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IMPACT OF ARTIFICIAL INTELLIGENCE IN MUSIC MAKING AMONG MUSIC PERFORMERS IN ABEOKUTA, OGUN STATE

Abstract

This study investigated the awareness, adoption and perceived impact of Artificial Intelligence (AI) in music production among 100 musicians in Abeokuta, Nigeria. The respondents were predominantly young (71% aged 18–24), female (64%), and relatively new to the industry, with 70% having 1–2 years of experience. Findings revealed high awareness of AI ($\bar{x} = 3.52$) and a fair understanding of its application in music production ($\bar{x} = 3.33$), though actual usage was moderate ($\bar{x} = 2.96$). Participants widely agreed that AI supports creativity, enhances efficiency, improves mixing quality, and expands audience reach. However, challenges such as lack of technical knowledge ($\bar{x} = 3.72$), high cost of AI tools ($\bar{x} = 3.24$), poor digital infrastructure ($\bar{x} = 1.96$), and limited training opportunities ($\bar{x} = 3.55$) hindered broader adoption. While support for interventions like training workshops and infrastructure upgrades was moderate, there was strong consensus on the need for legal protections for musicians' rights in AI-generated works ($\bar{x} = 3.51$). AI awareness is high, practical adoption is constrained by structural barriers, underscoring the need for targeted policy and educational interventions to foster AI integration in Nigeria's music industry.

Keywords: Artificial Intelligence (AI), Music Production, Creative Industry, Technology Adoption

Introduction

Artificial Intelligence (AI) has become a groundbreaking element across various fields, particularly in the music sector. Tools like AI-based composition software, voice synthesis systems, beat generators, and music mastering services are enabling musicians all over the globe to modify their creative workflows (Pachet & Roy, 2019; McCormick, 2020). These advancements have ushered in a new period in music creation, offering artists extraordinary abilities to compose, produce, and perform music in innovative ways that were once beyond reach (Briot, Hadjeres& Pachet, 2020).

In Abeokuta, Ogun State, where both traditional and modern music styles thrive, the incorporation of AI into music creation is beginning to influence how artists generate, collaborate, and disseminate their work. The integration of AI in this area represents not only a technological progress but also a cultural transformation. It fosters opportunities for blending traditional African music customs with contemporary global music trends (Adegbite & Okunoye, 2021) while challenging conventional methods of music production and distribution. For example, AI-enabled platforms facilitate collaboration over long distances, allowing artists from varied backgrounds to co-create effortlessly (Bresson et al., 2017). Additionally, AI-enhanced music production tools are democratizing the process, providing independent musicians in locations like Abeokuta with access to advanced production techniques that were traditionally accessible only to affluent studios.

As society increasingly acknowledges the influence of AI in creative endeavors, it is crucial to investigate its effects in specific locales, such as Abeokuta, where AI can promote the integration of traditional African musical heritage with contemporary, digitally-driven soundscapes. By studying the impact of AI on music production in this area, we can better understand the future of music on both global and local scales.

Objectives of the Study

Specifically, the study:

- i. examined the demographic characteristics of music performers, producers, and sound engineers in Abeokuta;
- ii. analyzed the level of awareness and understanding of artificial intelligence (AI) in the context of music production;
- iii. explored the perceived benefits of using AI tools in the music-making process;
- iv. identified the challenges hindering the effective use of AI in music production among creative in Abeokuta and;
- v. suggested possible solutions for improving the adoption and effective use of AI in the local music industry.

Research Questions

- i. What are the demographic characteristics of music professionals involved in production and performance in Abeokuta?
- ii. To what extent are the music professionals aware of AI in the context of music production?
- iii. What are the perceived benefits of integrating AI tools into the music creation process?
- iv. What challenges are encountered in the effective use of AI in music production?
- v. What possible strategies or solutions can be implemented to enhance the use of AI tools in the local music industry?

Methodology

The methodology for this study was designed to capture the quantitative aspects of how AI is shaping music production in Abeokuta. This approach provided a holistic understanding of the phenomenon. Below are the details of the methodology:

Design

This research adopted a descriptive survey research design. This design is suitable because it allows for the collection of detailed, factual information about the attitudes, perceptions, and practices of music performers, producers, and sound engineers regarding the use of AI in music production (Creswell, 2014). The descriptive approach helped to analyze the current state of AI integration in music-making within the local context of Abeokuta.

Sampling Technique and Sample Size

The study targets music performers, producers, and sound engineers based in Abeokuta. These participants were selected because they are directly involved in the music production process, making them the most relevant group for investigating the impact of artificial intelligence (AI) on music practices. According to Robson (2011), selecting individuals who are directly involved in the phenomenon being studied ensures that the data obtained is rich and relevant to the research objectives.

To arrive at the target sample size of 100 respondents, a combination of purposive and snowball sampling techniques were employed. Initially, purposive sampling was used to identify approximately 40 to 50 participants who meet specific inclusion criteria, such as a minimum of one year of experience in music production and some familiarity with AI-based tools or techniques in music creation. These participants were identified through local studios, music associations, producer collectives, and other known creative hubs within Abeokuta.

Following the initial phase, snowball sampling was employed to reach the remaining participants. Each purposively selected respondents were asked to refer one to three other qualified individuals within their professional or creative networks who also meet the study's criteria. This method was particularly effective for accessing participants who may be

independent or working in informal or niche areas of music production and may not be easily located through formal channels (Noy, 2008). The referral process continued iteratively until the desired sample size of 100 respondents is attained. This approach ensured the inclusion of both visible and less-visible members of the music production ecosystem, thereby enhancing the depth and diversity of the data collected.

Data Collection

Data were collected using questionnaires. The questionnaires included both closed and open-ended questions, allowing for the collection of quantitative data and qualitative insights. The interviews were semi-structured, offering flexibility while ensuring consistency in the information gathered from participants. These methods were well-established in music and technology research (Brinkmann & Kvale, 2015), and they enabled the researcher to capture a wide range of perspectives.

Data Analysis

The data were analyzed through descriptive statistics to summarize and describe the key features of the data, such as the frequency of AI tool usage, perceptions of effectiveness, and barriers to adoption. Descriptive statistics are particularly useful in surveys that aim to identify patterns and trends within the data (Field, 2013).

Key Findings

Demographic information

The demographic data revealed that music producers in Abeokuta are predominantly young and female. Females made up 64% of the respondents, while 71% were aged between 18 and 24 years, with a mean age of 24.51 years ($SD = 7.18$). This youth dominance underscores the growing influence of young people in the integration of digital technology into creative practices.

Similar findings have highlighted that digital adoption is often driven by youth populations in sub-Saharan Africa, particularly in media and arts sectors (UNESCO, 2021). In terms of educational attainment, a substantial proportion (33%) were undergraduates, while 20% held bachelor's degrees, indicating that the sample was relatively well-educated. Furthermore, 70% of the respondents had between one and two years of experience in music production, suggesting that most participants were at an early stage in their careers—an important factor in predicting technology adoption, as early-career creatives are typically more willing to experiment with innovations (Adeleke & Akinwale, 2022).

Table 1: Demographic information

		Frequency	%	Mean	Standard Deviation
Gender	Male	36	36.0		
	Female	64	64.0		
Age (years)	18-24	71	71.0	24.51	7.18
	25-31	18	18.0		
	32-38	4	4.0		
	39-45	3	3.0		
	46 and above	4	4.0		
Educational level	NCE	12	12.0		
	Post graduate	18	18.0		
	Bachelors	20	20.0		
	O level	2	2.0		
	Secondary	9	9.0		
	Diploma	4	4.0		
	Undergraduate1	2	2.0		
	Undergraduate	33	33.0		
Years of experience	1-2	70	70.0	2.24	.91
	3-4	30	30.0		

Awareness and understanding of AI in Music Making

Analysis of AI awareness shows that 91% of respondents had heard of Artificial Intelligence (AI) in music-making, with 64% strongly agreeing to this statement ($\bar{x} = 3.52$). In terms of conceptual understanding, 85% agreed or strongly agreed that they understood AI in the context of music production and performance ($\bar{x} = 3.33$). However, practical use of AI-powered tools was more modest; only 63% claimed to have used such tools, resulting in a mean score of 2.96. The perceived popularity of AI among local musicians also received a moderate response ($\bar{x} = 2.89$). These figures reflect a common trend in developing countries, where digital literacy may be rising, but hands-on application is still hindered by infrastructural or financial constraints (Ezeani, 2023). Notably, 82% of participants could identify at least one AI software used in music production ($\bar{x} = 3.21$), indicating increasing exposure to AI-related platforms such as Amper Music or AIVA.

Table 2: Awareness and Understanding of AI in Music Making

	strongly disagree		Disagree		agree		strongly agree		Mean
	F	%	F	%	F	%	F	%	
I have heard about Artificial Intelligence (AI) in music making.	3	3.0	6	6.0	27	27.0	64	64.0	3.52

I understand what AI means in the context of music production and performance.	0	0.0	15	15.0	37	37.0	48	48.0	3.33
I have used AI-powered tools or applications in music making.	6	6.0	31	31.0	24	24.0	39	39.0	2.96
AI is becoming popular among musicians in Abeokuta.	11	11.0	28	28.0	22	22.0	39	39.0	2.89
I can list at least one AI software used in music.	4	4.0	14	14.0	39	39.0	43	43.0	3.21

Perceived Benefits of Using AI in Music Making

Respondents expressed strong agreement with several benefits of AI in music production. A significant 98% of participants agreed or strongly agreed that AI can generate new musical ideas ($\bar{x} = 3.63$) and improve the quality of music mixing and mastering ($\bar{x} = 3.63$). In addition, all respondents agreed that AI tools make production faster and more efficient ($\bar{x} = 3.60$), and 98% believed AI enhances digital marketing reach ($\bar{x} = 3.67$). However, only 37% agreed that AI reduces production costs ($\bar{x} = 2.06$), with nearly half (47%) strongly disagreeing. These responses suggest that while creative and promotional benefits are widely acknowledged, cost-reduction potential remains contentious. This aligns with recent studies indicating that although AI tools offer creative augmentation, their financial barriers can limit their perceived value in low-resource settings (Akinbinu & Areola, 2020; Onyema & Dibia, 2022).

Table 3: Perceived Benefits of Using AI in Music Making

	strongly disagree		Disagree		Agree		strongly agree		Mean
	F	%	F	%	F	%	F	%	
AI can help musicians generate new musical ideas.	0	0.0	2	2.0	33	33.0	65	65.0	3.63
AI tools make music production faster and more efficient.	0	0.0	0	0.0	40	40.0	60	60.0	3.60
Using AI reduces the cost of music production.	47	47.0	16	16.0	21	21.0	16	16.0	2.06
AI helps musicians reach a wider audience through better digital marketing.	0	0.0	2	2.0	29	29.0	69	69.0	3.67
AI improves the quality of	0	0.0	2	2.0	33	33.0	65	65.0	3.63

music mixing and
mastering.

Challenges Facing the Effective Use of AI in Music Making

Multiple barriers to AI integration were identified. A striking 72% of respondents strongly agreed that many musicians lack technical knowledge about AI ($\bar{x} = 3.72$). Cost was also a concern, with 79% agreeing that AI tools are too expensive ($\bar{x} = 3.24$). Infrastructural limitations such as unreliable internet access and poor digital infrastructure were also noted, with 64% disagreeing that such access is adequate ($\bar{x} = 1.96$). Fear that AI could replace human creativity was a less significant barrier, with only 28% expressing concern ($\bar{x} = 1.96$). Additionally, 96% of respondents indicated that local training opportunities are limited ($\bar{x} = 3.55$). These challenges reinforce the structural inequalities in digital access and skill development across Africa's creative sectors, where affordability and training remain persistent obstacles (Olowu, 2023; UNESCO, 2021).

Table 4: Challenges Facing the Effective Use of AI in Music Making

	strongly disagree		Disagree		agree		strongly agree		Mean
	F	%	F	%	F	%	F	%	
Many musicians lack technical knowledge about how to use AI.	0	0.0	0	0.0	28	28.0	72	72.0	3.72
AI tools are too expensive for most musicians in Abeokuta.	9	9.0	12	12.0	25	25.0	54	54.0	3.24
There is limited access to reliable internet and digital infrastructure.	48	48.0	16	16.0	28	28.0	8	8.0	1.96
Fear of AI replacing human creativity discourages musicians from using it.	44	44.0	28	28.0	16	16.0	12	12.0	1.96
There are few training opportunities on how to use AI in music locally.	2	2.0	2	2.0	35	35.0	61	61.0	3.55

Possible Solutions to Improve the Use of AI in Music Making

When asked about potential solutions, respondents expressed moderate support for practical strategies. Although only 41% strongly agreed that organizing workshops would encourage AI usage ($\bar{x} = 2.16$), 49% agreed that reducing the cost of AI tools would increase accessibility ($\bar{x} = 2.23$). Improving digital infrastructure was also considered helpful ($\bar{x} = 2.11$), just as creating

collaborations between musicians and developers ($\bar{x} = 2.15$). Notably, the strongest support was for establishing clear laws protecting musicians' rights in AI-generated works — 98% agreed or strongly agreed ($\bar{x} = 3.51$). These findings reflect growing concern over intellectual property rights in digital content creation, emphasizing the importance of legal protections to build trust in AI systems (Onyema & Dibia, 2022; Olowu, 2023). These strategies suggested that both policy-level reforms and grassroots initiatives are required to ensure responsible and widespread AI adoption in Nigeria's music industry.

Table 5: Possible Solutions to Improve the Use of AI in Music Making

	strongly disagree		Disagree		Agree		strongly agree		Mean
	F	%	F	%	F	%	F	%	
Organizing workshops and training for musicians will encourage AI usage.	47	47.0	12	12.0	19	19.0	22	22.0	2.16
Reducing the cost of AI tools will make them more accessible to musicians.	43	43.0	8	8.0	32	32.0	17	17.0	2.23
Improving digital infrastructure (internet, computers) will promote AI adoption.	50	50.0	6	6.0	27	27.0	17	17.0	2.11
Creating collaborations between musicians and technology developers will enhance AI integration.	45	45.0	10	10.0	30	30.0	15	15.0	2.15
Clear laws protecting musicians' rights in AI-created works will build trust in using AI.	0	0.0	2	2.0	45	45.0	53	53.0	3.51

Table 6: Level of Impact of AI Tools

The findings from Table 6 reveal that the majority of respondents (63%) reported a high level of impact from the use of AI tools, while 37% indicated a low impact. The mean score of 16.59 lies exactly at the threshold dividing low and high impact, suggesting that, on the average, respondents leaned toward perceiving AI tools as beneficial. The range of scores extended from 13.00 to 20.00, indicating that all possible levels of impact were represented among respondents. A standard deviation of 1.67 shows moderate variability in the responses, implying that while

many individuals recognized the positive influence of AI tools, others had more reserved experiences. These results suggest a generally favorable perception of AI's role in improving agricultural or professional outcomes among the population studied.

Table 6: Level of Impact of AI Tools

Impact level	Frequency	%	Mean	Minimum	Maximum	Standard deviation
low (13.00-16.58)	37	37.0	16.59	13.00	20.00	1.67
High (16.59-20.00)	63	63.0				

Hypothesis Testing

Correlation between Impact and Awareness

Table 7 examines the relationship between respondents' awareness of AI tools and their perceived impact. The Pearson correlation coefficient (r) was calculated as 0.097, which indicates a weak positive association. However, the p -value of 0.335 is above the conventional threshold of significance ($p < 0.05$), meaning the relationship is not statistically significant. This result suggests that while there is a slight trend where greater awareness might correspond to higher perceived impact, this pattern could be due to chance and is not strong enough to draw firm conclusions. Therefore, awareness alone may not be a key determinant of how impactful AI tools are perceived to be by users.

Table 7: Correlation between impact and awareness

Variable	r	P-value	Remark
	.097	.335	Not significant

Summary

This study explored the adoption of Artificial Intelligence (AI) in music production among 100 musicians in Abeokuta, Nigeria. The respondents were predominantly young, with 71% aged between 18 and 24 years and a mean age of 24.51 years ($SD = 7.18$). Females made up 64% of the sample, and 33% were undergraduates, while 70% had 1–2 years of music production experience, indicating that early-career creatives dominate the field. Awareness of AI was high, as 64% strongly agreed and 27% agreed they had heard about AI in music production ($\bar{x} = 3.52$), and 85% indicated an understanding of AI's role in music ($\bar{x} = 3.33$). However, only 63% had used AI tools ($\bar{x} = 2.96$), and 61% believed AI was popular among musicians in Abeokuta ($\bar{x} = 2.89$). Despite this, 82% could name at least one AI software ($\bar{x} = 3.21$), showing practical exposure. In terms of perceived benefits, 98% agreed AI helps generate new musical ideas ($\bar{x} = 3.63$), 100% stated it enhances efficiency ($\bar{x} = 3.60$), and 98% felt it supports better marketing

and production quality ($\bar{x} = 3.67$ and 3.63 respectively). However, only 37% believed AI reduces production costs, while 63% disagreed or strongly disagreed ($\bar{x} = 2.06$). Major barriers included lack of technical knowledge (72% strongly agreed, $\bar{x} = 3.72$), high tool cost (79% agreed or strongly agreed, $\bar{x} = 3.24$), poor infrastructure (64% disagreed, $\bar{x} = 1.96$), and inadequate training (96% agreed or strongly agreed, $\bar{x} = 3.55$). Only 28% expressed concern that AI could replace human creativity ($\bar{x} = 1.96$). As for solutions, 41% strongly agreed that workshops would encourage usage ($\bar{x} = 2.16$), 49% agreed cost reduction would improve access ($\bar{x} = 2.23$), and 44% supported infrastructure improvements ($\bar{x} = 2.11$). The strongest consensus was around legal protections for musicians' rights in AI-generated works, with 98% in agreement ($\bar{x} = 3.51$). These results suggested that while musicians were highly aware and optimistic about AI's potential in music production, adoption remains limited by financial, infrastructural, and educational barriers, highlighting the need for targeted interventions to support widespread and sustainable integration.

Conclusion

The integration of AI in music-making among performers in Abeokuta presents both opportunities and challenges. While it can democratize music production and foster innovation, support systems like training, infrastructure, and policy will be crucial in ensuring its sustainable and culturally respectful adoption.

Recommendations

Based on the findings of this study, the following recommendations are proposed to enhance the adoption and effective use of artificial intelligence (AI) in music production among musicians in Abeokuta:

1. **Capacity Building and Training:** Government agencies, private stakeholders, and organizations within the creative industry should organize targeted training programs and workshops to improve technical knowledge and practical skills in AI applications for music production. These should focus on beginner-friendly tools, hands-on learning, and real-world case studies.
2. **Subsidies and Access to AI Tools:** To address the challenge of high costs, stakeholders should explore options for subsidizing or providing affordable access to AI-based music software and hardware. Collaborations with tech companies can also help musicians access freemium or discounted versions of key tools.
3. **Improvement of Digital Infrastructure:** Policymakers and ICT development agencies should invest in strengthening digital infrastructure, such as reliable internet access and electricity supply, especially in creative hubs. This is essential to support seamless use of AI technologies.
4. **Legal Framework and Policy Support:** There is a pressing need for regulatory bodies and lawmakers to develop clear legal protections around intellectual property rights and

ownership in AI-generated music. This will safeguard the creative contributions of musicians and encourage more confident adoption of AI technologies.

5. Institutional Support and Collaboration: Academic institutions, music academies, and tech hubs should partner to promote research, innovation, and curriculum development around AI in music. Supporting young, emerging artists through mentorship, funding, and project incubation will also build long-term capacity.

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