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Research Paper

Artificial Intelligence in Business: Opportunities and Challenges

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Abstract
Artificial Intelligence (AI) is fast developing technology for across the world. The business sector is becoming one of the major adopters of Artificial Intelligence. Business are exploring and implementing technology in various ways. Artificial Intelligence is getting better and smarter day by day. In this context, the present paper makes an attempt to understand the concept of Artificial Intelligence in business, to study the opportunities of the Artificial Intelligence in business and to find out the challenges of the Artificial Intelligence in business.
Keyword: - *AI=Artificial Intelligence, Opportunities, Challenges*

I. INTRODUCTION:

Artificial Intelligence (AI) refers to simulating human intelligence in machines that are programmed to think like humans and mimic their actions. The term can also be applied to any machine that has features associated with a human mind, such as: B. Learning and problem solving. It is a broad term for computers and software that work more like humans than computers or traditional software. With conventional computing, software is executed according to certain programmed steps. It was revolutionary in itself and allowed us to do more than we previously imagined. When most people hear the term artificial intelligence, they usually think of robots first. That's because big-budget films and novels weave stories about human-like machines that devastate the earth. But nothing could be further from the truth. Artificial intelligence is based on the principle that human intelligence can be defined so that a machine can easily imitate it and perform tasks, from the simplest to the most complex. The goals of artificial intelligence include learning, thinking and perceiving. As technology advances, the previous benchmarks that have defined artificial intelligence are becoming obsolete. For example, machines that calculate basic functions or recognize text through optimal character recognition are no longer considered to be the embodiment of artificial intelligence, since this function is now taken for granted as an inherent computer function. AI continues to evolve for the benefit of many different industries. The machines are wired according to an interdisciplinary approach based on mathematics, computer science, linguistics, psychology, etc.

What is artificial intelligence?
According to the father of Artificial Intelligence, John McCarthy, it is ―The science and engineering of making intelligent machines, especially intelligent computer programs.
Artificial Intelligence is a way of making a computer, a computer-controlled robot, or a software think intelligently, in the similar manner the intelligent humans think.
AI is accomplished by studying how human brain thinks and how humans learn, decide, and work while trying to solve a problem, and then using the outcomes of this study as a basis of developing intelligent software and systems.
Artificial intelligence in business is the use of AI tools such as machine learning, natural language processing, and computer vision to optimize business functions, boost employee productivity, and drive business value.

Artificial Intelligence Overview
AI refers to Artificial Intelligence which means making machines capable of performing intelligent tasks like human beings. AI performs automated tasks using intelligence. The term Artificial Intelligence has two key components:
1. Automation
2. Intelligence

Stages of Artificial Intelligence
Stage 1 – Machine Learning
It is a set of algorithms used by intelligent systems to learn from experience.
Stage 2 – Machine Intelligence
These are the advanced set of algorithms used by machines to learn from experience.
Eg – Deep Neural Networks. Artificial Intelligence technology is currently at this stage
Stage 3 – Machine Consciousness
It is self-learning from experience without the need of external data.
OBJECTIVES OF THE STUDY:
1. To understand the concept of Artificial Intelligence in business
3. To study the opportunities of the Artificial Intelligence in business.
4. To find out the challenges of the Artificial Intelligence in business

ARTIFICIAL INTELLIGENCE HISTORY:

The term artificial intelligence was coined in 1956, but AI has become more popular today thanks to increased data volumes, advanced algorithms, and improvements in computing power and storage. Early AI research in the 1950s explored topics like problem solving and symbolic methods. In the 1960s, the US Department of Defense took interest in this type of work and began training computers to mimic basic human reasoning. For example, the Defense Advanced Research Projects Agency (DARPA) completed street mapping projects in the 1970s. And DARPA produced intelligent personal assistants in 2003, long before Siri, Alexa or Cortana were household names. This early work paved the way for the automation and formal reasoning that we see in computers today, including decision support systems and smart search systems that can be designed to complement and augment human abilities. While Hollywood movies and science fiction novels depict AI as human-like robots that take over the world, the current evolution of AI technologies isn‘t that scary – or quite that smart. Instead, AI has evolved to provide many specific benefits in every industry. Keep reading for modern examples of artificial intelligence in healthcare, retail and more.

OPPORTUNITIES FOR ARTIFICIAL INTELLIGENCE IN BUSINESS:
1. Artificial Intelligence in Marketing
It is the dream of every small business to maximize its marketing budgets and focus on high achieving marketing strategies. Moreover, every business wants to learn about which marketing activities deliver the highest return on investment.
But it takes a lot of time to monitor and analyze data across all the media channels. Here, the role of AI marketing solutions comes in! AI enabled platforms such as Acquisio can easily help in managing marketing operations across various channels like Google Adwords, Facebook, and Bing. This machine learning enabled layer analyzes live campaign data with the help of sentiment analysis algorithms and suggests a distribution of marketing activities which results in the best results. It automates regular bids and monitors overall marketing spend so that business owners can reduce the time spent on tracking marketing campaigns and pay attention to other important areas.
2. Using AI techniques to Track Competitors
It is always crucial to keep track of what your competitors are doing. Unfortunately, most of the business owners are not able to review the competition due to busy schedules. Here, the role of AI comes in. There are various competitive analysis tools like Crayon. They track competitors with the help of different channels like websites, social media, and apps. Moreover, they provide business owners with a close look into any changes in competitors' marketing planning like price changes, subtle message modifications, and PR activities.
3. Make light work of Big Data
It is not a big surprise that small business owners are willing to take advantage of large amounts of online as well as offline information to make informed, data-driven decisions that will make their business grow. The most interesting thing about AI-powered tools for business is that they can be fitted in every data producing workflow and provides close insights that are quite applicable as well as actionable. AI business tools like Monkey Learn integrate and analyze data across various channels and achieve timesaving analytics and reporting like sentiment analysis in Google Sheets, CSV, etc.
4. AI integrated customer support solutions
Automated chat systems permit small businesses to scale their customer service efforts and free up resources needed for more difficult customer interactions. AI customer service solutions like **Digital Genius** or **Chatty People** suggest or automate answers to incoming customer questions, classify help tickets and direct inquiries or messages to the appropriate department.
When you use AI in customer support, a big reduction in average handling time is seen. Moreover, it enhances the overall responsiveness of your customer service team.

5. Artificial Intelligence in CRMs

How would you feel if you find a way to take your CRM to the next level and to get valuable insights that can help managing interactions with present and prospective clients? CRM platforms that are embedded with AI functionality can do real-time data analysis in order to provide predictions as well as recommendations based on your company's unique business processes and customer data.

CHALLENGES FACES BY BUSINESS IN ARTIFICIAL INTELLIGENCE IMPLEMENTATION:

1) Computing is not that Advanced.

Computer science is one of the most useful advanced machine learning and deep learning techniques that requires a series of calculations to be performed very quickly (microseconds or nanoseconds or slower). This clearly shows that these AI technologies are using a lot of processing power. AI has long been part of the expert discussion. And it always seemed that there wasn't enough power to implement these AI techniques. Cloud computing and massively parallel processing systems have created hope for implementing these techniques in the short term, but with increasing data volumes, deep learning is evolving towards automated algorithm creation.

2) Fewer people support

Implementation of AI, there is not enough use cases in the market. And without it, no organization would be interested in investing in projects based on artificial intelligence. This clearly means that some of the organizations that have been interested in investing in the development of AI-based products have been comparable. Furthermore, there are not enough people in the world who can understand the vision of machine driven progress in other companies.

3) Creating Trust

The problem with AI is that it's like a black box for humans. People become uncomfortable if they don't understand how the decisions were made. For example, banks use simple algorithms based on linear mathematics and can easily explain the algorithms and how they got from input to output. So somewhere AI could not build trust among people. And the only solution to this problem is to make people understand that this technology really works.

4) One Track Minds

One big problem to take into account is that most AI executives are highly skilled. We also call special AI "applied AI". And it's built to do the same thing, and it's about continuing to learn to get better and better. Then look at the inputs and results given in the process. It looks at the best results produced and identifies the input values. Generalized AI is different and can go into any function that is similar to human. However, it is yet to come. This means that AI needs to be trained to ensure that their solutions do not cause other problems. In particular, all areas outside of the areas they are prepared to consider.

5) Provability

Organizations working on AI-based products are unable to articulate what they have achieved using vision and AI methods. People question this technology as to how it makes decisions and whether all its decisions are ideal! Moreover, such confusion surrounded people's hearts. And finally, the probability of mathematical uncertainty underlying AI prediction remains an ambiguous area for organizations.

6) Data Privacy and security

Most AI applications learn from huge amounts of data and make intelligent decisions. Machine learning systems often rely on inherently sensitive and personal data. These systems learn from the data and improve themselves. With this systematic learning, these ML systems are vulnerable to data breach and identity theft. The European Union implements the General Data Protection Regulation (GDPR), which ensures complete protection of personal data. This step is done after increasing customer awareness of increased machine decision making.

7) Algorithm bias

A big problem with AI systems is that their level of good or bad depends on the amount of data they are trained on. Bad data is often associated with ethnic, community, gender or racial prejudice. Proprietary algorithms are used to find out who has deposited a bond, whose loan has been approved, etc. In the future, such distortions will be exposed as many AI systems continue to be trained to use the wrong data. Therefore, before organizations start working on AI, there is an urgent need to train these systems with unbiased data and create algorithms that are easy to explain.

8) Data Scarcity

It is a fact that organizations now have access to more data than ever before. However, the datasets that are applied to the AI application for learning are really few. However, the most powerful AI machines are those that learn to monitor. However, there is a glimmer of hope. Over time, organizations invest in design methods and focus on modeling artificial intelligence despite the lack of tag data.

II. CONCLUSION:

Artificial Intelligence holds immense promise for India, offering the potential to drive innovation, enhance productivity, and improve the quality of life for its citizens. However, with great power comes great responsibility. The responsible development and deployment of AI require a robust regulatory framework that addresses data privacy, fairness, transparency, and accountability. The adoption of AI presents both opportunities and challenges for businesses. The potential benefits of AI, including increased productivity, cost savings, and enhanced decision-making, are significant. However, the adoption of AI also poses several challenges, including computing is not that advanced, data privacy and security concerns, and fewer people support. Businesses must adopt a collaborative approach, working closely with policymakers and other stakeholders to ensure that the benefits of AI are realized while addressing its potential challenges.

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