INTERROGATING NEWSPAPER COVERAGE OF ARTIFICIAL INTELLIGENCE IN AGRICULTURAL PRACTICES IN NIGERIA: A CONTENT ANALYSIS OF SELECTED NATIONAL DAILIES

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Abstract

Artificial intelligence (AI) is increasingly transforming the agricultural sector through technological innovations that support farming activities, improve productivity and promote agricultural development. This study examined mass media coverage of artificial intelligence in agricultural practices in Nigeria, focusing on six selected national newspapers: The Guardian, The Punch, Vanguard, THISDAY, BusinessDay and The Nation. Specifically, the study sought to determine the frequency of newspaper coverage, identify the major themes of AI-related agricultural reports and examine the pattern of newspaper coverage of artificial intelligence in agricultural practices in Nigeria in terms of monthly distribution and journalist genre through which the subject was reported. The study anchored on Agenda Setting Theory, the study adopted quantitative content analysis. A total of 13 relevant newspaper articles published between January and June 2026 constituted the analytical corpus. The articles were identified based on their relevance to AI in agricultural practices within the study period. Coding categories included newspaper source, publication month, thematic focus and

journalistic genre. Data were analysed using frequency counts and simple percentages. Findings revealed that The Punch recorded the highest coverage, with five articles (38.5%), followed by The Guardian with three (23%). Thematic analysis showed that AI and agricultural productivity accounted for six articles (46.2%), other AI-related agricultural issues accounted for five (38.5%), while AI and weather prediction accounted for two (15.4%). News reports dominated the journalistic genres, representing 92.3%, while interview/feature reports accounted for 7.7%. Monthly analysis showed that May recorded the highest coverage, with four articles (30.8%), while no article was identified in April. The study concluded that newspaper coverage varied across the selected newspapers and study period. It recommended sustained and more diverse newspaper reporting on AI-driven agricultural innovations to enhance the availability of information on emerging agricultural technologies.
Keywords: Artificial intelligence, agricultural practices, mass media coverage, newspapers, content analysis.

Introduction

Agriculture remains a fundamental sector of economic development, contributing significantly to food security, employment generation, poverty reduction and sustainable livelihoods. Globally, the sector is undergoing considerable transformation through the emerging technologies designed to improve productivity, enhance efficiency and address persistent farming challenges. Among these innovations is Artificial Intelligence (AI), which is increasingly being integrated into agricultural practices to support decision-making, improve farm management and promote sustainable food production. Applications such as AI-powered drones, intelligent irrigation systems, automated crop monitoring, soil analysis and disease detection offer opportunities for improving agricultural productivity and overcoming some of the limitations associated with conventional farming methods, Bayar, Ali, Cao. Ren & Dong (2025), Ibnat, Azad, Chowdhuny, Giordano. Adetunji & Islam (2026). The increasing application of artificial intelligence in agriculture has created a need for effective information dissemination and public understanding of technological developments. Farmers, agricultural researchers, policymakers and other stakeholders require reliable

information about the applications, benefits and the implications of these innovations. The Food and Agriculture Organization, (FAO, 2022) recognises the potential of digital automation technologies to improve agricultural operations, although their effective utilisation mainly depends on access to relevant information, infrastructure and human capacity. Consequently, mass media remain important channels for communicating emerging developments and promoting public understanding of technological innovations in agricultural practice.

Mass media constitute organised channels through which information is disseminated to large and diverse audiences. They include newspapers, radio, television and digital media platforms, Littlejohn and Foss (2005). Mass communication has contributed to agricultural development by providing platforms through which information about innovations, improved farming practices and agricultural policies reaches different audiences. Through newspapers, radio, television and digital platforms, the media disseminate information about technological developments and their potential implications for agricultural productivity. Beyond information dissemination, media organisations influence public attention through their selection, frequency, prominence and presentation of issues. McCombs and Shaw (1972), through the Agenda-Setting Theory, explain that the degree of attention the media devote to an issue can influence the importance audiences attach to it. Examining media coverage of artificial intelligence in agriculture therefore provides an opportunity to understand the level of attention given to these innovations and the manner in which they are represented in public discourse.

In Nigeria, agriculture remains important to economic activities, food production and rural livelihoods. However, the sector continues to encounter challenges associated with low productivity, inadequate infrastructure, climate variability, limited access to modern technology and post-harvest losses. Artificial intelligence (AI) offers potential applications for addressing

some of these challenges through precision agriculture, automated farm monitoring, weather prediction, intelligent irrigation and crop disease detection. These applications involve the use of AI algorithms and machine-learning techniques to analyse agricultural data, identify patterns, generate predictions and support farming decisions, (OECD, 2024). Such applications can contribute to improving the efficiency and precision of agricultural operations (FAO, 2022). However, the availability of drones, sensors and remote-sensing technologies in agricultural activities does not, in itself, establish the use of AI, since these technologies can operate without intelligent computational systems. According to the OECD (2024), an AI system is distinguished by its ability to generate outputs such as predictions, recommendations and decisions from input data. Consequently, the identification of AI applications in Nigerian agriculture requires evidence that these technologies incorporate AI-based analytical, predictive or decision-support capabilities.

Despite the growing relevance of artificial intelligence to agriculture, the extent to which its applications receive media attention, the themes emphasised and the manner in which related reports are presented require systematic examination. Understanding these dimensions is important for assessing the nature of media attention given to technological innovations in agriculture. It is against this background that this study interrogates mass media coverage of artificial intelligence in agricultural practices in Nigeria through a content analysis of selected national dailies.

Statement of the Problem

Artificial Intelligence is increasingly influencing agricultural practices through applications such as AI-powered drones, precision farming, intelligent irrigation, crop disease detection and automated farm monitoring. These innovations offer opportunities to improve agricultural productivity, strengthen food security and address persistent farming challenges. However, the extent to which Nigerian mass media report these

developments remains insufficiently established. In particular, the frequency of coverage, the major themes addressed, the monthly distribution of reports and the journalistic genres through which AI-related agricultural issues are presented

Although previous studies have examined media coverage of artificial intelligence and agricultural information in Nigeria, they have approached these subjects separately. For instance, Guanah, Obi and Ginikachukwu (2020), investigated the reportage of artificial intelligence in three Nigerian newspapers: The Punch, The Guardian and Vanguard. Their study analysed 285 newspaper editions published between January and December 2019, focusing on the volume of AI coverage, story types and prominence. The findings revealed that 64 AI-related stories were published, with limited prominence given to the subject. Similarly, Arigbo, Adeogun and Agwu (2023) examined agricultural information in four selected Nigerian newspapers using 384 newspaper editions. Their study focused on the number of agricultural reports, space allocation and prominence, identifying 398 agricultural information items. While these studies provide useful insights into newspaper coverage of artificial intelligence and agricultural information, respectively, neither specifically examined the intersection of artificial intelligence and agricultural practices in newspaper reporting. Consequently, there remains a need to establish the extent to which Nigerian newspapers report AI applications in agriculture, the major agricultural themes receiving attention, and the journalistic forms through which such developments are presented. The present study addresses this gap by analysing 13 relevant newspaper articles published in six selected national newspapers between January and June 2026, focusing on coverage frequency, thematic focus, monthly distribution and journalistic genres.

Objectives of the Study

The general objective of this study is to interrogate newspaper coverage of artificial intelligence in agricultural practices in Nigeria. A

content analysis of selected national dailies. The specific objectives are to:

1. Examine the frequency of media coverage of artificial intelligence in agricultural practices by selected national media organisations.
2. Identify the major themes of newspaper coverage of artificial intelligence in agricultural practices in the selected papers.
3. Examine the pattern of newspaper coverage of artificial intelligence in agricultural practices in Nigeria in terms of monthly distribution and journalist genre.

Research Questions

1. What is the frequency of media coverage of artificial intelligence in agricultural practices by selected national media organisations?
2. What are major themes of newspaper coverage of artificial intelligence in agricultural practices in the selected papers?
3. What is the pattern of newspaper coverage of artificial intelligence in agricultural practices in Nigeria in terms of monthly distribution and journalist genre.

Significance of the Study

This study is significant both practically and theoretically. Practically, the study will be useful to media organisations, agricultural stakeholders, government agencies, policymakers, agricultural researchers and extension officers. It will provide insights into the extent and nature of media coverage of artificial intelligence in agricultural practices, particularly regarding the frequency of reports, thematic emphasis, prominence and framing. The findings may assist media organisations in identifying gaps in agricultural technology reporting and improving the quality of information provided to the public. Agricultural stakeholders and policymakers may also benefit from the findings by understanding the level of media attention devoted to emerging agricultural innovations. Such insights may inform communication strategies, media engagement and the dissemination of information about technological developments relevant to agricultural

productivity. Similarly, agricultural researchers and extension officers may use the findings to understand how AI-supported farming practices are represented in the media and identify areas where further public information may be required.

Theoretically, the study will contribute to scholarship in Mass Communication, particularly in the areas of media coverage, agenda-setting and media framing. It will provide empirical insights into how media organisations select, emphasise and present information about emerging technological innovations in agriculture. The findings may also serve as a reference for future researchers investigating artificial intelligence, agricultural communication, media representation and technological development, particularly in developing societies.

Scope of the Study

This study focuses on mass media coverage of artificial intelligence in agricultural practices in Nigeria, using six selected national newspapers as its units of investigation. The newspapers are The Punch, The Guardian, Vanguard, THISDAY, BusinessDay and The Nation. Geographically, the study covers Nigeria through the selected national newspapers. In terms of content, the study examines relevant news reports, feature articles, interviews, editorials and other newspaper materials discussing artificial intelligence applications in agriculture. These applications include AI-powered drones, precision agriculture, intelligent irrigation systems, crop disease detection, automated farm monitoring and other AI-supported agricultural practices.

The study examines four principal dimensions of coverage: frequency of coverage; major themes, monthly pattern of coverage and journalistic genres. It adopts quantitative content analysis to systematically examine the selected newspaper materials. The study covers the period from 1 January to 30 June 2026. Only relevant materials published within these six months are included in the analysis. The six newspapers were purposively

selected based on their national relevance and coverage of public affairs, while individual newspaper materials were selected based on their relevance to artificial intelligence in agricultural practices and compliance with the specified study period. Where materials could not be retrieved because of incomplete newspaper archives or other access and retrieval limitations, such limitations were treated as constraints on data collection rather than reasons for changing the selected newspapers.

Review of Related Literature

Conceptual Review

The conceptual review examines the major concepts relevant to the study, focusing on artificial intelligence, agricultural practices, applications of artificial intelligence in agriculture, mass media, agricultural communication and media coverage. These concepts provide the foundation for understanding how Nigerian Newspapers report and represent developments in artificial intelligence within the agricultural sector.

Artificial Intelligence

Artificial Intelligence (AI) refers to the ability of computer systems and machines to perform tasks that ordinarily require human intelligence, including learning, reasoning, problem-solving, pattern recognition, prediction and decision-making. Unlike conventional computer systems that operate strictly according to predefined instructions, AI systems can analyse large volumes of data, identify patterns and generate outputs that support or automate decision-making processes. According to Oliveira and Silva (2023), artificial intelligence has become increasingly relevant in addressing complex problems across different sectors through data analysis, automation and intelligent decision-making. Its development has been supported by advances in machine learning, deep learning, computer vision and natural language processing, which enable computer systems to learn from information, recognise patterns and perform specialised tasks.

Similarly, Khanna, Atallah, Heckelei, Wu & Storm (2024), explained that AI-based digital technologies have the potential to transform agricultural production through improved measurement, prediction and site-specific farm management. In agriculture, these technologies support crop monitoring, pest and disease detection, weather prediction and efficient resource management. It is important to distinguish artificial intelligence from general digital technology because not all digital tools used in agriculture are powered by AI. Although, digital technologies include computers, mobile applications and internet-based platforms, artificial intelligence involves computational systems capable of performing intelligent analytical functions, such as learning from data, recognising images, making predictions and generating recommendations. This distinction provides a basis for determining which newspaper materials qualify for inclusion in the study. Accordingly, an article was considered eligible when it focused on artificial intelligence in agriculture or explicitly identified an AI-based function in an agricultural technology. Articles that mentioned AI only in passing, discussed general digital tools without establishing their connection to artificial intelligence, or described agricultural technologies without providing sufficient information to establish their AI-related functions were excluded. For example, a report on the use of drones for ordinary aerial photography or farm surveillance without identifying any AI-based analytical function was excluded, whereas a report explaining how AI-powered drones use image recognition to detect crop diseases was included. For this study, artificial intelligence therefore refers to computer-based technologies that use intelligent analytical processes to support agricultural activities, including crop monitoring, pest and disease detection, precision farming, intelligent irrigation and automated farm management.

Agricultural Practices

Agriculture in Nigeria remains an important sector of the Nigerian economy, contributing to food production, employment generation, poverty reduction and rural development. Njoku (2025), agricultural practices encompass activities involved in crop production and farm management, including land preparation, planting, irrigation, fertiliser application, pest and disease control, harvesting, storage and marketing. Nigerian agriculture is largely sustained by smallholder farmers who cultivate relatively small portions of land and often depend on family labour, traditional farming knowledge and locally available resources. Many operate under challenging conditions, including limited access to modern equipment, inadequate infrastructure, unpredictable weather patterns, rising production costs and insufficient agricultural extension services. Over the years, agricultural practices in Nigeria have undergone gradual changes through the introduction of improved seedlings, fertilisers, mechanised equipment, irrigation systems and modern agricultural information services. More recently, digital technologies, including mobile applications, satellite information, geographic information systems and artificial intelligence-supported systems, have created additional opportunities for improving agricultural production.

These technologies can assist farmers in accessing weather information, monitoring crop conditions, identifying diseases and making informed production decisions. However, their integration into Nigerian agriculture remains constrained by inadequate electricity, poor internet connectivity, limited digital literacy, high equipment costs and insufficient technical support. For this study, agricultural practices refer to activities associated with crop production and farm management, including land preparation, planting, irrigation, soil management, crop monitoring, pest and disease detection, fertiliser application and harvesting. Accordingly, newspaper reports on AI applications in livestock production, animal health,

general agricultural supply-chain management, market forecasting and agricultural policy are excluded unless they directly address AI applications in crop production or farm management. Similarly, general reports on agricultural policies or digital innovations are not considered eligible unless they explicitly discuss the application of artificial intelligence to crop production activities. This boundary guides the identification, selection, screening and interpretation of newspaper materials to ensure that the analysis remains focused on AI applications in crop production and farm management.

Application of Artificial Intelligence in Agricultural Practices

The application of artificial intelligence in agriculture has introduced new approaches to crop production, farm management and agricultural decision-making. Through machine learning, computer vision, remote sensing, robotics and data analytics, AI technologies provide opportunities for improving agricultural productivity and resource management. According to Agrawal and Arafat (2024), integrating artificial intelligence with unmanned aerial vehicles (UAVs) has expanded the possibilities of precision agriculture through improved crop monitoring, disease detection and resource management. Similarly, Zhu et al. (2024) observed that deep learning techniques can support the identification and monitoring of crop diseases and pests through the analysis of aerial and ground-based images. Some major applications of artificial intelligence in agriculture include: AI-Powered Agricultural Drones: AI-powered agricultural drones are unmanned aerial vehicles equipped with cameras, sensors and intelligent software for collecting and analysing agricultural information. They can capture aerial images of farmlands, monitor crop conditions, identify areas affected by pests and diseases and provide information for agricultural decision-making. Chin, Catal & Kassahun (2023), explained that integrating drone technologies with machine learning algorithms creates opportunities for detecting plant diseases through image classification and analysis. Agrawal

and Arafat (2024), similarly noted that AI-powered UAV systems can combine multispectral, hyperspectral and thermal imaging with intelligent algorithms to support crop monitoring and resource management. However, their application is constrained by acquisition costs, technical expertise, data management and regulatory requirements.

Precision Agriculture is another application of artificial intelligence in agriculture, this involves the application of modern technologies and data-driven systems to manage agricultural resources according to the specific needs of crops and farmland. Artificial intelligence strengthens this approach by analysing information obtained through sensors, satellite images and drones to identify variations in soil fertility, crop health and environmental conditions. Guebsi, Mami & Chokmani (2024) observed that drone technologies provide detailed information about crop conditions and agricultural environments, thereby supporting more efficient farm management. Intelligent Irrigation Systems, artificial intelligence is also applied in irrigation management through systems that analyse soil moisture, weather forecasts, temperature and crop water requirements to determine appropriate water distribution. Wei et al. (2024) explained that AI applications in irrigated agriculture provide opportunities for improving water management through data analysis and predictive systems. These technologies can reduce unnecessary water consumption and support sustainable agricultural production. Crop Disease and Pest Detection: This is another major application of artificial intelligence in agriculture. AI-based systems use computer vision, machine learning and image recognition to identify signs of crop diseases, pest infestations and crop stress. When integrated with drones and remote sensing technologies, these systems can monitor large agricultural areas and identify unusual changes in crop conditions. Zhu et al. (2024) observed that deep learning techniques applied to UAV-based images can support the detection and classification of crop diseases and pests. Similarly, Jafar et al. (2024) examined the application of

artificial intelligence, machine learning and deep learning techniques in plant disease detection, highlighting their potential for automated disease diagnosis and field-based monitoring through smart drone and Internet of Things technologies.

Automated Farm Monitoring and Management: Artificial intelligence also supports automated farm management through the integration of sensors, robotics, digital platforms and intelligent decision-support systems. These technologies can monitor crop development, track environmental conditions, predict production challenges and provide recommendations for agricultural operations. Overall, the application of artificial intelligence in agriculture covers several areas, including agricultural drones, precision farming, intelligent irrigation, disease detection and automated farm monitoring. These innovations demonstrate the growing relationship between technological development and agricultural production. Their benefits, however, depend partly on the availability of reliable information and the extent to which agricultural stakeholders understand their functions and applications. This makes mass media an important channel for communicating emerging agricultural innovations.

Mass Media

Mass media constitute organised channels through which information is disseminated to large and diverse audiences. They include newspapers, radio, television and digital media platforms, Littlejohn and Foss (2005). In agriculture, mass media serve as channels for communicating information about improved farming methods, agricultural innovations, government policies, market opportunities and emerging technologies. Agricultural communication involves the collection, processing and dissemination of information relevant to agricultural production and rural development. Through news reports, interviews, features, documentaries and public enlightenment programmes. Media organisations can create

awareness of agricultural innovations and provide information that supports informed decision-making among farmers and other stakeholders. The relevance of mass media to this study lies in their capacity to make developments in artificial intelligence accessible to the public by explaining technological applications, highlighting their benefits and limitations, and providing information about emerging agricultural practices.

Media Coverage

Media coverage refers to the extent and manner in which media organisations report a particular subject or issue. It can be examined through the frequency of reports, the themes addressed, the space or airtime allocated and the nature of the information presented. In this study, media coverage concerns report relating to artificial intelligence applications in agricultural practices. Media prominence refers to the degree of editorial attention or visibility accorded to a news report. In newspapers, prominence may be determined by placement on front or inside pages, headline size and space allocation. Prominence is important because the amount of editorial attention given to an issue indicates its relative importance within the media agenda. These concepts are relevant because they provide measurable dimensions for assessing how selected Nigerian media organisations report artificial intelligence developments in agricultural practices.

Theoretical Framework

This study is anchored on Agenda-Setting Theory. The theory explains how media organisations select, emphasise and present information about issues of public interest.

Agenda-Setting Theory

Agenda-Setting Theory was developed by Maxwell McCombs and Donald Shaw in 1972 following their study of the 1968 United States presidential election in Chapel Hill, North Carolina. Their seminal study, published in Public Opinion Quarterly, examined the relationship between issues emphasised by the mass media and those considered important by

voters. McCombs and Shaw (1972) argued that the mass media may not always determine what people think, but they play an important role in influencing what people think about. This suggests that media organisations influence public perceptions of issue importance through the selection, frequency and prominence of information they publish.

McCombs (2014) further explained that agenda-setting operates through the transfer of issue salience from the media agenda to the public agenda. According to the theory, issues that receive frequent media attention and prominent placement are more likely to be perceived as important by audiences. However, this proposition concerns the potential relationship between media coverage and public perceptions, which requires audience-based evidence to establish. In the context of this study, Agenda-Setting Theory provides a framework for understanding how selected Nigerian newspapers allocate editorial attention to developments involving artificial intelligence in agricultural practices, including AI-powered drones, precision agriculture, intelligent irrigation, crop disease detection and automated farm management. The study examines the media agenda by analysing the frequency, major themes, monthly patterns and journalistic genres through which these developments are reported. It does not directly measure the transfer of issue salience to farmers, policymakers or the general public because audience responses are outside the scope of its content analysis. The theory is therefore relevant in explaining the editorial attention given to artificial intelligence in agricultural practices, while its prediction concerning audience perceptions remains beyond the empirical evidence generated by this study.

Empirical Review

The empirical review examines previous studies related to agricultural communication, media coverage and the representation of artificial intelligence. The selected studies provide evidence of existing research approaches, findings and gaps relevant to the present investigation.

Empirical Studies on Media Coverage, Agricultural Communication and Artificial Intelligence.

Njoku (2025) conducted a study, Leveraging Mass Media for Cassava Farmers' Agricultural Technologies Access and Utilisation in Ivo LGA, Ebonyi State. The study examined the availability, accessibility and utilisation of mass media for agricultural information dissemination among cassava farmers. Adopting a descriptive survey design, the researcher selected 120 respondents from four cassava-producing communities using multistage sampling. Data were collected through questionnaires and face-to-face interviews and analysed using frequencies, percentages and mean scores. Findings revealed that radio, television and mobile phones were the most available media sources, while limited electricity, poor network coverage and high internet costs constrained access. The study recommended strengthening radio and television in agricultural extension delivery and improving rural communication infrastructure. Although relevant to agricultural communication in Nigeria, the study examined farmers' access to media rather than the content and representation of artificial intelligence in agricultural reports.

Arigbo, Adeogun and Agwu (2023) examined Prominence of Agricultural Information in Print Media: A Content Analysis of Selected Nigerian Newspapers. The study investigated the volume, space allocation and prominence accorded to agricultural information in four selected Nigerian newspapers. Using quantitative content analysis, the researchers examined 384 newspaper editions selected through stratified and purposive sampling procedures. Findings revealed that only 398 agricultural information items were reported out of 29,666 information items examined, while 86.6% of agricultural reports appeared on less prominent pages. The study established a positive and significant relationship between the space allocated to agricultural information and the number of reports published. The researchers recommended greater prominence for agricultural

information in newspapers and improved media engagement by relevant ministries and agencies. The study is relevant because it demonstrates the application of content analysis in examining agricultural information. However, it did not investigate AI-related agricultural reports or media coverage.

Eban-Ekpang, Idiku, Inyang and Machu (2026), conducted a study titled Thematic Analysis of Agricultural Information in Selected Nigerian Newspapers. The study examined the thematic representation and prominence of agricultural information in five Nigerian newspapers: Vanguard, The Nation, Business Day, The Sun and Daily Trust. The researchers employed purposive and systematic sampling techniques to examine 420 newspaper editions published over six months. The analysis produced 612 agricultural-related reports, which were classified according to their major themes and assessed in relation to their editorial prominence. The findings indicated that food crop production dominated agricultural coverage, accounting for 57.2% of the reports, followed by livestock farming at 24.5%. Weather information and irrigation farming received comparatively little attention, accounting for 1.9% and 2.4%, respectively. The study also found that agricultural reports received relatively low editorial prominence compared with other news categories. The researchers recommended that newspapers strengthen developmental agricultural reporting, particularly in areas relating to innovation, climate adaptation and food security. They also recommended improved collaboration between media organisations and agricultural institutions. The study is relevant to the present research because it provides recent evidence of the thematic distribution and prominence of agricultural information in Nigerian newspapers. It also demonstrates the usefulness of content analysis in identifying which agricultural subjects receive greater attention and which remain relatively underrepresented. However, the study examined agricultural information broadly and did not isolate reports about artificial

intelligence. It therefore did not establish the extent to which AI applications in agriculture feature in newspaper coverage or identify the specific frames used to present them. The present study builds on this area of research by examining the representation of artificial intelligence within agricultural reporting in selected Nigerian media organisations.

Methodology

The study adopted a quantitative content analysis to examine mass media coverage of artificial intelligence in agricultural practices in Nigeria. Content analysis was considered appropriate because it provides a systematic and objective approach to examining media content, identifying recurring themes, measuring the frequency of reports and assessing the prominence and framing of media messages. The study focused on six selected national newspapers: The Punch, The Guardian, Vanguard, The Nation, BusinessDay and ThisDay, covering the period from January 1 to June 30, 2026.

Population of the Study

The target population of the study comprised all newspaper reports on artificial intelligence applications in agricultural practices published by Nigerian newspapers. This included reports addressing the application of artificial intelligence in agricultural production, crop monitoring, intelligent irrigation, crop disease detection, automated farm management, agricultural productivity and other AI-supported agricultural activities.

The accessible search frame consisted of six selected Nigerian national newspapers: The Punch, The Guardian, Vanguard, The Nation, BusinessDay and THISDAY. These newspapers were searched for relevant reports published within the study period of January 1 to June 30, 2026. They were selected based on their national relevance, established newspaper presence and suitability for examining media coverage of public affairs and emerging technologies.

The final corpus consisted of six relevant newspaper reports retrieved from the selected newspapers within the study period. These reports

constituted the total number of eligible materials identified and subjected to content analysis. The study considered reports published by the selected Nigerian newspapers on artificial intelligence applications in agriculture, whether the agricultural examples discussed were from Nigeria or other countries. However, reports focusing on foreign agricultural experiences were included only where they substantively addressed artificial intelligence applications in agricultural practices. Their geographical focus was distinguished during coding to enable appropriate interpretation of the findings.

Sample Size

The sample size for the study consisted of 13 newspaper reports on artificial intelligence applications in agricultural practices, retrieved from 6 selected Nigerian national newspapers within the study period (January 1 to June 30, 2026). The reports comprised The Punch (5), The Guardian (3), Vanguard (1), The Nation (2), BusinessDay (1) and ThisDay (1), since all eligible reports identified within the accessible research frame were included, the 13 reports constituted the final corpus sample analysed in the study.

Sampling Technique

The study adopted purposive sampling to select six Nigerian national newspapers: The Punch, The Guardian, Vanguard, The Nation, BusinessDay and THISDAY. The newspapers were selected based on their national relevance, established presence in the Nigerian newspaper industry, coverage of public affairs and accessibility of their archives. The selection also provided a combination of general-interest newspapers and a business-oriented newspaper (BusinessDay), allowing the study to examine coverage of agricultural artificial intelligence from public affairs, technological, economic and developmental perspectives.

A census approach was subsequently adopted in selecting the newspaper reports. All eligible reports retrievable from the accessible archives and print editions of the selected newspapers between January 1 and

June 30, 2026, were considered for analysis. Reports were identified through searches using relevant keywords relating to artificial intelligence and agricultural applications. Only reports containing substantive information on artificial intelligence applications in agricultural practices were included, while irrelevant and duplicate materials were excluded. Following the retrieval and verification process, 13 eligible reports constituted the final corpus analysed in the study.

Unit of Analysis

The unit of analysis was an individual outlet-specific newspaper publication relating to artificial intelligence applications in agricultural practices. Each eligible news story, feature, interview, editorial or other relevant article published by any of the six selected newspapers constituted a unit of analysis. Each publication was examined in terms of its frequency, thematic focus, months of public, and journalistic genre. To avoid double-counting, identical print and online versions of the same article published by the same newspaper were treated as one unit. Where an article appeared in updated versions within the same newspaper, the latest accessible version was retained, provided it represented an update of the same report rather than a substantially different publication. However, syndicated or substantially similar stories published independently by different newspapers were treated as separate outlet-specific publications because the study examined coverage across individual newspapers. Each report was identified by its headline, publication date and newspaper source to facilitate verification and prevent inappropriate duplication.

Instrument for Data Collection

A structured coding sheet served as the instrument for data collection. The instrument was developed in line with the research objectives and questions to ensure systematic extraction and classification of relevant information from the selected newspaper reports. The coding sheet contained categories for newspaper identification, publication date, report type,

artificial intelligence application discussed, dominant theme, prominence and geographical focus. Each variable was assigned specific coding categories and operational definitions to ensure consistency in the classification of newspaper reports.

For thematic classification, each report was assigned a dominant theme based on its central subject matter and the major issue emphasised in the headline and body of the report. Where a report discussed multiple themes, the dominant theme was determined by the issue receiving the greatest attention in the report. Other themes mentioned incidentally were not assigned as dominant themes. The coding categories were applied consistently across the 13 newspaper reports. Where a report did not adequately fit any of the established thematic categories, it was classified as 'Other', with the reason for such classification documented. The final coding sheet and codebook were used to guide the classification and analysis of the newspaper reports.

Validity of the Instrument

The coding sheet used for data collection was validated by the professor in Mass Communication. The validators examined the clarity of the coding categories, relevance of the variables, consistency of the instrument with the research objectives and questions. Their observations and recommendations were used to improve the coding sheet, particularly in relation to the clarity of the thematic categories, classification of newspaper reports. Necessary adjustments were made before the final version of the instrument was used for data collection. Following the validation and revision process, the final coding sheet was used for the pilot coding exercise and subsequent analysis of the newspaper reports.

Reliability of the Instrument

The reliability of the research instruments, comprising the coding sheet and coding guide, was established through a pilot coding exercise involving relevant media materials outside the final sample. Two

independent coders examined the selected materials using the coding sheet and coding guide, and their coding results were compared to determine the level of agreement in the classification of media reports. Holsti's (1969) formula for inter-coder reliability, as recommended by Wimmer and Dominick (2000), was employed to assess the consistency of the coding process. The formula is expressed as:

$CR = 2M / (N_1 + N_2)$

Where:

CR = Coefficient of reliability

M = Number of coding decisions on which the two coders agreed.

N_1 = Total number of coding decisions made by the first coder.

N_2 = Total number of coding decisions made by the second coder.

The analysis produced a reliability coefficient of 0.96, representing 96% agreement between the two independent coders. This result indicates a high level of consistency in the application of the coding sheet and coding guide and establishes their suitability for the study.

Method of Data Collection

Data were collected through the retrieval and systematic examination of newspaper reports published between January 1 and June 30, 2026. The materials were obtained from the available online archives and print editions of the six selected Nigerian newspapers: The Punch, The Guardian, Vanguard, The Nation, BusinessDay and THISDAY. The retrieval process involved searching the newspapers' archives using relevant terms relating to artificial intelligence applications in agricultural practices. The search focused on reports addressing AI-powered agricultural technologies, intelligent irrigation, crop disease detection, automated farm monitoring, agricultural drones and other artificial intelligence-supported agricultural applications. Retrieved reports were screened against the study's inclusion criteria to establish their relevance to the research subject. Reports that did not contain substantive information on artificial intelligence applications in agriculture, fell outside the study period or were duplicate versions of the same publication were excluded. The newspaper source, headline,

publication date and other relevant identification details of each eligible report were documented in an article inventory. Following the screening and verification process, 13 eligible newspaper reports were retained for analysis. The reports were subsequently coded using the structured coding sheet and classified according to the established research variables.

Method of Data Analysis

The coded data were analysed using descriptive statistics, particularly frequencies and percentages. These statistical techniques were used to determine the volume of newspaper coverage, distribution of reports across the selected newspapers, agricultural AI applications discussed and dominant frames employed. The findings were presented in frequency and percentage tables and interpreted in relation to the research objectives and questions. Comparisons were also made among the selected newspapers to establish their respective levels of coverage of artificial intelligence in agricultural practices.

The analysis was based on the six relevant newspaper reports identified and examined during the study period.

Ethical Considerations

The study relied on newspaper content intended for public consumption. Nevertheless, the researcher ensured accurate documentation of sources, objective classification of reports and proper acknowledgement of materials examined. The inclusion and exclusion criteria were applied consistently, while the findings were presented objectively without deliberate distortion or selective reporting.

This chapter presents and analysis data obtained from the content analysis of six selected Nigerian newspapers: The Guardian, The Punch, Vanguard, THISDAY, BusinessDay and The Nation. The analysis covers the distribution of articles by newspaper, thematic classification, journalistic genre and monthly distribution of reports on artificial intelligence in agricultural practices between January and June 2026.

Table 1: Distribution of Identified Articles by Newspaper Coverage

S/N	Selected national daily	Frequency	Percentage (%)
1	The Guardian	3	23
2	The Punch	5	38.5
3	Vanguard	1	7.7
4	THISDAY	1	7.7
5	BusinessDay	1	7.7
6	The Nation	2	15.4
7	Total	13	100.0

Table 1 presents the distribution of the 13 identified articles across the six selected Nigerian newspapers. The Punch recorded the highest number of articles, with five publications representing 38.5% of the total. The Guardian followed with three articles (23.1%), while The Nation recorded two articles (15.4%). Vanguard, THISDAY and BusinessDay each recorded one article, representing 7.7% respectively. The findings show that The Punch contributed the largest share of the identified articles on artificial intelligence in agricultural practices during the period examined. However, this distribution reflects the share of identified articles in the sample and does not, by itself, establish that The Punch devoted greater editorial attention to the subject than the other newspapers, since the number of editions available and screened for each newspaper must also be considered.

Table 2: Distribution of Articles by Theme

S/N	Theme	Code	Frequency	Percentage %
1	AI and agricultural productivity	6	6	46.2
2	AI and weather prediction	5	2	15.3
3	Other AI-related agriculture issues	8	5	38.5
	Total	19	13	100.0

Table 2 presents the thematic distribution of the 13 identified articles on artificial intelligence in agricultural practices. AI and agricultural productivity emerged as the most frequently reported theme, accounting for

six articles (46.2%). Other AI-related agricultural issues followed with five articles (38.5%), while AI and weather prediction accounted for two articles (15.3%). The findings suggest that the selected newspapers gave greater attention to the application of artificial intelligence in improving agricultural productivity and other related agricultural developments than to its application in weather prediction.

Table 3: Distribution of Articles by Journalistic Genre

S/N	Journalistic genre	Code	Frequency	Percentage %
1	News report	1	12	92.3
2	Interview/feature	2	1	7.7
	Total	3	13	100.0

Table 3 presents the distribution of identified articles according to their journalistic genres. News reports constituted the dominant genre, accounting for 12 articles (92.3%) of the total coverage. Interview articles accounted for one publication (7.7%), while no feature articles, editorials or opinion articles were identified. The findings indicate that the selected newspapers predominantly presented information about artificial intelligence in agricultural practices through conventional news reporting, with limited use of other journalistic formats. This suggests that coverage of the subject during the period examined was largely news-oriented rather than presented through in-depth feature writing, editorial commentary or opinion-based discussions.

Table 4: Monthly Distribution of Articles

S/N	Monthly	Frequency	Percentage %
1	January	3	23
2	February	1	7.7
3	March	2	15.4
4	April	N/A	N/A
5	May	4	30.8
6	June	3	23.1
7	Total	13	100

From the table 4 above, the study presents the monthly distribution of identified articles on artificial intelligence in agricultural practices between January and June 2026. May recorded the highest number of publications, with four articles (30.8%). January and June each recorded three articles (23.1%), while March accounted for two articles (15.4%). February recorded one article (7.7%). However, no article was identified for April because of difficulties accessing the newspaper archives for that month. Consequently, the absence of identified articles in April should not be interpreted as evidence that the selected newspapers published no reports on the subject during the period. Rather, it reflects a limitation in the availability of archival materials for screening.

Discussion of Findings

The study focused on interrogating newspaper coverage of artificial intelligence in agricultural practices in Nigeria: a content analysis of selected national dailies. In line with research question one which sought to determine the frequency of newspaper coverage of artificial intelligence in agricultural practices in Nigeria. The findings reveal differences in the frequency of coverage among the six selected newspapers. The Punch recorded the highest number of identified articles, with five publications (38.5%), followed by The Guardian with three articles (23.1%). The Nation recorded two articles (15.4%), while Vanguard, THISDAY and BusinessDay each recorded one article (7.7%). These figures show that only 13 qualifying articles were identified across the six newspapers during the six-month study period. The relatively small number of identified articles suggests that reports specifically addressing artificial intelligence in agricultural practices constituted a limited part of the agricultural information retrieved from the selected newspapers during the period. This finding can be considered alongside the study by Eban-Ekpang, Idiku, Inyang and Machu (2026), which examined agricultural information in five Nigerian newspapers and identified 612 agricultural-related reports. Although their study covered agricultural information

generally, rather than artificial intelligence specifically, the difference illustrates the broader range of agricultural issues reported in Nigerian newspapers compared with the narrower subject examined in the present study.

However, the higher number of articles recorded by The Punch should not automatically be interpreted as evidence of greater editorial commitment to artificial intelligence in agriculture. Differences in the total number of editions published, the volume of agricultural reporting, the accessibility of newspaper archives and the searchability of digital records may have influenced the number of articles retrieved from each newspaper. Furthermore, because one article represents approximately 7.7 percentage points of the total corpus, relatively small differences in raw counts produce noticeable percentage differences. Therefore, the raw frequencies provide a more direct indication of the distribution of identified articles. The finding underscores the need for further attention to specialised agricultural technology reporting in Nigerian newspapers. It also suggests that newspaper coverage of emerging agricultural innovations deserves continued examination, particularly as artificial intelligence becomes increasingly relevant to agricultural productivity and development.

With respect to second research question which examine the major themes of newspaper coverage of artificial intelligence in agricultural practices in the selected papers, the thematic analysis reveals that AI and agricultural productivity was the most frequently reported theme, accounting for six articles (46.2%). Other AI-related agricultural issues accounted for five articles (38.5%), while AI and weather prediction represented two articles (15.4%). This distribution indicates that agricultural productivity was the most prominent identifiable subject within the retrieved corpus. The prominence of agricultural productivity suggests that the identified reports frequently presented artificial intelligence in relation to improving agricultural operations and outcomes. This is consistent with the broader

relevance of emerging technologies to agricultural development, particularly in areas such as farm management, efficiency and decision-making. The relatively lower representation of AI and weather prediction indicates that this specific application received less attention in the retrieved articles.

However, the category labelled "Other AI-related agricultural issues" accounted for five articles, representing 38.5% of the total corpus. This is a substantial proportion and requires careful interpretation. The category brings together different issues that did not fall directly under the two major thematic classifications. Consequently, treating these reports as a single theme may conceal the diversity of issues discussed in the newspapers. The individual reports should therefore be examined to identify the specific agricultural applications or developments they addressed. This would provide a clearer understanding of the range of artificial intelligence issues represented in the coverage. The genre analysis further reveals that news reports dominated the coverage, accounting for 12 articles (92.3%), while interview/feature accounted for one article (7.7%). This suggests that the newspapers predominantly presented information about artificial intelligence in agriculture through conventional news reporting rather than more interpretative or explanatory journalistic formats. The limited representation of interviews and features indicates that opportunities for more detailed explanations, expert perspectives and discussions of the practical implications of AI applications were relatively few within the retrieved corpus. These findings demonstrate that the coverage was concentrated around agricultural productivity and conventional news reporting. However, the distribution of themes and genres should be understood as a description of the retrieved articles rather than definitive evidence of the editorial priorities of the selected newspapers.

Finally, in relation to the third research question, which sought the pattern of newspaper coverage of artificial intelligence in agricultural practices in Nigeria in terms of monthly distribution and journalist genre,

findings revealed variations in the monthly distribution of newspaper coverage between January and June 2026. May recorded the highest number of articles, with four publications (30.8%). January and June each recorded three articles (23.1%), while March accounted for two articles (15.4%). February recorded one article (7.7%), whereas no qualifying article was identified in April. The monthly distribution shows that the 13 identified articles were unevenly spread across the six-month study period. The concentration of four articles in May indicates that a larger proportion of the retrieved reports appeared during that month. However, the small number of articles and the limited six-month period provide insufficient evidence to establish a sustained pattern of newspaper attention to artificial intelligence in agricultural practices.

The absence of identified articles in April may indicate a temporary reduction in the publication of reports on the subject. However, it could also be associated with limitations in the accessibility and searchability of newspaper archives. Inaccessible editions or archived materials may have affected the retrieval process. Similarly, specific agricultural or technological developments during particular months may have contributed to the clustering of reports. Nevertheless, these possibilities cannot be established without further evidence from the articles and relevant events. Therefore, the monthly distribution should be interpreted as a feature of the retrieved corpus rather than conclusive evidence of the actual volume of coverage throughout the period.

Regarding journalistic genres, the findings reveal that news reports dominated the coverage, accounting for 12 articles (92.3%), while interview/feature accounted for only one article (7.7%). This indicates that the selected newspapers predominantly communicated developments relating to artificial intelligence in agriculture through conventional news reporting, with limited representation of more interpretative and explanatory journalistic formats. The dominance of news reports suggests that the

coverage largely focused on communicating developments, announcements and events relating to artificial intelligence in agriculture. Although news reporting is important for providing timely information, interviews and feature articles could offer opportunities for more detailed discussions of the applications, benefits, challenges and implications of AI-powered agricultural technologies. Such formats could also provide opportunities for agricultural experts, technology developers, extension personnel and farmers to share their experiences and perspectives. The limited representation of interview and feature articles therefore points to the need for greater diversity in journalistic approaches to reporting emerging agricultural technologies. Newspapers can complement conventional news reports with interviews, features and explanatory articles that provide readers with deeper insights into the practical applications of artificial intelligence in agriculture. However, the genre distribution should also be interpreted within the context of the small number of articles retrieved during the study period and should not be taken as a definitive representation of the general journalistic practices of the selected newspapers.

Conclusion

The study examined newspaper coverage of artificial intelligence in agricultural practices in Nigeria through a content analysis of six selected national newspapers between January and June 2026. The findings show that The Punch recorded the highest number of identified articles, followed by The Guardian and The Nation. The thematic analysis revealed that agricultural productivity received the greatest attention, while AI and weather prediction received comparatively less coverage. The analysis of journalistic genres also showed that news reports constituted the dominant form of coverage, with limited representation of interviews and feature articles. The study concludes that the six selected newspapers reported developments relating to artificial intelligence in agricultural practices during the period examined, although the frequency, thematic emphasis and journalistic genres

varied. The findings highlight the importance of sustained and diverse newspaper coverage in providing information about emerging technological developments and their potential contributions to agricultural development.

However, the study has some limitations. First, the selection of the six newspapers was purposive, meaning that the findings cannot be generalised to all newspapers in Nigeria. Second, the study covered only six months, from January to June 2026, which limits the extent to which the findings can establish long-term patterns of newspaper coverage. Third, limitations in archive accessibility and search coverage may have affected the retrieval of relevant articles, particularly where some newspaper editions or archived materials were inaccessible. Fourth, the relatively small corpus of 13 identified articles limits the scope of the conclusions that can be drawn from the findings. Finally, the study focused exclusively on newspaper content and did not examine audience exposure, interpretation or understanding of the reported information. Consequently, the findings are limited to the content retrieved from the six selected newspapers within the study period.

Recommendations

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

1. Newspaper organisations should sustain and strengthen their coverage of artificial intelligence in agricultural practices by regularly reporting relevant technological developments and their implications for agricultural development.
2. Newspapers should diversify their coverage by exploring different AI applications in agriculture and increasing the use of feature articles and interviews to provide in-depth information
3. Newspaper organisations should maintain sustained editorial attention to artificial intelligence in agricultural practices by reporting relevant developments as they occur. This will help ensure that important innovations, research findings and emerging applications in the agricultural sector receive appropriate media

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