# Artificial Intelligence's (AI) role in Higher Education-Challenges and Applications

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# ARTIFICIAL INTELLIGENCE'S (AI) ROLE IN HIGHER EDUCATION- CHALLENGES AND APPLICATIONS

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## ABSTRACT

*Artificial Intelligence (AI) possesses the capacity to significantly transform higher education across multiple dimensions; however, it concurrently encounters various obstacles within this particular domain. Artificial Intelligence (AI) possesses a diverse array of applications within the realm of higher education, hence revolutionizing institutional operations and augmenting the overall learning experience. The field of Artificial Intelligence (AI) has already exerted a significant influence on various aspects of society. It is possible that individuals may not be aware that their smartphones are likely equipped with an artificial intelligence (AI) engine. For instance, these engines are specifically designed to enhance computational processes involved in facial recognition, thereby granting users access to their phones. Alternatively, they may be utilized to identify the scene being captured by the camera, enabling the device to adjust exposure settings for improved image quality. Artificial intelligence (AI) is being increasingly utilized across various domains, including business, healthcare, gaming, judicial systems for predicting recidivism based on individual profiles, the development of self-driving vehicles, and the creation of fully autonomous weapons capable of independent seeking and destruction without human intervention. The domain of higher education is certainly not immune to the pervasive influence of artificial intelligence, and the discourse surrounding this phenomenon appears to be more prominent than ever before. Each year, novel e-learning systems including artificial intelligence (AI) are introduced, resulting in substantial financial investments and attracting several scientific contributors to the AI sector. Every emerging technology brings about certain advantages as well as significant risks. The legislative response to technological concerns often requires a significant amount of time.*

**Keywords:** Artificial Intelligence, AIs, Higher Education, Challenges, Applications, HEIs.

## INTRODUCTION



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The field of higher education has been significantly impacted by the emergence of Artificial Intelligence (AI), which has proven to be a powerful catalyst for change. This has resulted in a wide range of possibilities and complexities that need to be carefully considered and addressed. The incorporation of artificial intelligence (AI) into the realm of higher education holds the capacity to fundamentally transform the methods by which students acquire knowledge, teachers deliver instruction, and institutions function. Nevertheless, the integration of artificial intelligence (AI) is not devoid of intricacies, as its implementation presents a myriad of obstacles that necessitate resolution in order to fully harness its capabilities Sharma, (2017).

This study aims to examine the diverse and complex function of artificial intelligence (AI) in the context of higher education. It will begin by addressing the various problems encountered by educators, institutions, and policymakers as they negotiate the dynamic and ever-changing landscape of AI integration in higher education. The challenges at hand cover a range of topics, including but not limited to access and inclusivity, data privacy and security, ethical considerations, opposition to change, and the necessity for faculty and staff training (Sahoo, et al. 2023). The aforementioned statement emphasizes the crucial significance of meticulous planning and deliberate execution in order to guarantee that artificial intelligence (AI) confers advantages upon all students, irrespective of their diverse origins or varying talents.

Concurrently, the utilization of artificial intelligence (AI) in the realm of higher education is experiencing significant growth, resulting in a transformation of both the learning process for students and the instructional methods employed by instructors. The notion of personalized learning is increasingly being embraced, as artificial intelligence (AI)-powered platforms adapt instructional materials to cater to the distinct requirements and inclinations of individual learners. Intelligent tutoring solutions offer immediate assistance, personalized evaluations, and constructive feedback, thereby boosting the educational process (Sathana, et al., 2019). Predictive analytics is playing a crucial role in enabling educational institutions to effectively identify students who are susceptible to encountering academic difficulties. This capability facilitates the implementation of timely interventions aimed at enhancing both student retention and success rates. Chatbots and virtual assistants have become increasingly prevalent in educational settings, since they effectively streamline administrative duties and provide accessibility to information and services for both students and staff members (Khupse, 2017). Automated systems for grading and evaluation have been implemented, resulting in time efficiency for educators and guaranteeing uniformity in the provision of feedback.

In addition, artificial intelligence (AI) is exerting an impact on the design of curricula through the examination of labor market patterns and the identification of developing fields. This enables educational institutions to provide programs that are more pertinent and current. The utilization of artificial intelligence (AI) in data analysis has significantly accelerated research procedures, leading to enhanced efficiency in uncovering valuable insights. Artificial intelligence (AI) also plays a crucial role in the identification of plagiarism, contributing to the maintenance of academic integrity through the comparison of students' work with extensive databases of academic and internet materials (Sharma, 2021).

The impact of artificial intelligence on higher education is continuously expanding as the field of AI itself progresses. The utilization of augmented and virtual reality apps facilitates the creation of immersive learning experiences, while the efficiency of administrative work is being enhanced through the implementation of artificial intelligence-driven resource allocation and scheduling. The incorporation of artificial intelligence (AI) is proving to be advantageous for career counseling and accessibility tools as well (Jethwani, et al. 2017).



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In light of these technological breakthroughs, it is imperative for the educational community to actively consider and confront the ethical ramifications associated with artificial intelligence, uphold the principles of data privacy, and strike a harmonious equilibrium between personalized learning experiences and standardized educational practices in order to uphold the standards of academic excellence. In order to properly leverage the potential of artificial intelligence (AI), it is imperative that faculty and staff obtain enough training. Additionally, institutions must exercise diligent cost management and ensure a seamless interface with pre-existing systems.

## Objective of the Research

- To explore the factors (related to challenges) which signifies major role in sampled HEIs.
- To explore the factors (related to applications) which signifies major role in sampled HEIs.
- To suggest findings & conclusion.

## Hypothesis of the Study

***$H_1$*** *There is no strong relation between the percentage of all explored factors (related to challenges) & all 04 sampled HEIs.*

***$H_2$*** *There is no strong relation between the percentage of all explored factors (related to applications) & all 04 sampled HEIs.*

## REVIEW LITERATURE

Zawacki-Richter et al. (2019) provides a comprehensive overview of the state of research on artificial intelligence (AI) applications in higher education. The study explores the extent to which educators are involved in this field. The authors conducted a systematic review of existing literature to identify trends and gaps in research related to AI in higher education. The review focuses on the role of educators in the adoption and integration of AI technologies. AI is increasingly being integrated into higher education, with applications in personalized learning, intelligent tutoring, predictive analytics, and more. The review reveals that while AI technologies are gaining prominence, educators' involvement in the development, implementation, and research related to AI in education is limited. Many AI applications prioritize student-centered approaches, but there is a need to consider the role of educators in facilitating and guiding these technologies. The paper emphasizes the importance of addressing ethical and pedagogical concerns associated with AI in higher education, which necessitates the active participation of educators.

Popenici and Kerr (2017) investigates the influence of artificial intelligence (AI) on the educational landscape of higher education. The study delves into the implications of AI for teaching and learning. The article highlights the potential for AI to transform pedagogical approaches in higher education by offering personalized and adaptive learning experiences. AI tools have the capability to increase student engagement through interactive and tailored content, which can lead to improved learning outcomes. The authors discuss how AI may shift the roles of educators from content deliverers to facilitators and mentors who guide students in their learning journeys. The article emphasizes the role of AI in data analytics and its capacity to provide educators with insights into student performance and learning trends. Popenici and Kerr



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(2017) address the challenges and ethical considerations associated with AI, including issues related to privacy, equity, and transparency. The study contemplates the future prospects of AI in higher education and the need for educators to adapt and engage with these emerging technologies.

(Algabri, et al. 2021) explores the implications of artificial intelligence (AI) in higher education, focusing on the promises, threats, and the potential for personalization. The authors discussed the numerous promises of AI, such as personalized learning experiences, improved educational outcomes, increased efficiency, and the potential to cater to diverse learning styles. The article also highlighted potential threats and challenges, including concerns related to data privacy, algorithmic bias, the displacement of traditional teaching roles, and the need for proper regulation. A significant portion of the article is dedicated to the concept of personalization in education. It explains how AI can adapt content and teaching methods to the individual needs of students, potentially enhancing engagement and knowledge retention. The authors stressed the importance of addressing ethical concerns, including issues of transparency, fairness, and privacy in the use of AI in higher education. & also discussed emerging trends in AI application in higher education, such as chatbots, virtual assistants, and AI-driven analytics. The article provided an overview of the promises and threats associated with the integration of AI in higher education. It also emphasizes the potential for personalization as a key benefit of AI in the educational context. Ethical considerations and emerging trends in AI application in higher education are also discussed.

Duffey (2019) explored the transformative impact of artificial intelligence (AI) on the business world. The author discusses how AI technologies are reshaping industries, enhancing efficiency, and revolutionizing customer experiences. The book provides insights into the strategies and practices that businesses can adopt to harness the power of AI to stay competitive and drive innovation. It highlights real-world examples and case studies to illustrate how AI is changing the business landscape.

(Verma, et al. 2020), is a comprehensive book that studied into the influence of AI technologies in higher education. It explores how AI is reshaping teaching, learning, and research in academic settings. The book covers a range of topics, including personalized learning, intelligent tutoring, AI-driven research, and the challenges and opportunities AI presents in the higher education sector. It provides valuable insights into the ways AI is transforming the educational landscape and offers guidance on how institutions can effectively leverage these technologies.

(Roumate, 2023) explored the future developments and implications of artificial intelligence (AI) in the realms of higher education and scientific research. It discusses emerging AI technologies, their potential impact on teaching, learning, and research, and the evolving role of educators and researchers in this AI-driven landscape. The book offers insights into how AI is shaping the future of education and scientific inquiry, providing a roadmap for institutions and individuals seeking to adapt to these changes.

(Mårell-Olsson et al. 2021) explored the use of socially intelligent agents to enhance interaction and school participation for children with long-term illnesses. It discusses the potential benefits and challenges of implementing these agents in educational contexts, aiming to improve the educational experience for students facing health-related challenges.

(Ikedinachi et al., 2019) discussed the impact of artificial intelligence and technology in education. It explores the potential benefits and challenges associated with smart classrooms and online education, emphasizing their implications for human development. The article addresses



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how these technologies are reshaping educational approaches and the broader consequences for learners in the 21st century.

(Pietronudo et al., 2022) investigates the evolving role of digital platforms in healthcare innovation. It explores how digital platforms are enabling and enhancing data-driven innovation in healthcare, with a focus on the development of new capabilities. The study delves into the changing landscape of healthcare management and highlights the impact of digital platforms in fostering innovation within the sector.

(Anggun Zuhaida., et al., 2023) examines the impact of the emerging societal concept, "Society 5.0," on higher education. It discusses the trends and changes in international higher education that are influenced by the evolution of society towards a more advanced and technology-driven state. The article delves into how higher education institutions are adapting to meet the challenges and opportunities presented by this new era.

(Akour and Alenezi, 2022) explores the evolving landscape of higher education in the context of digital transformation. It investigates the future of higher education, emphasizing the impact of digital technologies on teaching, learning, and the overall educational experience. The article provides insights into how higher education is adapting to the changing digital environment and the potential implications for the future.

(Ai and Guo, 2022) introduces a method that utilizes intelligent data mining to enhance English teaching and conduct cultural analysis. It aims to improve the efficiency of English language instruction and gain insights into cultural aspects. The study emphasizes the role of data-driven approaches in optimizing language learning and fostering a better understanding of culture in the context of English education.

## RESEARCH METHODOLOGY

The study is exploratory & quantitative in nature. The primary data has been gathered on the basis of questionnaire where total 04 higher education institutions has been approached. In first 03 Higher education institutions 30 forms got filled with convenience sampling & in fourth education institution only 20 forms got filled by using convenience sampling. These respondents were Directors, Dean, HoDs & senior Professors. Five point likert scale is used for questionnaire. “Where (S_AG) stands for Strongly_Agree, (AG) stands for Agree, (NL) stands for Neutral similarly (S_DAG) stands for Strongly_Disagree & Disagree stands for (DAG)”. Factors identified with the help of review literature & pivot study. Total 05-05 factors identified which impacts most in the role of artificial intelligence in higher education. Percentage analysis & P value has been identified for the analysis.

**Table 1**
**PROPOSED FACTORS OF THE STUDY**

| **Challenges :** ***Artificial Intelligence's (AI) Challenges in Higher Education*** | **Applications :** ***Artificial Intelligence's (AI) Applications in Higher Education*** |
|---|---|
| Support and Inclusivity & Moral Considerations (SIMC) | Implementing Intelligent Tutoring Systems for Personalized Learning (IITSPL) |
| Data Protection and Privacy (DPP) | Utilization of Chatbots and Virtual Assistants (UCVA) |
| Resistance of Faculty and Staff to Change in Training (RFSCT) | Augmented and Virtual Reality Laboratories (AVRL) |
| Quality Control Standardization versus Customization (QCSC) | Grading, Evaluation, Career Guidance, Curriculum Development (GECGCD) |



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| | |
|---|---|
| Compliance with Intellectual Property and Copyright Regulations (CIPCR) | Enrollment, Admission & Duties of an Administrative Nature (EADAN) |

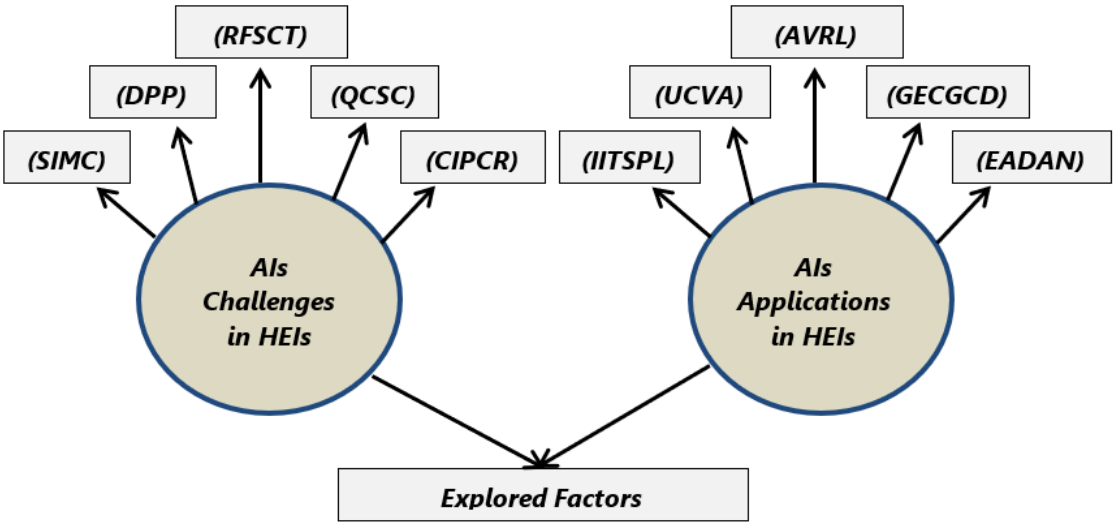


**FIGURE 1**
**PROPOSED FRAMEWORK FOR THE STUDY**

**Table 2**
**FACTORS: ARTIFICIAL INTELLIGENCE'S (AI) CHALLENGES IN HEIS**

| Higher Education Institutions (HEIs) | Factor #1 (SIMC) | Factor #2 (DPP) | Factor #3 (RFSCT) | Factor #4 (QCSC) | Factor #5 (CIPCR) | (N=110) P-value |
|---|---|---|---|---|---|---|
| **#1 (HEIs)** | 32% (*AG*) | 23% (*DAG*) | 15% (*S_AG*) | 22% (*S_DAG*) | 18% (*NL*) | <0.40 |
| **#2 (HEIs)** | 24% (*S_AG*) | 37% (*AG*) | 21% (*DAG*) | 19% (*NL*) | 09% (*S_DAG*) | <0.25 |
| **#3 (HEIs)** | 36% (*S_AG*) | 07% (*DAG*) | 14% (*NL*) | 11% (*S_DAG*) | 42% (*AG*) | <0.33 |
| **#4 (HEIs)** | 06% (*S_DAG*) | 12% (*DAG*) | 31% (*S_AG*) | 08% (*NL*) | 53% (*AG*) | <0.39 |

***Statistically significant at P<0.05**

**Interpretation:** In #1(HEIs) the P-value is <0.40 & SIMC & DPP factor in total having highest percentage i.e. (32% & 23%). Similarly in #2(HEIs) P-value is <0.25 & SIMC & DPP factor in total having highest percentage i.e. (24% & 37%). Moving ahead in #3(HEIs) P-value is <0.33 & SIMC & CIPCR factor in total having highest percentage i.e. (36% & 42%). Similarly in #4(HEIs) P-value is <0.39 & RFSCT & CIPCR factor in total having highest percentage i.e. (31% & 53%). Thus, then hypothesis, "There is a strong relation between the percentage of all explored factors (related to challenges) & all 04 sampled HEIs" is accepted.



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| Table 3<br>FACTORS: ARTIFICIAL INTELLIGENCE'S (AI) CHALLENGES IN HEIS | | | | | | |
|---|---|---|---|---|---|---|
| **Higher Education Institutions (HEIs)** | **Factor #1 (IITSPL)** | **Factor #2 (UCVA)** | **Factor #3 (AVRL)** | **Factor #4 (GECGCD)** | **Factor #5 (EADAN)** | **(N=110)**<br>**P-value** |
| **#1 (HEIs)** | 41% (*AG*) | 11% (*NL*) | 07% (*DAG*) | 19% (*S_DAG*) | 32% (*S_AG*) | <0.52 |
| **#2 (HEIs)** | 15% (NL) | 08% (*S_DAG*) | 06% (*DAG*) | 37% (*S_AG*) | 44% (*AG*) | <0.41 |
| **#3 (HEIs)** | 28% (*S_AG*) | 15% (*NL*) | 11% (*DAG*) | 07% (*S_DAG*) | 49% (*AG*) | <0.39 |
| **#4 (HEIs)** | 03% (*S_DAG*) | 12% (*NL*) | 36% (*S_AG*) | 05% (*DAG*) | 54% (*AG*) | <0.54 |

***Statistically significant at P<0.05**

**Interpretation:** In #1(HEIs) the P-value is <0.52 & IITSPL & EADAN factor in total having highest percentage i.e. (41% & 32%). Similarly in #2(HEIs) P-value is <0.41 & GECGCD & EADAN factor in total having highest percentage i.e. (37% & 44%). Moving ahead in #3(HEIs) P-value is <0.39 & IITSPL & EADAN factor in total having highest percentage i.e. (49% & 28%). Similarly in #4(HEIs) P-value is <0.54 & AVRL & EADAN factor in total having highest percentage i.e. (36% & 54%). Thus, then hypothesis, "There is a strong relation between the percentage of all explored factors (related to applications) & all 04 sampled HEIs" is accepted.

## Findings of the Study

1. AI-powered technologies and resources can worsen inequities if not accessible to all pupils. Students in poor areas or with impairments may lack the technology or connectivity to use AI-driven educational systems.
2. Higher education institutions gather substantial sensitive student data. Data privacy and security are essential. Data protection laws like GDPR in Europe and FERPA in the US apply to AI systems.
3. AI in education may create ethical concerns, including algorithm bias, student surveillance, and potential discrimination in admissions and grading. Maintaining justice and openness is difficult.
4. Training is necessary for faculty and staff to effectively integrate AI into teaching and administrative activities. Time and money are needed to prepare instructors with AI tools.
5. The difficulty of change resistance is prevalent in educational institutions. Faculty and students may resist AI technology owing to job loss, unfamiliarity, or a preference for traditional teaching techniques.
6. The quality of AI-generated educational content might vary greatly. AI-produced educational materials must be accurate, current, and pedagogical.
7. While AI might enhance individualized learning, it can also hinder standardization and accreditation. Customization and quality control are difficult to balance.
8. Maintaining and updating AI systems is essential. Educational institutions must allocate resources for this, and AI implementation might be costly.
9. AI must interface with legacy systems and workflows in many universities and schools. Smooth integration without disturbing procedures is difficult.
10. Research on the effectiveness of AI in enhancing learning outcomes is underway. It's crucial to verify AI's pedagogical benefits and identify curriculum integration best practices.
11. AI-generated content may cause copyright and intellectual property concerns. How can AI content be legally managed? Who owns the rights?
12. Meeting local, national, and international regulations on student data, accreditation, and online education is challenging.
13. AI may tailor information and recommendations based on students' learning styles, talents, and weaknesses. In adaptive learning platforms, AI changes curriculum and speed for each learner, boosting results.



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14. AI-powered tutoring provides real-time support. These systems assist students learn with explanations, quizzes, and feedback.AI-powered chatbots and virtual assistants aid students and staff with registration, scheduling, and general inquiries. 24/7 operations boost efficiency and accessibility.
15. AI can identify at-risk students and provide early help by evaluating historical data. Institutions improve retention and achievement by helping students.
16. AI grades assignments, tests, and essays faster and more consistently. This accelerates assessment and saves teachers' time.
17. AI can improve institutional curricula by examining industry trends, job market demands, and new disciplines.
18. AI-powered translation technologies make educational content available worldwide. Transcribe lectures for easy finding and use.
19. Data processing, literature reviews, and hypothesis formation can be accelerated by AI. In vast datasets, machine learning algorithms identify patterns and insights.
20. AI helps educators detect student plagiarism, boosting academic integrity. These systems compare student inputs to a huge academic and online database.
21. AI can automate application reviews and locate qualified applicants using predefined criteria, easing admissions. Management of enrolment is helped.
22. When physical labs are too expensive or impractical, AI-powered virtual labs let students conduct experiments online.
23. AI-powered AR and VR apps offer virtual field trips and 3D anatomy models.
24. AI can reduce staff burdens by streamlining scheduling, resource allocation, and finance management.
25. AI may assist students on career options based on their interests, talents, and market trends.
26. Text-to-speech, speech-to-text, and other AI features can make inclusive education easier for disabled pupils.

## CONCLUSION

The use of artificial intelligence (AI) in higher education is characterized by its dynamic and transformational nature. The platform provides a wide range of opportunities to augment the educational experience, boost accessibility, and optimize administrative efficiency. Nevertheless, it also poses a series of substantial challenges that necessitate cautious navigation. In order to fully leverage the capabilities of artificial intelligence (AI) within the realm of higher education, it is imperative to establish a harmonious equilibrium between ingenuity and accountability. This entails guaranteeing that technological advancements are advantageous to both students and instructors throughout their scholarly endeavors. Notwithstanding these obstacles, artificial intelligence (AI) exhibits considerable potential in the realm of higher education, as it has the capacity to enhance accessibility, personalization, and efficiency. To surmount these challenges, it is imperative for educators, administrators, policymakers, and technologists to engage in collaborative efforts, thereby ensuring the effective utilization of artificial intelligence (AI) for the advancement of all pupils. The utilization of artificial intelligence (AI) inside the realm of higher education is progressively broadening, leading to advancements in educational quality, diminished administrative burdens, and an elevated learning experience for students. Nevertheless, it is imperative to acknowledge and confront the obstacles and ethical implications linked to artificial intelligence (AI) in order to guarantee its advantageous impact on all parties involved in the educational system.

## REFERENCES

Anggun Zuhaida, Arifin Septiyanto & Ika Hasanah (2023) Transformation of higher education in the age of society 5.0: Trends in international higher education, The Social Science Journal,

Akour, M.; Alenezi, M. (2022) Higher Education Future in the Era of Digital Transformation. *Education Sciences*, *12*(11), 784.



**Citation Information:** Saxena, N., Kumar, A., Makwana, P., Band, G., Teltumbade, G.R., Ilankumaran, G. (2024). Artificial Intelligence's (ai) role in higher education- challenges and applications. *Academy of Marketing Studies Journal, 28*(4), 1-9.

Ai, Q. & Guo, H. (2022). Intelligent Data Mining-Based Method for Efficient English Teaching and Cultural Analysis. *International Journal of Mobile Computing and Multimedia Communications (IJMCMC), 13*(2), 1-14.

Algabri, H.K., Kharade, K., & Kamat, R. (2021). Promise, threats, and personalization in higher education with artificial intelligence. Webology (ISSN: 1735-188X), 18(6).

Duffey, C. (2019). Superhuman innovation: Transforming business with artificial intelligence.

Ikedinachi, A.P., Misra, S., Assibong, P.A., Olu-Owolabi, E. F., Maskeliūnas, R., & Damasevicius, R. (2019). Artificial intelligence, smart classrooms and online education in the 21st century: Implications for human development. *Journal of Cases on Information Technology (JCIT), 21*(3), 66-79.

Jethwani, D.K., & Ramchandani K. (2017) Kumar, Weak Form of Efficiency of Stock Market: A Review of Literature (2017). *KAAV International Journal of Economics, Commerce & Business Management (KIJECBM) OCT-DEC (2017), 4,* 345-357.

Khupse, D.M.H. (2017). A study of passengers' motives for using mobile app based cabs. *Kaav international journal of economics, commerce & business management, 4*, 474-480.

Mårell-Olsson, E., Mejtoft, T., Tovedal, S., & Söderström, U. (2021). Opportunities and challenges of using socially intelligent agents: increasing interaction and school participation for children suffering from a long-term illness. *The International Journal of Information and Learning Technology, 38*(4), 393-411.

Popenici, S.A.D., Kerr, S. (2017) Exploring the impact of artificial intelligence on teaching and learning in higher education. RPTEL 12, 22.

Pietronudo, M. C., Zhou, F., Caporuscio, A., La Ragione, G., & Risitano, M. (2022). New emerging capabilities for managing data-driven innovation in healthcare: the role of digital platforms. *European Journal of Innovation Management*, *25*(6), 867-891.

Roumate, F. (Ed.). (2023). Artificial Intelligence in Higher Education and Scientific Research: *Future Development*. Springer Nature.

Sharma, N. (2017). Impact of Multimedia Against Single Medium of Teaching on Learning Outcomes. *Kaav International Journal OFeconomics, Commerce & Business Management KIJECBM, 4*, 116-121.

Sathana, T., & Rahim, A.A. (2019). An Analysis of Work Stress Meaures & Factors in the Work Places. *Kaav International Journal of Economics, Commerce & Business Management, 6*(1), 137-139.

Sahoo, D.R., & Chauhan, M. (2023). Changing Landscape of Artificial Intelligence on Indian Corporate Sectors and Governance: Special Reference to SMEs. *Kaav International Journal of Law, Finance & Industrial Relations, 10*(1), 1-9.

Sharma, S. (2021). The Role of Artificial Intelligence to Fight against the Battle of Covid-19. *Kaav International Journal of economics, commerce & business management, 8*(1), 50-56.

Verma, S., & Tomar, P. (Eds.). (2020). Impact of AI Technologies on Teaching, Learning, and Research in Higher Education. IGI Global.

Zawacki-Richter, O., Marín, V.I., Bond, M., & Gouverneur, F. (2019). Systematic review of research on artificial intelligence applications in higher education–where are the educators?. *International Journal of Educational Technology in Higher Education*, *16*(1), 1-27.

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