Trends and uses of Artificial Intelligence in Advertising Industry in Nigeria

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Abstract

This study discusses how Artificial Intelligence has changed the current advertising industry. In the course of this study, several literatures on the study area were reviewed and the survey research method was used. The study concluded that Artificial Intelligence has permeated every aspect of the advertising industry; the paper emphasizes the importance of the market remaining aware of the disadvantages of artificial intelligence, particularly in light of some of the moral risks and privacy concerns. The study therefore recommended that moral risk should be avoided due to job loss and there should be best way to split and establish copyright issues in advertising industry

Keywords: Advertising, Artificial Intelligence, Consumer, Radio, Television

Introduction

The task of understanding the consumer journey increasingly is complex. Consumers express their needs and wants, attitudes, and values in various forms (through search, comments, blogs, Tweets, "likes," videos, and conversations) and across many channels (web, mobile, and face to face; (Court, Elzinga, Mulder, & Vetvik, 2009). This seemingly endless supply of consumer-curated data continues to grow in terms of its volume, velocity, variety, and veracity.

Due to the advancement of internet technology, big data, computing power, sensor communication (Ashraf, Gao, Chen, Naeem, Ahmad, & Ahmed, 2020a), and algorithmic breakthroughs, the impact of robotics and artificial intelligence technologies on human life is becoming clearer. Artificial intelligence (AI), which is a branch of information technology innovation, is a key factor for business and academics. Robotics and artificial intelligence (AI) have been among the main drivers of almost every field in the last decade. AI provides models of human intelligence for cognitive psychology, as well as computer software, hardware, and robotics that perform intelligent human functions (Churcher, 1991). The concept of AI, in a broad sense, refers to a set of machine functions that can learn with the help of humans or entirely on their own (Rodgers, 2021). According to another, more comprehensive definition "AI is the ability for a machine to collect information and use-sophisticated algorithms and logical functions to learn from it, there-by adapting future capabilities based on additional information to increase knowledge" (Xian, 2021).

Recent technological advances, especially those leveraging artificial intelligence (AI) and machine learning are challenging the concept of marketing, contemporary advertising, and advertising content (Campbell, Plangger, Sands & Kietzmann, 2022). It has been widely applied Ai at in the advertising industry and increasingly attracts the attention of marketing scholars (Wu, Dodoo, Wen & Ke., 2021). While some other technologies may perform human-specific functions, AI also aims to achieve unique human characteristics such as speech, vision, reasoning, planning, and creativity. AI is rapidly becoming more central to the day-to-day digital world, and the marketing and advertising world is no exception (Murgai, 2018). Considering the technological advances in advertising, perhaps none are as exciting as AI (Rodgers, 2021).

Many marketers are turning to artificial intelligence (AI) to transform this (big) data flow into valuable consumer insight. There are, of course, risks involved, such as outcomes

related to Cambridge Analytica's historic use of millions of Facebook accounts for political purposes (Solon and Laughland, 2018). Marketers must adapt the AI systems they use to comply with new privacy standards. The same risks, however, create opportunities for marketers and advertisers to be more effective at understanding and reaching consumers at different stages of the consumer journey (Petro, 2018). To make sense of big data, AI deals with two different types of input data: Structured data: traditional, standardized datasets, such as basic customer demographics, transaction records, or web-browsing history. AI, with its enormous computing power, runs complex computations on large volumes of such structured data and often produces results in real time. Unstructured data: about 80 percent of the approximately 2.5 billion gigabytes of daily user generated data are unstructured (Rizkallah, 2017) and provided as written texts, speech, and images.

AI's ability to process large volumes of this type of data and to do so very quickly is what distinguishes it from traditional computing systems. AI preprocesses unstructured inputs to prepare them for subsequent computations, or building blocks. The results of these building blocks vastly outperform our natural intelligence to advertisers' benefit.

Research Questions

1. What are the prospects of AI in advertising in Nigeria?
2. What are the challenges of applying AI in advertising in Nigeria?
3. What are the solutions to the challenges of applying AI in advertising in Nigeria?

AI Application in the Advertising Industry

The impact of AI on the advertising process is an increasing challenge that takes the form of a systematic reorganization. A new set of process steps consumer insight discovery, advertising creation, media planning, and buying, and advertising impact evaluation has emerged (Kaplan and Haenlein, 2019), resulting in the emergence of a new class of advertising activities, including large-scale personalized advertising production based on consumer profiling, omni-channel precision media planning, and buying, and proactive strategy-based algorithms that evaluate and optimize advertising impact.

Advertising Platform

Programmatic advertising exchanges and ad tech platforms manage real-time buying and selling using artificial intelligence and machine learning. This includes almost every ad exchange, third-party network, and advertising solution available on Facebook, Instagram, and Snapchat. These exchanges, services, and platforms are unlikely to explain to marketers how their artificial intelligence works in the near future. That, however, is precisely the point: Even behind the scenes, artificial intelligence dictates how money is spent, who sees commercials, and the overall efficacy of campaigns. That implies that if a business uses paid to advertise, it must be conversant with the vocabulary of artificial intelligence (this resource is a fantastic place to start) and ask the right questions about how each ad platform's AI may affect the spending.

The following is a clear illustration of this: Facebook advertising, more precisely, the frequency and relevancy score of advertisements. These two metrics are essential pieces of data that Facebook's algorithms use to calculate how much money to spend on advertising and how the commercials are shown totally without human participation.

Increased exposure may not necessarily translate into superior outcomes. According to conventional advertising research, the optimal advertising frequency is at least three exposures during the course of a brand's purchasing cycle. According to conventional advertising wisdom, people should "strike" the target as frequently as possible with the same campaign. On the other hand, repeated exposure on Facebook may work against the effort. This is because the algorithms that determine how Facebook adverts are shown take user input into account.

If individuals view the advertisement too frequently and give inadequate evaluations, the relevancy score may decline. According to Social Media Examiner, "in most cases, a higher frequency correlates with a lower relevancy score. "A high relevance score suggests that the advertisement is more likely to be displayed to the desired audience than competing advertisements. As a result, performance is improved, and costs are reduced.

AI algorithms that run today's ad exchanges utilize intricate interplays of data points to affect advertisers' campaign performance and budget effectiveness.

Optimize Budget and Targeting

Today, artificial intelligence solutions show that they can optimize advertising expenditure and target automatically. AI can analyze the ad spend and targeting data, then determine which actions (spending adjustments, targeting modifications) will improve performance. Across a large number of complex initiatives, these actionable insights are produced and executed at scale. We discovered that RedBalloon, a travel company, used an artificial intelligence (AI) application called Albert to optimize and manage their digital advertising budget and plan automatically. The outcomes were mind-blowing. Albert discovered methods for increasing return on investment and outperforming human agencies by optimizing expenditure and targeting. Additionally, through the insights gained from adequate amounts of expenditure data, the tool discovered new consumers for RedBalloon's products that the firm was unaware existed. Human-powered and conventional software-based advertising systems were beaten by AI's ability to learn and grow without human involvement, resulting in a major competitive advantage for the business.

Advertising Creation and Management

AI determines how the advertisements work and may even assist people in significantly increasing performance. However, it is also utilized nowadays to simplify the process of creating advertising campaigns significantly. Platforms with advertising components, most notably Facebook, offer AI that enables people to generate advertising text and variants far quicker than people could manually, utilizing previously submitted material. However, some commercially accessible technologies go much further. The tool with AI capabilities Advertisements on Facebook and Instagram are created by Phrases and are optimized for conversion based on what has worked in the past for the business. As it learns from each new advertising, the technology becomes better and better over time. (This is the same kind of AI technology that drives use cases for content generation in content marketing.) Additionally, an AI system may help people save time managing their entire marketing strategy. WordStream combines machine learning with the flexibility to make adjustments to many ad campaigns on Facebook, Google, and Bing with a few clicks (Jiang and Xin, 2019).

Prospects of AI in Advertising in Nigeria

Compared to traditional advertising production, artificial intelligence technology has enhanced the effectiveness of advertising production and marketing, making brand marketing more human, accurate, effective, and improving the effectiveness of advertising communication and information contact rate.

More advertising content creation and higher marketing efficiency with lower production costs

Production of advertising using artificial intelligence technology can categorize, combine sources of information, rapidly create new ideas, and execute intelligent marketing. Therefore, it increases advertising creative generating efficiency while also drawing more users' attention and increasing advertising effectiveness and conversion rate while also lowering advertising industry production costs. Using artificial intelligence technology,

marketers can better target their ads by selecting and combining the most effective time, place, scene, and medium and analyzing multiple target users to identify platform-specific factors such as scenario use habits and consumption preferences. This allows them to keep costs under control while simultaneously improving the marketing impact.

Greater advertising impact and information reach rate

Brand marketing will become more precise and successful as artificial intelligence (AI) technology advances in the advertising business. Advertisement content relevant to the target audience may be created from vast and fragmented resources using artificial intelligence and content marketing, for example. As of 2018, the OPPO phone is based on the latest data-driven technology to provide users with information such as personal consumption data analysis and classification, user behavior and shopping consumption, and APP use. This is all done through algorithm programs, data flows, mobile terminal market software, and relevant searches. The target market is identified once the user picture has been created early in the brand marketing process. Further stages of data services are provided to empower target audiences and increase the pertinence of advertising.

Better access to information and consuming experience for users

Artificial intelligence has significantly enhanced the user experience as an extension of the human body, intellect, cognition, and emotion. For instance, in 2016, Baidu partnered with Mercedes Benz to host an "augmented reality show". Users only search for "Mercedes-Benz E-class" in the Baidu App to have an immersive visual experience of the vehicle gently "driving out" from the mobile terminal device. A high level of user engagement defines interactive advertising: As an audience-focused type of advertising, interactive impact advertising is often presented in the form of games or competitions to add interest and entice people to engage; High advertising effectiveness and conversion rate: when compared to traditional or native advertising, interactive advertising's content innovation is more personalized and targeted, and is, therefore, more likely to encourage users to interact with the advertising, thereby increasing the click conversion rate; Strong monetization capability: Interactive advertising does not compete with traditional types of advertising, but instead encourages higher conversion rates based on current user traffic and offers additional revenue possibilities.

How AI Affects Advertising Industry: The Consumer Dilemma

Understanding how traditional communications "function" along the consumer's decision journey is necessary to understanding the opportunity AI provides for marketers. The customer journey begins with the awareness of a need, which leads to the stages of initial consideration, active assessment, purchase, and post purchase (Court, Elzinga, Mulder, & Vetvik, 2009). The authors outline consumer processing processes, advertising objectives, and typical advertising roles for marketers at each point of the trip in this section. Following that, they show how the aforementioned AI building pieces modify various advertising duties. Need and Want Recognition because it occurs at a category level rather than a brand level, it's been difficult to identify the point at which a demand is triggered. Market research, web analytics, and data mining have all been used by advertisers to create consumer profiles in order to better understand and influence requirements. It's possible to comprehend developing desires and requirements in real time as they're expressed online and construct richer profiles faster with AI. Astro, a media firm, leverages Microsoft's AI technology Azure to profile customers. To evaluate an individual's demands, the technology analyses billions of data points in seconds. It then tailors online content on Astro's platform to those consumers' preferences in real time. Machine learning refreshes consumer profiles when their digital footprints change, whether through social media status changes, purchase activity, or online comments and postings.

Advertisers may potentially use AI to "manifest" their customers' needs or desires. Pinterest uses image recognition to learn about individual users' style preferences by looking at the images they've pinned on the site. The website then proposes more photos that suit the user's specific interests, making it easier to recognize a need or demand.

Initial Consideration when customers explore various offers to meet their requirements or wants, one of the most important advertising goals is to get the brand into their contemplation set. Increasing the brand's exposure and stressing essential grounds for consideration are two advertising responsibilities. Advertisers might achieve this aim by using search engine optimization, paid search advertising, organic search, or advertising retargeting, for example. Advertisers may utilize AI-powered search to find, rank, and deliver results that are most likely to suit the consumer's information needs at that particular time. For better targeting, Google Adwords lets marketers distinguish between qualified and unqualified leads. Google uses artificial intelligence to evaluate search query data, taking into accounts not only keywords but also context words and phrases, consumer activity data, and other large data. Google then discovers potentially lucrative subgroups of users and improves targeting accuracy.

Challenges of AI in Advertising in Nigeria

The primary concern is the privacy and security of the user's personal information. Commercial interests predominate in the use of AI technology, which is still in its early stages. Many network platforms do not adequately secure user data, posing severe threats to data security and the growth of the advertising business. When gathering user identification information, artificial intelligence will amass much personal information about them. According to Yu (2021), information gathered from various sources, such as user-registered data on websites or platforms, cameras, and GPS positioning systems used by popular image recognition apps is challenging to interpret. Users' personal information is included in these data mashups. Many pieces of information are taken, utilized, and resold without the knowledge or permission of the people who originally collected it.

The first is the protection of user privacy and the security of data. Artificial intelligence technology is still in its infancy, and business considerations mainly drive it. Many network platforms do not adequately secure user data, posing significant hidden risks to data security and the growth of the advertising sector alike. Using artificial intelligence to gather a user's identification information will result in collecting a vast quantity of personal data. Users' information recorded on websites or platforms, cameras and GPS location of critical applications of visual recognition systems, etc. are all examples of data sources. These data assemblages include personal information about the users. Many users' data is taken, misused, and marketed without their knowledge or permission (Dwivedi, Hughes, & Ismagilova, 2019).

Secondly, there is an issue in the intelligent advertising industry where advertising giants unfairly compete against one another. Advertising head platform has a significant market share now that the Matthew effect has emerged. However, this brings up a new issue: the unequal distribution of internet advertising's growth. By distinguishing in vertical sectors and depending on artificial intelligence and 5G technology to enhance competitiveness in the short video industry, BAT, an Internet behemoth, attempts to create a matrix of short video platforms. Increasing their advertising market share while also grabbing attention resources is the goal of any advertising behemoth. The first is the protection of user privacy and the security of data. Artificial intelligence technology is still in its infancy, and business considerations mainly drive it. Many network platforms do not adequately secure user data, posing significant hidden risks to data security and the growth of the advertising sector alike.

Lastly, there is the problem of intelligent advertising's copyright. However, even though algorithm developers build and create works on algorithm processes, artificial intelligence robots are no longer simply an extension of human-made technological

instruments. Big data technology and algorithm procedures aided by deep learning are constantly evolving and deriving this complicated development.

Methodology

The population used in this research work is Auchi residents. Auchi population as project by cityfacts.com (2023) is 103,573. And a sample of 250 was randomly selected for this work.

Data Presentation and Analysis

Table 1: How does AI help in advertising?

Option	No. of respondents	Percentage (%)
Creating data entering easy	150	40.5
Dictates how money is spent	130	35
Simplifies language	50	13.5
Optimizing budget and targeting	40	10.8
Total	**370**	**100**

The table 1 above shows that 150 (40.5%) of the respondents were of the opinion that AI's help in advertising is creating data easy for advertising, 130 (35%) said that it dictates how money is spent, 50 (13.5%) of the respondents said it simplifies language to consumers while 40 (10.8) of the respondents said it optimizing budget and targeting audience.

Table 2: How does AI affect advertising practice in Nigeria?

Option	No. of respondents	Percentage (%)
Time saving	200	54%
manifesting customers' needs or desires	130	35%
increasing brand exposure	30	8%
evaluating search data enquiry	10	2.7%
Total	**370**	**100**

On how AI affect advertising industry in Nigeria, table 2 above illustrates that 200 (54%) of the respondents said it save time and it's less time consuming, 130 (35%) of the respondents said AI is manifesting customers' needs and desires to buy a product, 30 (8%) of the respondents said that AI increases brand exposure to the public while only 10 (2.7%) of them said that it evaluates search data enquiry in web.

Table 3: AI will simplify advertising in the nearest future.

Option	No. of respondents	Percentages
Strongly agree	130	35%
Agree	120	32%
Strongly disagree	55	15%
Disagree	65	18%
Total	**370**	**100%**

The above table shows that 130 (35%) of the respondents strongly agreed that AI will simplifies advertising industry in Nigeria, 120 (32%) respondents agreed, 55 (15%) and 65 (18%) of the respondents strongly disagreed and disagreed respectively that AI will simplifies advertising industry in Nigeria.

Table 4: AI will usher in potentials to advertising practicing

Option	No. of respondents	Percentages
Strongly agree	130	35%
Agree	240	65%
Strongly disagree	-	-
Disagree	-	-
Total	**370**	**100%**

The table 4 above indicates that 130 (35%) of the respondents strongly agreed that AI will bring potentials to the adverting industry in Nigeria while 240 (65%) of the respondents agreed that the potentials that AI will usher in into the advertising industry will be enormous.

This means that with the introduction of AI into the advertising industry in Nigeria, more potentials will ushered into the industry.

Table 5: What are the challenges in the application of AI in advertising?

Option	No. of respondents	Percentage (%)
Privacy and security	-	-
Unfair competition between giant and small advertising company	-	-
Unequal distribution of internet advertising growth	-	-
Copyright infringement	-	-
All of the above	370	100
Total	**370**	**100**

The above table shows that all the respondents 370 (100%) agreed that unfair competition between giant and small advertising companies, unequal distribution of internet advertising growth, and copyright infringement are the main challenges in the application of AI in advertising industry in Nigeria.

Table 6: How can these challenges be overcome?

Option	No. of respondents	Percentages
Protection of user's privacy	-	-
Security of data	-	-
Fair competition among competitors	-	-
Adherence to copyright law	-	-
All of the above	370	100
Total	**370**	**100%**

The table 6 above clearly shows that all the respondents 370 (100%) are of the opinion that the solutions to challenges in application of AI can overcome if protection of user's privacy, security of data, fair competition among competitors and adherence to copyright laws are applied.

Discuss of Findings

As observed in table 1 where 40.5% of the respondents were of the opinion that AI's help in advertising is creating data easy for advertising, 35% respondents said that it dictates how money is spent, 13.5% of the respondents said it simplifies language to consumers while 10.8 of the respondents said it optimizing budget and targeting audience. These exchanges, services, and platforms are unlikely to explain to marketers how their artificial intelligence

works in the near future. That, however, is precisely the point: Even behind the scenes, artificial intelligence dictates how money is spent, who sees commercials, and the overall efficacy of campaigns. That implies that if a business uses paid to advertise, it must be conversant with the vocabulary of Artificial Intelligence (this resource is a fantastic place to start) and ask the right questions about how each advertising platform's AI may affect the spending (Petro, 2018).

On how AI affect advertising industry in Nigeria, table 2 illustrated that 54% of the respondents said it save time and it is less time consuming, 35% of the respondents' said AI is manifesting customers' needs and desires to buy a product, 8% of the respondents said that AI increases brand exposure to the public while only 2.7% of them said that it evaluates search data enquiry in web. In table 3, it showed that 35% of the respondents strongly agreed that AI will simplifies advertising industry in Nigeria, 32% respondents agreed, 15% and 18% of the respondents strongly disagreed and disagreed respectively that AI will simplifies advertising industry in Nigeria. The data in table 4 revealed that 35% of the respondents strongly agreed that AI will bring potentials to the adverting industry in Nigeria while 65% of the respondents agreed that the potentials that AI will usher in into the advertising industry will be enormous. This is to say that Artificial Intelligence (AI) has the potential to totally transform the purchasing experience for customers. When staples transformed their "Easy" button into a "intelligent" purchasing system that allows corporate clients to order goods by voice commands, text, or e-mail, it accomplished this.

Data in table 5 showed that 100% of the respondents agreed that unfair competition between giant and small advertising companies, unequal distribution of internet advertising growth, and copyright infringement are the main challenges in the application of AI in advertising industry in Nigeria. This in line with what Dwivedi, Hughes, & Ismagilova (2019) said "These data assemblages include personal information about the users. Many users' data is taken, misused, and marketed without their knowledge or permission. They went further to say that there is an issue in the intelligent advertising industry where advertising giants unfairly compete against one another. Advertising head platform has a significant market share now that the Matthew effect has emerged. However, this brings up a new issue: the unequal distribution of internet advertising's growth. By distinguishing in vertical sectors and depending on artificial intelligence and 5G technology to enhance competitiveness in the short video industry, BAT, an Internet behemoth, attempts to create a matrix of short video platforms. While in table 6 it was clearly shown that all the respondents 100% are of the opinion that the solutions to challenges in application of AI can overcome if protection of user's privacy, security of data, fair competition among competitors and adherence to copyright laws are applied.

Conclusion

The existing definitions of Artificial Intelligence are sorted out and summarized, and the essential components of AI definitions in academic circles are extracted. Secondly, the paper illustrates how AI is applied in the advertising industry by taking examples of facts, which can be divided into four aspects, including large-scale personalized advertising production based on consumer profiling, omni-channel precision media planning, and buying, and proactive strategy-based algorithms that evaluate and optimize advertising impact. The paper also discusses how AI changes the current advertising industry, which can be divided into three aspects: enhancing the effectiveness of advertising production and marketing, making brand marketing more human, accurate, effective, and improving the effectiveness of advertising communication and information contact rate. Although artificial intelligence has permeated every aspect of the advertising industry, the paper emphasizes the importance of the market remaining aware of the disadvantages of artificial intelligence, particularly in light of some of the moral risks and privacy concerns.

However, the results of this paper revealed that using artificial intelligence technology, marketers can better target their advertisements by selecting and combining the most effective time, place, scene, and medium and analyzing multiple target users to identify platform-specific factors such as scenario use habits and consumption preferences.

Recommendations

1. There should a distinction between using artificial intelligence for online and offline shopping.
2. Relevant departments should continue to improve relevant management policies and work to regulate the application and development of artificial intelligence in the advertising industry.
3. Other areas in the advertising market should also be examined.

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