



ARTIFICIAL INTELLIGENCE(AI) APPLICATIONS IN HIGHER EDUCATION: ADDRESSING THE ELEPHANT IN THE ROOM: CASE STUDY ON AI

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ABSTRACT

Purpose: This study helps us to know about the impact of artificial intelligence on higher education. With the help of SWOT analysis, PESTLE analysis and other alternatives for AI.

Design: Study information is gathered from the secondary data from Published papers like Research gate, and Google Scholar. The study is done by analysing through SWOT analysis, brand bullseye, and competitors of Britannia company.

Findings: In this study we learnt that AI remains inhuman. The chances to outsmart are high. Till the date government haven't implemented AI in the workings of the Government. It is beneficial if we go on implementing it in the automobile industry. It also improves the working of the employees, reduces the workload, work life balance etc. It also increase the workplace productivity

Originality: This study helps us to know about Artificial Intelligence applications in higher education.

Paper type: Case study

KEYWORDS: artificial intelligence, education, SWOT analysis, PESTLE analysis, competitors

INTRODUCTION

Recent developments in artificial intelligence (AI) technology have dramatically changed the ways that humans work, communicate, and learn. One sector where the prospective benefits of AI might be tremendously helpful is higher education. In response to the increased need for innovative teaching and learning methods, institutions and educators are studying the integration of AI applications to enhance the educational process and outcomes for students.

Studies on the use of AI in education have looked at several applications of the technology in the classroom, highlighting the advantages they provide for student learning. The "elephant in the room" is a severe problem that has to be addressed despite the excitement around AI's promise in higher education. The use of AI systems in higher education raises significant issues with regard to ethics, equality, and the preservation of human-centric values in the educational environment. It is essential to critically evaluate the challenges and implications of adopting AI as we embrace its potential to improve teaching and learning. Additionally, we must ensure that its usage is in line with the values and goals of higher education institutions.

The ethical ramifications of using AI systems in education will be discussed in this essay along with various preventative measures against prejudice, privacy invasions, and the devaluation of human-centric values. The ultimate objective of this research is to equip instructors, administrators, policy makers, and other stakeholders in the higher education sector with a comprehensive knowledge of the complex connections between AI and the educational ecosystem. By confronting the problem head-on and offering insights into optimal procedures, policy considerations, and potential solutions, we can harness the transformative capacity of AI in higher education while promoting the values of inclusivity, impartiality, and human-centeredness which underlie our educational institutions.

These methods and approaches, when created and used in education, can be effective tools for enhancing the teaching-learning process since they can provide a type of virtual instructor that is completely qualified, possesses human traits, and is able to engage anywhere. (that is, at any time and place.)



REVIEW OF LITERATURE

1. Maxime Drouot as contributed - Has made a major contribution to the conception and design of the research; the data collection, screening of abstracts and full papers, the analysis, synthesis and interpretation of data and focuses on To the conception and design of the research; the data collection, screening of abstracts and full papers, the analysis, synthesis and interpretation of data.
2. Capelli G, Verdi D, Frigerio I, Rashidian N, Ficorilli A, Grasso V, Majidi D, Gumbs AA, Spolverato G as contributed substantial contributions to the conception and design of the study and performed data analysis and interpretation and focuses on Performed data acquisition, as well as provided administrative, technical, and material support: Capelli G, Verdi D, Gumbs AA, Spolverato G.
3. Ahmet Gocen, Fatih Aydemir have contributed A conscious use of artificial intelligence must be present; AI should be preferred only for the areas that are needed and focus on Artificial Intelligence in Education and Schools.
4. An, Kulm, & Wu; Ball, Thames and Phelps; Hill, Ball and Schilling ; Killic; Kunter et al
As contributed aspects used are aspects of knowledge as described by Balls, Thames, & Phelps and focus on the knowledge of content and students, knowledge of content and teaching, and knowledge of curriculum. There are two reasons for choosing the PCK Ball, Thames, & Phelps. First, they have clearly classified PCK aspects compared to PCK theory from Shulman. Secondly, they link the interrelation between students, content and teaching while the PCK aspects of other experts do not do this.
5. Dr. Olaf Zawacki-Richter has contributed to Educational Technology and focused on Open Education Research (COER).

OBJECTIVES

The purpose of this study is to provide some light on the complicated topic of AI application in higher education, with a focus on resolving underlying concerns and potential risks. By examining the current state of AI technologies and their use in higher education, we hope to reveal both the advantages and disadvantages that come with their usage.

1. The paper seeks to study the existing use of AI in higher education institutions, including the technologies employed, their implementation, and the impact on various aspects of education.
2. The paper aims to highlight the key challenges and concerns associated with the integration of AI in higher education, such as ethical considerations, privacy issues, potential bias, and the impact on human interaction and employment.
3. The paper aims to explore the potential benefits of AI applications in higher education, such as personalised learning, improved administrative processes, enhanced student support, and expanded access to education.

METHODOLOGY

This research paper's technique involves gathering information from a variety of secondary sources, including journal articles, websites, other journals, and research papers from Researchgate. Additionally, SWOT and PESTLE analysis are used to further analyse the subject.

OVERVIEW

This research paper examines the growing role of artificial intelligence (AI) in higher education and how it may assist educational institutions throughout the world in resolving their problems. Given the proliferation of digital technology and the growing demand for effective and individualised learning experiences, artificial intelligence (AI) presents a revolutionary possibility for higher education. However, its usage also raises issues with integrity, confidentiality, and the potential benefits of education. This essay aims to provide a general review of applications for artificial intelligence in higher education, analyse the benefits and implementation challenges, and offer solutions to any potential problems. The ability to learn cultural traits and conventional values via experience, exposure, and interaction with varied people in a variety of circumstances is a human trait that AI systems lack.

SWOT Analysis

SWOT analysis, which Albert Humphrey created in the 1960s, is still useful. It is a simple technique for assessing businesses, places, competitors, or oneself. Businesses use the SWOT approach to analyse their strengths, weaknesses, opportunities, and threats. A SWOT analysis is useful when a business wishes to identify areas for growth and improvement or before implementing a significant change. The purpose of the SWOT analysis employed in this research is to identify key elements of the company's existing status as well as possible development possibilities. SWOT strengths highlight the areas where the company has previously achieved success. Weaknesses are the factors that are underperforming and require strengthening. Opportunities are created



to strengthen the company's competitive position based on its present strengths and weaknesses. Last but not least, threats are potential issue places that are impossible to handle without Forces in a SWOT analysis.

<p>Strength: Increase workplace productivity. Adopted into many industries. Better quality of life.</p>	<p>Weakness: Artificial intelligence remains inhuman. The chance to outsmart us. Governments are slow on the uptake</p>
<p>Opportunity: Smart cars drive progress for people with disabilities. Less strain on employees.</p>	<p>Threats: Job stealing. Will we lose control? What happens when AI gets it wrong?</p>

PESTLE ANALYSIS

PESTLE analysis is a strategic planning tool that is used to examine various factors that affect the market environment for a business or organisation. The goal of PESTLE analysis is to develop a profound understanding of the external environment where the organisation operates.

1. Political factors of Artificial Intelligence

The majority of incidents demonstrate how artificial intelligence might endanger democratic systems. These dangers can include, among many others, election hacking, data spying, and privacy violations. It is no secret that lobbyists and zealots have both used Facebook as a forum for propaganda thanks to its machine learning and intelligence algorithms. The proliferation of false accounts and fake news on Facebook following the 2016 Philippine elections that elected President Rodrigo Duterte to his present position serves as a great illustration of this. Another illustration is Facebook advertising efforts, which, given the wealth of data collected on Facebook's platform, are almost aggressively personalised to "suit" the personalities of the individuals they are targeting. AI is here to stay, whether or not consumers like it. In the upcoming years, politics will also be affected by it. The current state of laws and regulations might utilise further protections to strengthen user safety on sites that employ AI technology. However, there are at least safeguards in place to guarantee that a company's use of external data complies with the law. There is no doubt that AI can help with the consolidation of institutions, processes (in government or otherwise), cultures, and beliefs, notwithstanding any potential concerns about its use. If properly applied, artificial intelligence offers to reduce administrative costs.

2. Economic factors of Artificial Intelligence

AI is essential for combining aggregate data in economics. Although it is not currently thought to be precise, artificial intelligence has the potential to boost predictive analytics in economic forecasting. It can be used in portfolio optimization on a lesser scale. On a bigger scale, there is speculation that firms and organisations may soon be able to use AI techniques to analyse customer behaviour and have it down to a science. Already, AI systems are monitoring the impact of media headlines on the financial market. There have been rumours about how JPMorgan uses an algorithm to predict how President Donald Trump's tweets would affect the economy. Institutions may also be able to employ artificial intelligence to forecast changes in supply and demand in order to lessen or even avert the effects of economic downturns. These adjustments that AI may make could advance economics to new heights. Over the upcoming years, investments in AI are also anticipated to increase. The COVID-19 conference had a significant influence on many facets of how people do business or go about their everyday lives, which in turn advanced the acceptance and use of AI more broadly.

3. Social factors of Artificial Intelligence

In the past ten years, spending on research and development has increased, and the adoption of artificial intelligence into systems will soon have increasingly major societal repercussions. As AI propels internet juggernauts like Google, Alibaba, and Amazon to give more individualised experiences to their consumers, greater personalisation is on the horizon. Providers will be able to get to know clients, repeat clients, and even prospects in a level they have never been able to. Some of the capabilities that artificial intelligence can bring now exist, but they will certainly be improved as technological innovation progresses. Additionally, collaborating using AI-enabled tools and bots is discussed. Even in its infancy, artificial intelligence has the potential to ease administrative and other tiresome duties.



4. Technology factors of Artificial Intelligence

Numerous time- and resource-saving strategies are offered by AI. Automation results in more work being produced. Many continue to highlight the challenges associated with complete digitalization and the use of AI technology. The fast integration of AI and machine learning into organisations comes with significant operational hazards. These hazards can be reduced with careful planning and an effective approach. Technology disruption does not always result in issues. It may even encourage creativity. It is quite likely to reduce expenses by using artificial intelligence, which will eventually result in better customer outreach, if done with strategic goals in mind.

5. Legal factors of Artificial Intelligence

Artificial intelligence is a component of the legal business that makes it possible for experts in the field to automate the work done by paralegals or entry-level lawyers. In some circumstances, AI can even improve the accuracy of contract assessments. Artificial intelligence enables attorneys to approach their practices more data-drivenly. Overall, it is effective. Finding keywords in big quantities of data and documents is one of the lesser chores it may help with. When properly developed, it can also fill out some forms. Additionally, automated lawyer services and legal chatbots already exist. They take the place of more administrative and customer service centred jobs like gathering preliminary data for subsequent submission or noting potential clients' details. Automated legal services might also mean being able to provide rapid, straightforward legal counsel on an ongoing basis rather than having to wait for a legal professional to become available. These legal automata are not intended to take the position of attorneys, but rather to support them in their job. Artificial intelligence has a promising future in the field of legal services, and adopting it will make law firms more effective and able to provide present and new clients with the services they require.

6. Environmental factors of Artificial Intelligence

The impact of artificial intelligence on the environment has not yet been widely discussed. The carbon footprint produced by training or working with artificial intelligence using a single high-performance graphics card is nearly equivalent to taking a journey across the United States, according to a 2019 research published in the MIT Technological Review. It also showed that using more advanced AI technologies might result in even larger CO₂ emissions. It is difficult to manage the environmental cost of using AI, and the systems that enable it must strive toward achieving these changes as quickly as possible. The demands of the present climate meltdown are made more difficult by the existing issues in mitigating the environmental consequences of AI. Keeping data centres cool is the key challenge in avoiding the environmental concerns posed by artificial intelligence. Although there is technology to help minimise the level of electricity they produce—and hence contribute to global warming—the popularity of processing and equipment that networks and organisations need grows every year to the point where cooling equipment is no longer useful. Recent advancements in data centre cooling make use of regional topography. In order to lower the astounding amount of energy required to cool huge rooms, several businesses decide to locate their buildings or data centres in cooler regions, such Northern Europe. Holding the IT sector consistently responsible as innovations and developments take place is the most efficient way to counteract the environmental effects of AI and disruptive technologies. When it comes to effectively utilising artificial intelligence and machine learning in organisations throughout the world, there are as many benefits as hazards, and maximising use of this technology without being abused requires conducting the necessary research and putting effective risk management systems in place. The use of artificial intelligence can eventually aim to benefit everyone with those protections.

COMPETITIONS

1. OpenAI: The goal of OpenAI is to expand the realm of what is practical for AI. They are making their study open-source so that everyone may participate and gain from the sum of all knowledge. This method is uncommon in classical AI, which is more exclusive and closed off.

2. Google AI: Although Google Search is one use of AI, the field of research and technologies that fall under the umbrella of AI are significantly more diverse. To deliver pertinent search results, Google Search employs a variety of specialised algorithms and methods. In contrast, AI includes a wide range of algorithms and techniques that may be used for several jobs.

3. Microsoft AI: Microsoft now has the advantage over Google in comprehending user queries more naturally because of the incorporation of OpenAI into Edge. Search engines will advance in sophistication as AI continues to develop, ultimately revolutionising how consumers interact with the internet.

4. IBM Watson: AI is a potent toolkit with several uses in a wide range of fields. According to IBM's Watson website, the six key intents that the AI toolkit is most suited to address may be divided into issue categories: Research and discoveries should be hastened. Add depth to your interactions. The #11 rated solution in the best



Data Science Platforms is IBM Watson Studio, which is listed as the #7 solutions in the top AI Development Platforms. IBM Watson Studio receives an average rating of 8.0 out of 10 from PeerSpot users.

5. Amazon AI: Voice recognition, fraud detection, chatbot creation, and product suggestions are just a few of the ways Amazon employs machine learning. Amazon employs AI and ML in its products, like Alexa and its suggestion engine, as well as in other business sectors, including its warehouses. Amazon has benefited from using artificial intelligence to become more productive, enhance the customer experience, and boost profitability. It seems probable that Amazon will keep coming up with novel and creative ways to employ AI technology to enhance its operations as it develops.

FINDINGS OF THE STUDY

This study taught us that AI is still unhuman. The likelihood of outwitting is great. Government operations have not yet been augmented by artificial intelligence (AI). If we continue to apply it to the automotive business, it will be advantageous. Additionally, it enhances employee productivity, lessens burden, promotes work-life balance, etc. Additionally, it raises productivity at work. There are various dangers, including the fact that AI might raise unemployment since it is more efficient than humans at work and can lower costs for businesses.

PROBLEM

KNOWLEDGE TRANSFER DOES NOT TAKE PLACE.

SUGGESTION / RECOMMENDATION

The AI may be used in many areas, including as the automotive industry, and it may be beneficial for persons who are physically challenged. It offers a higher standard of living. Government agencies may use AI in their operations to streamline and minimise workloads. Although there is a potential of being outwitted, this risk may be diminished with adequate supervision. Even though it could boost workplace productivity, it also causes a rise in unemployment.

CONCLUSION

The immense potential of artificial intelligence (AI) applications in higher education has been explored in this study article, but it has also addressed some of the difficulties that may arise—what is sometimes referred to as the "elephant in the room." The results of this study show how many advantages AI has for the educational system, including personalised instruction, effective administrative procedures, and increased student participation. AI technologies have the power to improve the efficacy, accessibility, and inclusivity of current instructional methods. But it's critical to acknowledge and solve AI-related challenges in higher education. Privacy and data security, ethical issues, and the impact on interactions between teachers and students are the primary challenges that need to be carefully overcome. It is also crucial to pay attention to the growing issue of knowledge transfer that is impacted by the application of AI. The study has emphasised the significance of morally and responsibly deploying AI, making sure that decisions made by AI systems are open, transparent, and impartial.

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