



Harnessing Artificial Intelligence (AI) for Creative Industries, Business Growth, and National Development

Oyewole O. Sarumi | Ph.D.

Faculty, Strategic Leadership & Digital Transformation, ICLED Business School, Lekki, Lagos. Email: oyewolethecoach@gmail.com

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Abstract:

This research work attempts to analyze the role of Artificial Intelligence (AI) in businesses, with a special focus on its use within creative industries and national progress. Specific areas of investigation include AI's scope in the growth of an initiative and its contribution to national development due to its application in public services. It has been observed that AI has seen a growing influence across various creative businesses, which include films, music, and design. However, AI's true potential in stimulating innovation and fostering growth is yet to be fully realized. Keeping this in view, this work identifies how AI works, how it can be integrated into the industries discussed, and how its potential can be maximized. For this purpose, this study has used a qualitative research methodology, utilizing secondary data analysis. Moreover, the study highlights prominent business and government models that successfully incorporate AI to enhance their operations through innovation. A systemic review of the existing literature and documented practices, highlighting AI's scope within the existing business frameworks, helps understand its impact on business processes. Moreover, this analysis identifies AI's technical advantages and cultural modernization for any new business. This research finds out that AI has significantly impacted business processes including decision-making, pace of work, production to operation, and brought innovation in creative industries. Its impact in assisting in the effective delivery of public services was reviewed and found to be consistent with expectations based on antecedents. While briefly noticing shortcomings such as high costs and ethical concerns, this research specifically delves into the prospects of AI for the future. The findings of this work also indicate that with policy support and strategic investment, AI can reshape and help expand businesses, creating new opportunities and advancing national development.

Keywords: Artificial Intelligence, Creative Industries, Business Growth, Innovation and National Development

I. Introduction

From a theoretical idea to a potent force fostering creativity and modification among numerous fields, Artificial Intelligence (AI) has developed very quickly. Its uses cover a diverse range of industrial sectors, including production, innovation, healthcare, and the economic fields, showcasing its prospects for transforming conventional applications and instigating updated patterns of productivity and efficiency. It is anticipated that the international AI market will continue its vigorous development promoted by improvements in natural language processing, data analytics, and machine learning, across other subfields. By employing these latest technologies, governments and businesses can harness the extensive size of data, which makes it easier for them to make an informed decision and achieve better results.

Apart from its doubtless strengths, AI still carries a lot of potential that is unused to date, especially in the fields of artistic nature like film, music, design, gaming, and advertising. To strengthen content creation, business expansion, and audience engagement, these sectors have to grasp the full potential of Artificial Intelligence. In contemporary times, where digital modification is becoming more and more significant, the unused potential of AI by certain sectors demonstrates a missed chance to spur noticeable innovation and development. The purpose of this research is to investigate how Artificial Intelligence can be productively employed in innovative sectors to foster business development, creativity, and national growth.

The following research questions will be addressed in this study:

1. What recent applications of AI are employed in creative industries?
2. What role does AI play in business expansion?
3. What measures can be taken to make the most of AI's potential for development and innovation in the innovative sectors?



Various key concepts such as AI, innovation, creativity, innovative industries, business expansion, and national growth, have been discussed in this study, making this research very comprehensive. The study will offer an in-depth apprehension of the role of AI in fostering growth in creative industries by comprehending these concepts.

1.1 Research Design and Methodology

In this research, a qualitative research technique has been used that focuses on assessing secondary data, case studies, and documents to investigate the part of AI in innovative sectors, business development, and national growth. Reports from industries, government announcements, and scholastic articles are involved in the secondary data sources, offering a broad overview of AI effects. Case studies were chosen based on particular standards such as pertinence to innovative industries, business development, and national growth, along with the existence of documented AI execution. These case studies offer a detailed understanding of how AI is being used in actuality. In this research, ethical considerations are of prime importance, especially in guaranteeing that the assessed data is precise and validated. Data has been managed with utmost consideration in this research, particularly when inspecting case studies that involve private firms and public policies. Credibility has been maintained by attributing the sources where required.

II. Understanding AI and Its Potential

The discovery of AI dates back to the 1956 Dartmouth Conference, where the word "artificial intelligence" was first ever used. Conventional AI studies focused on symbolic AI in which symbols were used to carry out logical reasoning and problem-solving. Through incentive programs like the General Problem Solver and the Logic Theorist, it was found that machines can carry out such chores that need human-like vigilance (McCarthy, Minsky, Rochester, & Shannon, 2006). During the "AI winter" of the 1980s and 1990s, the domain confronted times of low financing and doubtfulness or scepticism. However, after that unfortunate period, a revival was seen in the early 2000s because of improvements in computing strength, big datasets, and new algorithms. This revival of machine learning, particularly deep learning, provided new heights to the domain of AI, considerably increasing capabilities in areas like image and speech recognition (Schmidhuber, 2015).

AI seeks to develop systems capable of performing tasks that require human-like intelligence, including learning, reasoning, problem-solving, perception, and language understanding. AI comprises several key subfields: machine learning, deep learning, natural language processing (NLP), and robotics.

Machine Learning (ML) is the key constituent of AI that prioritizes developing such algorithms that make it possible for computers to learn, create, and make decisions based on data. The purpose of ML algorithms is to figure out trends in large datasets and employ these trends to make projections and decisions in the absence of explicit programming. ML offers several techniques such as supervised learning, unsupervised learning, and reinforcement learning (Rebouillat, Steffenino, Lapray, & Rebouillat, 2020).

Deep learning is a branch of ML that uses multi-dimensional neural networks to model intricate trends that appear in big datasets. In fields where conventional ML techniques were constrained, such as speech and image recognition, this approach has resulted in massive developments. Deep learning has stimulated improvements in natural language comprehension, medical diagnostics, and autonomous driving (LeCun, Bengio, & Hinton, 2015).

Natural Language Processing (NLP), on the other hand, sheds light on the connection between human language and computers. NLP allows machines to comprehend, elucidate, and create human language, encouraging applications like translation services, chatbots, and sentiment analysis tools. Current improvements, especially by models such as Transformers, have considerably enhanced language comprehension and generation.

In contemporary times, the applications of AI aid in various sectors such as finance, production, healthcare, and creative industries, fostering improvements in effectiveness, precision, and decision-making. Theoretical structures, such as the "AI as a General-Purpose Technology" (GPT) structure, propose that AI can persuade extensive social and financial change, similar to transformative technologies in the bygone era (Brynjolfsson & McAfee, 2017). According to Everett Rogers' Diffusion of Innovations theory, early users take advantage of AI, whereas other industries slowly investigate its capabilities (SAHIN, 2006). According to the firm's Resource View (RBV), if AI is integrated efficiently, it can provide a long-term competitive advantage and boost potential and innovation (Barney, 1991). To sum up, AI possesses massive potential to spur



innovation and development, backed by its main subsets, historical emergence, and theoretical structures. With the improvement in AI, it is anticipated that it will be very beneficial across several sectors, creating new options for development and creativity.

III. AI in Creative Industries

Within creative industries, AI serves as an important tool as it has modified conventional methods and provided updated techniques of manufacturing and innovation. AI is employed for the production of content in the music sector, such as composing songs and producing soundtracks. The applications that function on AI, such as AIVA and Amper Music, have made it possible for users, i.e., producers and artists, to create music with less human interference, ultimately providing a mixture of human inventiveness and mechanically-produced compositions (Susanngia, 2024).

To increase the efficiency of scriptwriting, modifications, and visual effects, AI is being employed in the film industry. For instance, ScriptBook offers an AI-influenced script analysis, projecting the possibility of a script's success by investigating several key elements. Apart from that, AI is also employed in some processes after production, like visual effects and colour grading, where applications like Adobe Sensei employ machine learning algorithms to automate time-taking jobs, ultimately, enhancing innovation and effectiveness.

The field of advertising has also been transformed by AI, especially in personalization and targeting. To produce personalized commercials, AI algorithms assess users' data, enhancing the content that relies on consumer choices and attitudes. For instance, firms such as IBM Watson have created AI applications that produce innovative content like visual elements and ad copy, targeting particular audiences (Holdsworth, 2024).

AI tools are employed to automate daily chores and aid in innovative decision-making in the field of design. Many applications such as Adobe Spark and Canva use AI to propose design layouts, colour themes, and text sizes, not only allowing amateurs to create professional designs but also increasing inventiveness among professionals (Pallen, 2024).

To enhance user experience, the gaming sector AI has been embraced by all means. AI is employed to create compliant game environments, vigilant non-playable characters (NPCs), and procedurally produced content, making it accessible for users to a more personalized gaming experience.

Apart from that, AI-influenced applications also assist in quality assurance and game testing, spotting bugs and enhancing gameplay (Yannakakis & Togelius, 2018).

IV. AI and Business Expansion

Artificial Intelligence (AI) has revolutionized the realm of innovation and expansion for businesses. It can process and analyze huge datasets. It allows companies to achieve new growth opportunities, streamline their operations, and use their competitive advantage better. AI has provided businesses the ability to gain insights into trends, customer preferences, and room for innovation. Using it efficiently, business expansion can become very easy and businesses can grow significantly faster than their competitors by jumping on the revolutionized market trends (Agrawal, Gans, & Goldfarb, 2018).

AI can perform tasks that previously required the utmost attention of an individual with the possibility of making errors. By doing that, AI can increase business automation and workflow efficiency while fostering a culture of innovation by allowing individuals to put their creative eye on other critical tasks. AI can bring out-of-the-box ideas to the table and they can be marketed in little to no time. Different sectors like health care and finance are eagerly jumping on this trend e.g. use of diagnostic tools, AI-enhanced risk management, and fraud detection tools (Brock & Wangenheim, 2019).

AI has enhanced the rate of accuracy, decision-making, and customer experience for businesses. AI-powered Robotic Process Automation (RPA) can do tasks a lot faster than taking individual time i.e. data entry, invoice processing, and customer service inquiries. This not only reduces the operational costs, but it minimizes the mistakes and speeds up the process execution. Business processes are made far more reliable and easier by this (Aguirre & Rodriguez, 2017). AI has been enhanced to the level that it can provide real-time information to help make informed decisions. These tools can analyze and provide both historical and current data to make an informed guess about future outcomes. They assist managers significantly in making long-term decisions that are better able to achieve the set goals. Supply chains can also become far easier to manage through AI since it can predict the probable change in demand, and recognize potential bottlenecks. It helps reduce waste and significantly makes the responsiveness to market changes more efficient (Chui, Manyika, & Miremadi, 2016).

Just as in any other sector, AI has revolutionized customer experiences as well. It



plays a big role in providing advanced data which then can be used to personalize the interactions with the customer by designing the outlook of the business i.e. recommendations, offers, and communications to their preferences. Instant replies to queries and support can be provided through chatbots and AI-driven virtual assistants which boosts the overall customer satisfaction level. Given the advanced data and ability to personalize, AI can be used to market targeted campaigns in different niches that reach exactly the audience that was targeted. Meaning that the right message reaches the right people at the right time. This creates an increase in customer satisfaction and loyalty (Huang & Rust, 2018).

4.1 Case Studies

Different international companies have already successfully jumped on using AI in their business model. They're exploiting it to the fullest.

Amazon: Amazon has an AI-driven recommendation engine that is their key enhancer in sales. They have endorsed AI in almost all their operations. They tend to observe the customer behavior and along with their customer history, this AI-driven system can make recommendations on what products they're more likely to buy. Amazon has also integrated AI into their routine management tasks i.e. data entry, optimization of routines, managing the inventory, etc. AI-driven logistics have reduced delivery time and increased accuracy which makes customer satisfaction go on all levels (Takyar).

Spotify: Spotify owes much of its fame to its AI-driven engine that suggests personalized music to customers. They have a machine learning algorithm that helps them curate music according to each customer's preference. Hence, they're able to make their "Discover Weekly" playlists. This is Spotify's competitive advantage against other music providers. It has helped Spotify reach many levels of fame and market dominance (Yashar, Tommaso, Eugenio, & Antonio, 2020).

Siemens: Using the MindSphere platform, Siemens has also endorsed AI in their industrial operations. They have this IoT operation system that can digitalize the connectivity of machines and physical infrastructure. It gains the data from connected devices to improve predictive maintenance, make production processes more efficient, reduce costs, and in a nutshell, play a significant role in the growth of the company in the manufacturing sector (Meindl, Ayala, Mendonça, & Frank, 2021).

V. AI and National Development

Nations embracing AI-driven solutions can observe its impacts on development. Keeping in view the economics, AI significantly boosted productivity and innovation. The McKinsey Global Institute is of the view that AI could contribute \$13 trillion to the global economy by 2030 equating to a 1.2% annual increase in global GDP (Banerjee, Kabadi, & Karimov, 2023). Manufacturing industries using AI-driven automatic enhancements have reduced production costs also improving its quality and efficiency. For example, AI-powered robots used in automobile industries manufacturing perform certain tasks with utmost precision further reducing the production time (Gain precision in manufacturing with AI-powered robotics, 2022). These particular efficient ways not only boost the output stabilizing the economy but also strengthen global competitiveness.

AI influences how we work worldwide. It's changing businesses, economies, and how countries run. For governments, AI gives new ways to make public services better, improve policies, and help the country grow. Countries like the US, UK, Australia, New Zealand, India, and Estonia are leading the way. They use smart tools and computer programs to serve their people better. This article looks at how these countries use AI to make government work faster, clearer, and more helpful.

Governments are turning more and more to AI to tackle tough issues, boost resource management, and enhance the services they provide to people. AI tools and tech—from machine learning and natural language processing to computer vision and predictive analytics—are now in use across many fields such as healthcare, education, law enforcement social services, and admin tasks.

5.1 Case Studies:

5.1.1 United States: AI in Healthcare, Courts and Others

The United States (US) has a defined national strategy to capitalize on the emerging potential of AI. It has positioned itself as a global leader in AI-driven growth and national development, fostering an ecosystem of research and development (r&d). Moreover, the National AI Initiative Act of 2020 enables funding to accelerate AI incorporation into businesses. In the financial sector, AI is employed for automated trading, data-driven consultation, decision-making, and personalized financial services. Automation in the finance sector enables a risk-free environment, leading to a more productive and competitive market (Bansal, 2024). For example, companies



such as JP Morgan use AI to analyze data sets for predictive analytics (Atliq Technologies, 2024). In addition, companies such as Amazon have started leveraging AI for purposes such as supply chain optimization and personalized customer services (Hurst, 2024). The recognition of AI as pivotal to national development is further reflected in various departmental functions. For example, the US Department of Health and Human Services (HHS) incorporates AI predictive analytics to enhance public health response. It leverages AI's ability to analyze data sets to interpret health patterns and predict an outbreak of a disease.

The U.S. government is putting AI to work in its public services in healthcare and the courts. The Department of Veterans Affairs (VA) has started to use AI to better diagnose and treat diseases in veterans. The VA's AI systems use machine learning to look at huge sets of medical records, spot patterns, and predict health problems. This helps doctors step in earlier and give more personalized care (Ghani et al. 2020). In the court system, AI tools like COMPAS (Correctional Offender Management Profiling for Alternative Sanctions) help judge the chance of criminals committing crimes again. While this tool has sparked debate about possible unfairness, it shows how AI can help in making decisions by giving data-based insights into case results and punishments (Angwin et al., 2016).

5.1.2 United Kingdom: AI to Boost Efficiency, Courts and Others

In the United Kingdom (UK), there is a designated Office for Artificial Intelligence which coordinates with businesses to incorporate AI to drive economic growth. It is mainly seen in industries such as finance, healthcare, and logistics (Government of the UK, 2024). For example, companies such as HSBC and Barclays are actively integrating AI across various business domains. Barclays employs AI to detect fraud by identifying patterns and detecting disruptions. AI chatbots are also commonly used to enable easy conversations with customers (Barclays, 2024). On the other hand, HSBC is using AI to transform its banking operations. It employs AI for credit risk assessment, evaluating customer's credit data, and enabling risk-free lending decisions. Moreover, real-time monitoring of the data sets and important records helped identify discrepancies timely.

The UK has started using AI to make office work easier and improve legal services. The UK's Government Digital Service (GDS) has created several AI tools to boost how well public services

work. These include chatbots and virtual helpers that deal with everyday questions, which lets human workers focus on harder jobs (Cabinet Office, 2018). In the legal world, HM Courts & Tribunals Service is using AI to predict outcomes and automate case management tasks. This helps cut down on backlogs and makes it easier for people to get justice. AI tools look at court papers, guess how cases might end, and handle case flows. This makes the court system work better (Suskind 2020).

5.1.4 India: AI to Deliver Public Services and Boost Agriculture

In India, the booming IT sector makes it likely to benefit from AI in the future. Already, companies such as Infosys and Wipro are known to be developing AI-driven services which are exported globally. India has adopted AI in many areas, including public services and farming. The National e-Governance Division (NeGD) has created AI chatbots to offer round-the-clock support for government services, like getting driver's licenses, passports, and filing taxes. These chatbots have boosted citizen involvement and cut down on the workload for government employees (MeitY 2020).

In the agriculture industry, companies such as TCS are working in collaboration with the government to optimize agricultural practices (Chatterjee, 2020). The Indian government uses AI in farming to forecast crop yields, check soil health, and give farmers timely advice on pest control and watering. The Agriculture Ministry has teamed up with tech firms to build AI platforms that help farmers boost output and lower costs (NITI Aayog 2018).

Initiatives like Digital India further help scale businesses leveraging AI (Agarwall et al., 2022). Moreover, in healthcare, AI brings opportunities for health-tech startups apart from enhancing diagnostics. To streamline AI-driven business operations, India has a National AI Strategy which aims at publicizing AI to bring about societal change (NITI Aayog, 2018).

5.1.5 Australia: AI in Border Control and Social Services

Australia has led the way in using AI for border control and social services. The Australian Border Force uses AI-powered facial recognition systems and predictive analytics to boost security and speed up the movement of passengers and goods across its borders (Australian Border Force, 2021). These technologies help spot potential security risks and make border control processes



more productive and less likely to have human mistakes.

Also, AI has an impact on social services to boost service delivery and make sure resources go where they're needed most. For example, Services Australia uses AI tools to spot and stop welfare fraud by looking at patterns in claims data. This method has cut down on false claims saving taxpayers millions of dollars (Australian Government 2020).

5.1.6 New Zealand: AI to Monitor the Environment and Improve Healthcare

New Zealand's government is using AI to tackle environmental issues and make healthcare better. The Ministry for the Environment uses AI to study satellite images and keep an eye on environmental changes like forests being cut down and water getting polluted. This data-based approach allows for quick action and smarter policy choices to protect nature (Ministry for the Environment 2021).

In healthcare, New Zealand's Health Ministry uses AI tools to forecast patient needs and better distribute hospital resources. AI algorithms help predict how many patients will be admitted and assign staff and resources based on this cutting down wait times and leading to better results for patients (Health Research Council of New Zealand, 2020).

5.1.7 Estonia: AI in Digital Government and Education

Estonia has made a name for itself with its cutting-edge digital government setup where AI plays a key role in improving public services. The country's e-Estonia program brings together AI tools across different areas to create a smooth digital experience for its people. The Estonian government has built the X-Road platform, a safe data-sharing system that uses AI to enable real-time talk and data exchange between various government departments (e-Estonia 2019).

In Estonia's schools, AI helps make learning more personal for each student. It offers custom-made learning materials based on what a student needs. AI tools look at how students are doing and how they learn best. Then, these tools suggest study materials just for that student. This approach aims to boost how well students learn and keep more of them in school (Estonian Ministry of Education and Research 2020).

To conclude, AI can significantly improve and fulfil national development by guaranteeing economic growth, and enhanced social services

accompanied by improved governance. AI has been identified as a strong tool with big potential to improve public service and boost national growth. More and more governments see how AI can make things work better, be more open, and respond faster. Looking at what countries like the US, UK, Australia, New Zealand, India, and Estonia have done shows that AI can change how public offices work. But to use AI well, we need to think hard about what's right and wrong, be clear about what we're doing, and keep working to make people trust it. When governments use AI in the right way and with a plan, they can get the most out of it to push progress and growth, which in the end makes life better for people in their country. To fully utilize its maximum potential, nations must address the concerned obstacles with utmost consideration by producing multiple strategies that not only foster innovation but also protect and secure critical societal interests.

5.7 Challenges and Ethical Considerations in AI Deployment

AI influences public service delivery in many good ways, but it also brings up some tough questions and ethical worries. We need to think about privacy keeping data safe unfair computer programs, and being open about how things work. The government has to make sure AI systems are built and used in ways that stick to ethical rules and respect people's rights (Floridi et al. 2018).

Another big job is to get people to trust AI. Governments have to be clear about how they're using AI tools give easy-to-understand rules about using data, and set up strong ways to check that everything's fair and people are doing their jobs right (O'Neil 2016).

VI. Findings

In-depth apprehension into the role of AI in innovative industries, business development, and national growth, has been provided by the qualitative information gathered from secondary data sources such as documents assessment and case studies. Creative industries have embraced AI to carry out necessary tasks like content production, audience assessment, and design automation. For example, applications that function on AI are becoming more common for the production of music composition, film editing, and digital publicity, allowing creative executives to maximize creativity. In business, the main focus of AI is to improve decision-making processes and enhance user experiences. To efficiently carry out operations, cut off expenses, and promote creativity, firms are



employing AI tools within various fields, such as finance, healthcare, and retail. Governments are employing AI to foster financial development, create employment, and counter social obstacles at the national level.

6.1 Analysis of Findings

The results suggest that AI has a revolutionary effect within certain fields, though its acquisition differs considerably. On one side, AI is improving development processes and offering updated forms of innovation in the creative industries, while it also creates certain risks like possible employment displacement and the requirement of new skill sets. Firms that have fortunately integrated AI report considerable advantages regarding effectiveness, creativity, and competitive benefits, they also pose certain obstacles pertinent to algorithm bias, data privacy, and the intricacy of AI execution.

States that have successfully employed AI through supportive policies and infrastructure development are now enjoying the perks of financial betterment and technological leadership at the national level. However, concerns regarding the disparity on the international level and the digital divide have been raised by the inequalities in AI embracement between first-world and third-world countries. The results comply with the already present literature that sheds light on AI's strength in fostering creativity and financial development. This research also spotlights the potential underlying issues of AI adoption, especially in innovative sectors and underdeveloped states.

VII. Actionable Recommendations for AI Leveraging

Several steps can be taken to escalate AI's potential in the creative industries and national and business development. AI integration into decision-making processes and customer experience management is important for businesses. Adopting AI technologies and training employees to work efficiently alongside AI systems is required for this purpose. In the creative industries, companies should invest in AI tools to foster partnerships between creative professionals and tech firms. Furthermore, governments should implement AI-friendly policies, invest in AI research and development and create public-private partnerships to bring innovation and economic growth at the national level. In addition, it is important to promote AI literacy across the workforce. It will ensure that citizens can benefit from AI technologies.

Addressing issues like algorithm bias, data privacy and the digital divide is important to overcome the challenges identified in AI adoption. Rigorous testing and auditing of AI systems should be implemented by the companies to detect and eliminate biases. Public trust will be developed by ensuring transparency in AI decision-making processes. Encouraging collaboration between policymakers, AI developers and ethicists will also assist in creating responsible and fair AI systems. Governments and organizations should also work to connect the digital divide by investing in AI education and infrastructure, specifically in developing countries.

VIII. Conclusion

The study has called attention to the transformative role of AI in driving national development, business growth and innovation. Creative industries are pushing the boundaries of their work and helping national development through economic growth with the assistance of AI tools. Nonetheless, the maximum potential of AI must be realized by addressing the challenges such as data privacy, unequal access to AI technologies and algorithm bias. AI is crucial in economic and social progress. It has become an indispensable tool for the future due to its ability to promote innovation, solve complex problems and enhance productivity. With the evolution of AI, its impact will grow in the future and make it important for governments and industries to shape its development. Looking forward, a more prosperous and sustainable future will be created using AI's immense potential. Societies can also control AI to deal with global challenges and improve the quality of life for people globally.

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