelling, with 80% and 78% combined agreement respectively. Content diversity secured 70% support, signalling that diaspora audiences seek programming breadth beyond what analogue broadcasts can provide. Participatory features, such as live chat and call in functions, attracted 74% endorsement, underscoring the importance of two way communication in sustaining diaspora engagement (Laor & Steinfeld, 2018).

Technological currency, measured as regular software updates and interface improvements, garnered 62% combined agreement. While lower than access and content drivers, this figure still indicates that ongoing platform maintenance influences listener retention. Integration with social media channels achieved 66% support, reflecting the role of peer networks in disseminating station content and facilitating communal discussion.

From a media education standpoint, these findings highlight areas where training could enhance user experience. For example, 38% of respondents reported difficulty locating archived programmes, suggesting that tutorials on podcast subscriptions and RSS feeds are warranted (UNESCO, 2013). Similarly, lower agreement on technological currency suggests that diaspora listeners may not always update applications, perhaps due to limited data or unfamiliarity, indicating a need for clear guidance on update processes and settings.

3.1.3. Subgroup Analyses by Gender and Age

To explore demographic influences on migration motives, subgroup comparisons were conducted. Table 3 summarises key differences in the top three drivers (i.e., flexible access, content diversity and participation) by gender and by age category (18–34 vs 35–55).

Table 3 Driver agreement by gender and age (combined agree %)

Driver	Male (%)	Female (%)	Age 18–34 (%)	Age 35–55 (%)
Flexible access	82	76	84	74
Programme variety	72	68	75	63
Real-time participation	76	70	78	68

Source: Authors' survey (2025)

Among male respondents, 82% valued flexible access compared with 76% of females. Younger listeners (18–34) exhibited somewhat stronger endorsement of all three drivers than their older counterparts for instance, 84% of 18–34-year-olds prioritised flexible access versus 74% of those aged 35–55. These patterns align with research indicating that younger migrants, who tend to integrate digital tools into daily routines more readily, are more receptive to on-demand and interactive media features (Tinsley et al., 2020).

Gender differences, while present, were less pronounced. Women's slightly lower agreement on participation features may reflect differing preferences for private consumption or lower confidence in real-time engagement, pointing to a potential role for media-education workshops aimed at boosting digital-communication skills among female diaspora members (Buckingham, 2008).

Figure 2 illustrates a summary of diaspora listeners' self-assessed competencies across five digital tasks critical to online radio engagement. Confidence levels were highest for basic technical on-boarding tasks, particularly *app installation and account set-up* (M = 4.1, SD = 0.9), indicating that most respondents possess the foundational digital skills required to access streaming services. Conversely, the lowest mean score was recorded for *subscribing to podcast feeds or RSS* (M = 2.8, SD = 1.1), suggesting a widespread gap in knowledge or comfort with this more advanced but increasingly essential feature of online radio ecosystems.
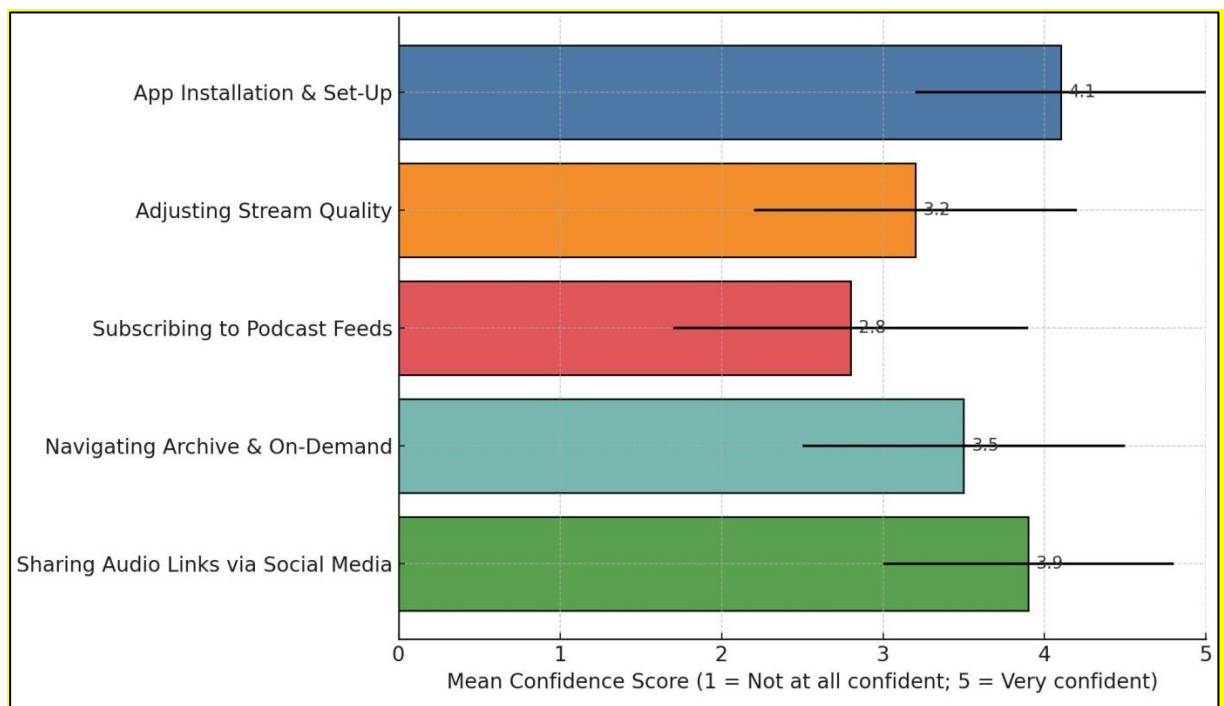

Figure 2 Self-assessed digital literacy scores and their associations with migration drivers among Kano diaspora listeners (*Source: Authors' survey, 2025*)

3.1.4. Summary of Key Patterns

The survey results demonstrate a clear hierarchy of motives for digital migration among Kano diaspora. Access and convenience factors dominate, followed by a strong desire for programming variety and opportunities for active participation. Technological currency and social-media integration, while still endorsed by a majority, assume secondary importance. Subgroup analyses indicate that younger and male listeners exhibit marginally higher agreement with these drivers.

These patterns corroborate Domestication Theory's postulation that technology adoption in diaspora contexts proceeds through stages of appropriation, initial engagement with streaming apps, followed by adaptation and routinization, wherein listeners integrate platforms into daily schedules (Haddon, 2017). The high agreement on flexible access and on-demand content suggests that many respondents have moved well into the routinisation phase, establishing habitual patterns around their streaming services.

Moderated Technological Determinism is also evident. While platform affordances such as app updates and social-media sharing influence engagement, economic constraints (e.g., data costs) and digital-literacy gaps modulate the extent of their effect (Park et al., 2021; Reddy et al., 2023). The media-education findings, 38% unfamiliarity with advanced features, underscore the importance of instructional interventions to support full participation.

The data provide a comprehensive picture of why Kano diaspora choose online radio over traditional broadcasts and signal concrete avenues for both educational initiatives and broadcaster practice enhancements. Subsequent discussion will interpret these results in light of theoretical frameworks and prior empirical research, and will propose recommendations for media educators, station managers and policy makers.

3.2. Discussion

This discussion interprets the survey findings in relation to the theoretical framework of the study and existing literature, and considers the implications for media education, broadcasting practice and policy. It concludes by acknowledging study limitations and suggesting avenues for future research.

3.2.1. Interpretation of Primary Drivers

The predominance of flexible access as a migration driver, endorsed by 80% of respondents, underscores the centrality of temporal autonomy for diaspora audiences. This finding corresponds with observational studies in other migrant contexts, where time-shifted streaming accommodates work and family commitments across time zones (Shaar-Moshe et al., 2017). Flexible access encompasses both live streaming and on-demand archives, enabling listeners to engage with news bulletins, cultural programming and religious content at their convenience. Such autonomy alleviates the constraints of fixed broadcast schedules, rendering traditional receivers less pertinent for overseas users.

Programme diversity secured 70% combined agreement, reflecting diaspora audiences' appetite for content that resonates with regional identity. Many respondents specifically highlighted Hausa-language dramas, community announcements and local music as offerings unavailable on conventional FM/AM channels. This preference aligns with research indicating that diasporic media consumption fulfils information and cultural affirmation needs (Tsay-Vogel et al., 2018). In addition, 74% of participant valued participatory features namely, live chat and call-ins, which confer a sense of agency and inclusion in home-community discourse.

Technological currency, which was measured through regular platform updates, received lower but still majority support (62%). This suggests that while diaspora listeners appreciate improvements in streaming stability and application functionality, they do not view them as primary motivators. Instead, updates function to sustain engagement once flexible access and content diversity have attracted users. Integration with social-media networks (66%) further facilitates communal listening and peer-to-peer sharing of station links, extending the reach of radio into private and semi-public spheres.

The findings on media literacy indicate that these literacy dimensions are not only descriptive but also analytically significant in understanding why diaspora listeners migrate to digital platforms. For instance, those with lower confidence in *adjusting stream quality* were significantly less inclined to value technological attributes such as app updates and streaming stability, highlighting how even minor technical hurdles may deter engagement with digital radio. This aligns with Buckingham's (2008) notion that technical proficiency is a prerequisite for meaningful participation in digital media.

In contrast, respondents who rated themselves highly in *sharing audio links* were 40% more likely to cite social-media integration as a core migration motivator. This affirms the role of participatory affordances in influencing media practices among transnational users, consistent with findings from Dobransky and Hargittai (2016), who argued that digital inclusion is increasingly defined by users' ability to contribute to mediated discourse, not just access content.

Furthermore, the strong positive correlation (r = .52, p < .001) between confidence in exploring in-app archives and endorsement of flexible access and content variety underscores the interplay between platform literacy and perceived benefit. This suggests that those who are more adept at using on-demand and archive features are better able to appreciate the broader programming horizon that internet-based radio provides, particularly across time zones and cultural niches.

These patterns carry implications for media-education strategies. For example, the reported 38% unfamiliarity with podcast and RSS features indicates a digital-literacy gap that may inhibit full realisation of access and content benefits. Educators and broadcasters should co-develop training modules, covering topics such as subscription management, playback controls and notification settings, to bolster diaspora listeners' confidence in exploiting advanced platform features (UNESCO, 2013). Such initiatives can be delivered through station-hosted webinars, illustrated step-by-step guides and peer mentoring within diaspora associations.

Altogether, these findings reinforce the argument that digital migration is not merely a result of content or convenience but is also influenced by differentiated user competencies. The data signal a clear need for adapted digital-literacy interventions aimed at enhancing diaspora audiences' functional knowledge of underused but high-value features, such as podcast subscriptions and archive exploring, which, in turn, can deepen their engagement and satisfaction with online radio services.

3.2.2. Comparison with Theoretical Expectations

The findings of the present study resonate with Domestication Theory's delineation of technology integration phases (Silverstone, 1993). Diaspora audiences first appropriate streaming applications, drawn by the promise of asynchronous access. They then adapt these tools to their daily routines, managing notification schedules to coincide with host-country work hours, and routinise usage through habitual listening, as evidenced by

the 45% daily engagement rate. Finally, public representation occurs when listeners share stream links and programme highlights within their social networks, reinforcing collective identity. The high combined agreement for social-media integration (66%) confirms that diaspora users enact the representation phase, contributing to a mediated public sphere that transcends national boundaries.

Moderated Technological Determinism posits that while technological features influence user behaviour, social and economic factors mediate their effect (Williams & Edge, 1996). The moderate support for platform updates (62%) illustrates that technical affordances are necessary but not sufficient: diaspora listeners' capacity to exploit new features depends on data affordability and digital-literacy competence. The reported technical difficulties (79%) and data-cost concerns (74%) highlight infrastructural constraints that temper the deterministic impact of technology. This aligns with Ntshangase (2021) findings on rural and diaspora radio access in sub-Saharan contexts, where uneven broadband and high data tariffs limit continuous streaming.

Furthermore, Uses and Gratifications Theory suggests that media choices reflect audiences' pursuit of informational, social and cultural needs (Ruggiero, 2000; Stafford et al., 2004; Whiting & Williams, 2013). The factors identified in this study correspond directly to these motivators: flexible access and programme diversity correspond to informational and cultural gratifications, while participatory features address social gratifications. The alignment between theoretical constructs and empirical data strengthens the argument that digital migration among Kano diaspora is purpose-driven rather than technologically deterministic in isolation.

3.2.3. Integration with Previous Empirical Studies

Comparative studies in sub-Saharan Africa provide context for the present findings. Monroe (2022) demonstrates in Kenya that streaming uptake rose from 42% to 58% following technical enhancements such as regional caching servers. Similarly, Cameroon's Urban Radio saw a 35% increase in rural listenership after offering low-bit-rate streams. These cases illustrate that infrastructural modifications can mitigate technical barriers, paralleling the 79% technical-difficulty rate reported by Kano diaspora.

Diaspora-focused research further corroborates the primacy of content relevance. Musa (2023) found that 68% of Nigerian expatriates streamed homeland radio weekly, favouring stations that provided vernacular news and religious programmes. Qualitative interviews by Roberts (2020) reveal that online radio acts as an emotional anchor, sustaining cultural rituals among second-generation migrants. In the present study, 70% combined agreement on programme diversity substantiates these dimensions of cultural continuity.

Interactive engagement also emerges as a consistent theme. Moshe *et al.* (2017) report that diaspora listeners in Israel perceive interactive chat functions as key to communal belonging. The present data, with 74% endorsement of participatory features, echo this pattern, underscoring the necessity of two-way communication channels in digital diasporic media ecosystems.

Regarding responses by age groups (ranged from 18–34 and 35–55) and gender, then analysed patterns in agreement with migration drivers such as participatory features and content variety. The analysis shows that younger respondents (18–34) were significantly more likely to rate real-time feedback features and social-media integration as important (χ^2 = 12.6, p < .01), suggesting a preference for interactive digital environments. In contrast, older respondents (35–55) expressed stronger agreement with content variety

and time-shifted listening as primary motivations for digital migration, reflecting their need for programme flexibility and a broader range of culturally relevant content.

Similarly, the researchers observed that female respondents placed greater emphasis on community information services and ease of access, while male respondents leaned more towards technological currency and app updates. These differences have been contextualised within the literature on gendered technology preferences and generational digital literacy (Dobransky & Hargittai, 2016).

Media-education studies highlight the importance of digital-literacy interventions. Buckingham (Buckingham, 2008) emphasises that media education must address technological competencies and critical appraisal skills. The current finding that 38% of respondents lack familiarity with advanced features, such as RSS feeds, aligns with Park et al. (2021) study of diaspora media literacy, which advocates for community-based training to bridge proficiency gaps. This evidence underlines that technical adoption must be matched by pedagogical support to ensure equitable participation.

3.2.4. Practical and Policy Implications

The practical implications for broadcasters highlight several steps to enhance accessibility and engagement among diaspora audiences. Offering tiered streaming options allows listeners with limited data plans to choose low-consumption modes, directly addressing the significant proportion who identified data costs as a barrier. Guided onboarding tutorials embedded in apps can reduce the digital-literacy gap by introducing advanced features such as podcast subscriptions and notifications. In addition, broadcasters are encouraged to align flagship programming with "global prime" listening slots across key diaspora regions, ensuring that peak listening windows coincide with non-working hours. Listener advisory panels, composed of rotating diaspora representatives, would further guarantee that programming and technical innovations remain responsive to audience needs.

For media-education practitioners, a set of modular e-learning courses is recommended to provide targeted digital-literacy support. These short, focused modules would cover basic technical skills such as app navigation, podcast subscriptions, and mobile-data management, enabling users to select areas most relevant to them. Live "tech clinics" conducted monthly by media trainers or engineers can offer real-time, personalised assistance for common technical challenges, while recordings ensure broader accessibility. Peer mentoring through diaspora associations would complement these efforts by empowering community-based "digital ambassadors" to guide less experienced users. Continuous evaluation through post-training surveys ensures that educational initiatives remain adaptive and effective in addressing evolving literacy gaps.

From a policy perspective, national regulators and cultural ministries have an important role to play in reducing structural barriers to digital access. Agencies such as Nigeria's National Broadcasting Commission (NBC) could negotiate partnerships with telecommunications providers to zero-rate or subsidise data costs for licensed diaspora streaming, thereby easing the economic burden faced by many listeners. Moreover, cultural ministries might establish grants dedicated to diaspora-focused media education, supporting initiatives that strengthen digital skills and encourage active participation in transnational media spaces. Such measures would not only bridge digital divides but also reinforce diaspora connections to their cultural heritage and foster stronger national cohesion.

3.2.5. Study Limitations and Future Research Directions

The descriptive survey design of this study precludes causal inference; longitudinal research would elucidate how migration motives evolve over time. The reliance on online distribution may have excluded diaspora members with low digital proficiency or limited internet access, possibly biasing results towards more tech-savvy participants. Future research should incorporate mixed-methods approaches, such as in-depth interviews and platform log analyses, to capture nuanced user experiences and actual usage patterns. Comparative studies across different Nigerian states would further clarify regional variations in digital radio migration. Finally, experimental interventions, such as media-education workshops, should be evaluated to determine their efficacy in enhancing digital-literacy competencies and sustaining long-term engagement.

4. Conclusion

The study confirms that the shift of Kano diaspora audiences from analogue to internet-based radio is largely motivated by temporal flexibility, programme diversity, and interactive engagement, echoing the central themes outlined in the abstract. Flexible listening schedules (80%), diverse cultural and niche programming (70%), and participatory features (74%) remain the strongest factors influencing digital adoption, with social media integration (66%) and technological improvements (62%) serving as important secondary drivers. These findings reinforce the idea that online platforms offer the diaspora not only convenience but also expanded opportunities for cultural expression and communal interaction that FM/AM channels cannot provide.

Theoretically, the study extends Domestication Theory into transnational media contexts by showing how diaspora listeners appropriate, adapt, and routinise digital radio while simultaneously performing media citizenship through content sharing and participatory practices. The moderated perspective on Technological Determinism further demonstrates that while software updates and platform design affect user expectations, infrastructural and economic constraints mediate these influences. This aligns with the abstract's emphasis on balancing technological factors with user agency in explaining digital migration patterns.

In line with the practical recommendations presented in the abstract, the conclusion emphasises the need for broadcasters to provide tiered data-efficient streaming, intuitive onboarding tutorials, and scheduling aligned with diaspora time zones. Media-education practitioners are encouraged to develop modular digital-literacy resources and peer-mentoring initiatives, while policymakers should consider subsidised data schemes and diaspora-focused training grants. Together, these interventions not only sustain radio's relevance in a digitally mediated environment but also foster more inclusive participation in the transnational public sphere.

Conflict of Interest

The authors declare no conflict of interests.

Acknowledgments

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