ARTIFICIAL INTELLIGENCE AND ITS IMPACT ON BUSINESS

ANAKUDO GODGIVE CHINAZAEKPERE
Department Of Vocational Education, Chukwuemeka Odumegwu Ojukwu University
Igbariam, Anambra State.
chikureal@gmail.com

ABSTRACT
Artificial intelligence (AI) is a multidisciplinary field whose goal is to automate activities, transform businesses, present both opportunities and challenges. This paper investigated the impact of Artificial Intelligence (AI) technologies on business operations. It also examined the impact of AI focusing on its applications, benefits, challenges, future direction and implication of AI adoption in businesses. However, the paper also highlighted concerns regarding job displacement, cyber security threats, and data privacy. The need for awareness, preparation and responsible adoption is not left out. To harness the benefits of AI, businesses must develop a strategic plan for AI adoption, prioritizing ethics, and transparency. A review of existing literature reveals the transformative potential of AI in enhancing business efficiency, decision making, and innovation. Recommendations for businesses include developing AI strategy that aligns with business goals and values, investing in AI talent and training programmes among others.

Keywords: Artificial intelligence, business, innovation, cyber security.

INTRODUCTION

As we stand at the threshold of a new era in technological advancements, we must ask ourselves: can machines truly think or are we simply redefining what it means to be intelligence? The advent of artificial intelligence (AI) has ushered in a seismic shift in the business landscape, transforming the way organizations operate, interact, and innovate.

This paper explores the profound impact of AI on business, examining its potential to revolutionize industries, redefine productivity, and reshape the future of work. As AI continues to evolve and improve, its impact on business operations, strategies, and decision making process is becoming increasingly significant from automating routine tasks to driving innovation and fostering business resilience. AI has the potential to transform the business environment, enabling organizations to gain a competitive edge, enhance customer experiences, and drive sustainable growth.

In recent years, AI has become a crucial factor in achieving business excellence, with many organizations investing heavily in AI-powered solutions. According to a report by Mckinsey and company, AI has the capability to deliver significant economic benefits, with an estimated 16% increase in productivity by 2030. However, the adoption of AI also raises important questions about job displacement, data privacy and ethical considerations,

highlighting the need for balanced approach that leverages the benefits of AI while mitigating its risks.

Artificial Intelligence (AI)

The term Artificial Intelligence was coined in 1956 by John McCarthy, a computer scientists and cognitive scientists. Artificial Intelligence (AI) means many things to many people. To Russel & Norvig (2020), it is the development of computer, systems that can perform tasks that typically require human intelligence, such as learning, problem solving and decision making. Artificial intelligence is a branch of computer science that deal with the study of intelligent machines that can think and learn like humans. In order words, it is the simulation of human intelligence in machines that are programmed to think and learn like humans (Ayo, 2019). Below are the tasks which can be performed by artificial intelligence:

1. Learning: AI systems can learn from data and improve their performance over time.
2. Reasoning: AI systems can draw inferences and make decisions based on the data they have been trained on.
3. Problem solving: It can solve complex problems by breaking them down into smaller, more manageable parts.
4. Perception: The systems can interpret and understand data from sensors and other sources, such as images, speech, and text.

Types of Artificial Intelligence (AI)

There are several types of artificial intelligence. They include: Narrow or weak AI, General or strong AI and super intelligence.

1. Narrow or weak AI is a system that uses limited reasoning and problem solving abilities to perform a specific task. Narrow AI systems are designed to perform a single task such as recognize faces, or translating languages.

2. General or strong AI is a system that possesses general intelligence, similar to human intelligence, and can perform any intellectual task that a human can. It has the ability to reason, learn, and apply knowledge across a wide range of tasks.

3. Super- intelligence AI is an intellect that is much smarter than the best human brains in practically every field including scientific creativity, and general wisdom. A super intelligence system would be capable of solving complex problems that are currently insolvable by humans and would likely have a significant impact on human civilization.

Impact of Artificial Intelligence (AI) on Business

The integration of Artificial Intelligence (AI) into business operations has transformed the way companies function, leading to increased efficiency and productivity (Adeyemo, 2020). Oguntimehin (2020) averred that AI automates repetitive tasks, freeing up human resources for strategic decision-making, thereby enhancing organizational performance.

Artificial Intelligence (AI) has also improved accuracy in data analysis, customer service, and other areas, enabling businesses to make informed decisions and enhance customer experience (Akinwale, 2020). Furthermore, AI powered chatbots and virtual assistants provide personalized support, reducing the need for human customer support agents

(Babatunde, 2020). Artificial Intelligence (AI) is a key driver to innovation, enabling businesses to develop new products, services and business models.

In line with the above, innovation is the practical implementation of ideas that result in the introduction of new goods and services or improvement in offering goods and services (Wikipedia). It is the process of translating new ideas into tangible realities that disrupt existing markets and carve paths for economic growth. In essence, innovation is the fusion of creativity and expertise that transforms existing norms and generates lasting value. Better put, is creative problem-solving that adds value.

Building on the concept of innovation, efficiency plays a vital role in sustaining competitive advantage. Efficiency as defined by research gate (2024) is the use of minimum resources as possible to achieve a desired result. It is an ability to perform well or to achieve a result without wasted resources, effort, time, or money (UNESCO). Alternatively, efficiency in the context of artificial intelligence (AI) and its impact on business is the ability of an organization to produce a given output with the minimum amount of inputs. The organization being able to allocate its resources in a way that maximizes its output. Building on existing literature, efficiency can be seen as the optimal utilization of resources to achieve productive outcome. It involves minimizing waste, reducing costs and maximizing output.

Moreover, the pursuit of efficiency must be balanced with ethical considerations. Elegido (2019) refers to ethics as the moral principles, values, rules and standards, respect for others which guide the behaviour of individuals and organizations. He stated that the key components of ethics are the ethical decisions guided by principles such as respect, fairness, and honesty.

Furthermore, the rise of automation and Artificial Intelligence (AI) raises important ethical questions about job displacement. Job displacement refers to the loss of employment opportunities due to technological advancement, such as automation and artificial intelligence (Adeyemo, 2020). The rising adoption of Artificial Intelligence (AI) in businesses has raised concern about job displacement. As AI powered machines take over routine and repetitive tasks, there is a growing fear that many jobs will become obsolete.

The shift towards automation and AI not only raises concerns about job displacement but also highlights the need for robust cyber security measures. As businesses increasingly rely on AI and automation, they also become more vulnerable to cyber threats. According to Kshetri (2023, p.12), "the integration of AI and automation in industries creates new attack surfaces that cyber attackers can exploit, potentially leading to devastating consequences. "The need for skilled cyber security professionals to protect these systems and businesses is important, and this growing demand may create new job opportunities in the cyber security sector.

Finally, Akinyede (2019) asserted that data privacy is the protection of personal and sensitive information from unauthorized access, use, or disclosure. Data privacy is critical because AI systems often rely on vast amounts of personal data to function effectively. It is essential for several reasons:
1. Protection of personal information which include names, addresses, and financial information.
2. Prevention of identity theft, which can have severe consequences for individuals.
3. Maintenance of trust which businesses must keep by protecting their customers' personal data.

What is Business?

Business as defined by Wheelen & Hunger (2020) is an organization or economic system that produces and distributes goods and services to meet the needs of customers and generate profit. Business in the context of Artificial Intelligence refers to the strategic deployment of AI-driven innovations to create value, drive growth, and foster competitiveness in the market place, while prioritizing the cultural and socio- economic imperative of the African entrepreneurial spirit (Ekekwe, 2020).

Application of Artificial Intelligence in Business

As we look into the applications of AI in business, it is essential to understand the transformative power of the technology and its possibility to reform the future of industries and economies. The following are among AI numerous applications in business, transforming the way companies operate, innovate, and interact with customers.

(i) Customer service: AI-powered chat bots and virtual assistants provide 24/7 customer support, helping customers with queries, resolving issues, and directing complex problems to human representatives.

(ii) Marketing and advertising: AI-driven analytics help businesses personalize marketing campaigns, predict customer behaviour, and optimize advertising spend.

(iii) Predictive maintenance: It helps businesses forecast equipment failure, reducing down time, and increasing overall efficiency.

(iv) Supply chain optimization: AI-driven analytics improve supply chain operations, predicting demand and managing inventory.

(v) Human resources: AI help HR team with recruitment, talent management, and employee engagement, improving overall workforce efficiency.

(vi) Financial analysis: It helps businesses predict market trends, detect irregularities, and enhance investment plans.

(vii) Cyber-security: AI powered cyber security systems detect and respond to threats in real-time, protecting businesses from data beaches and cyber attacks.

(viii) Innovation: It enables businesses to develop new products, services, and business models and stay ahead of the competition.

Examples of companies that have successfully implemented AI solutions are:

i. Amazon: They use AI to improve supply chain, conversation skills, analyze images and videos to improve product listings and recommendations.

ii. ExxonMobil: Uses AI to avoid equipment failures, and increase production.

In Nigeria Jumia uses AI to personalize customer experiences, improve product recommendation. While Access Bank employs AI to improve risk management, detect fraud, and provide personalized banking experiences.

Benefits of Artificial Intelligence in Business

To fully harness the benefits of AI, businesses must invest in AI research and development, as well as upskilling and reskilling of workers to remain relevant in an AI-driven economy (Afolabi 2020).

The following benefits demonstrate the significant impact AI can have on businesses.

1. Increased efficiency: AI everyday task, free up human resources for more strategic and creative work.
2. Enhance customer experience: AI offer support and improve customer satisfaction.
3. Improved accuracy: AI quickly and accurately reduce errors and improve performance.
4. Competitive advantage: AI adoption can provide a significant competitive edge enabling businesses to innovate and stay ahead of the competition.
5. Cost saving: AI can help businesses reduce costs and improve operational efficiency.

Challenges of Artificial Intelligence in Business
The lack of infrastructure and expertise in AI development poses significant challenges to the adoption of AI in Nigerian businesses (Oguntimehin, 2020). The challenges include:
1. Data privacy: AI solution requires access to sensitive data, which must be protected from unauthorized access.
2. Due to the technicality of AI, it can be complex and difficult to interpret, making it challenging to understand.
3. Skills and talent: Businesses may struggle to find and regain talent with the necessary AI skills.
4. Bias and ethics: These are significant challenges of AI in businesses because they arise when AI systems perpetuate existing social inequalities and discriminatory practices, often due to biased data. Example if a facial recognition system is trained on a data set that contains mostly white faces, it may struggle to recognize faces of people with darker skin tones.
5. Integration with existing system: AI solutions may require significant integration with existing systems, which can be time consuming and costly.

Implications of Artificial Intelligence in Business
Despite these challenges, AI has the potential to drive innovation in businesses especially in Nigeria enabling them to stay ahead of the competition. However, the adoption of AI in Nigeria business also raises concerns about job displacement, as automation replaces certain jobs (Adeyemo, 2020). The following are the implications of AI in businesses:
1. Job displacement and unemployment: AI may computerize certain tasks, possibly displacing jobs, especially those that involve repetitive or routine tasks. It may also require workers to develop new skills which can be a challenge for some employees.
2. Lack of transparency: AI decision making processes can be secretive, making it difficult to understand how decisions are made.
3. Accountability: AI systems can make mistakes, but it can be challenging to hold them accountable.
4. Cyber security risks: AI can be vulnerable to cyber attacks which can result in data exposures and compromised sensitive information.
5. AI powered cyber attacks can be used to launch sophisticated cyber attacks, which can be difficult to detect and abate.

Future of Artificial Intelligence in Business
The following are some developments that may shape the future of AI in businesses.

1. AI will enable businesses to analyze vast amount of data leading to better decision making.
2. AI may become widespread in businesses in the next five (5) years.
3. Businesses will develop new AI-powered services, such as AI-powered consulting.
4. Businesses will need to comply with emerging regulations and standards for AI development.
5. Businesses will need to develop talent with expertise in AI development.

Conclusion

Artificial intelligence (AI) is transforming businesses across industries, and redefining the future of work. As AI technology advances, businesses are leveraging its potential to improve operational efficiency enhances customer experiences, and gains a competitive edge.

However, AI adoption also raises important considerations, including job displacement bias and ethics. To maximize the benefits of AI while minimizing its risks, businesses must prioritize responsible AI development and deployment. Ultimately, the successful integration of AI in business will depend on strategic planning, effective implementation and ongoing evaluation. As AI continues to evolve, businesses that adapt and innovate will be best positioned to thrive in an increasingly complex and interconnected world.

Recommendation

Based on the issues in this paper, recommendations were made as follows:
1. Business owners should develop on AI strategy by establishing a clear vision and roadmap for AI adoption.
2. Industries and companies should lure experts in AI development to drive AI initiatives.
3. Businesses should use AI to enhance human decision making, productivity and innovation.
4. Businesses should invest in employee training programme to work effectively with AI systems especially infant industries.
5. Businesses should design AI systems that can adapt to changing business needs and environments.

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