A STUDY ON STUDENT USAGE TOWARDS ARTIFICIAL INTELLIGENCE AND SOCIAL MEDIA FOR ACADEMIC PERFORMANCE

[1]Dr.K.Dhivya Bharathi & **[2]Dr.Lekha Shree S** Department of Commerce B.Com (Aided) and M.Com (SF), PSGR Krishnammal College for Women, Coimbatore.

Abstract:

The advancement of artificial intelligence (AI) and the ubiquity of social media have become transformative agents in contemporary educational ecosystems. The spotlight of this inquiry focuses on the nexus between AI and social media usage in relation to academic performance and mental well-being, and the role of smart learning in facilitating these relationships. Furthermore, smart learning serves as a positive mediating variable, amplifying the beneficial effects of AI and social media on both academic performance and mental well-being. These revelations contribute to the discourse on technology-enhanced education, showing that embracing AI and social media can have a positive impact on student performance and well-being.

Keywords: Academic performance, Artificial Intelligence, Mental well-being, smart learning.

Introduction:

In recent times, the penetration of artificial intelligence (AI) and the ubiquity of social media have significantly transformed our daily lives, including how we communicate, interact, and access information. This transformation holds particular salience for the younger generation, for whom the integration of AI and social media has become nothing short of indispensable in both their educational and daily experiences. Despite the essential nature of these technologies, their synergistic impact on academic performance and mental well-being remains underexplored and thus necessitates research attention. Emerging as a compelling frontier in AI applications, Generative AI, typified by ChatGPT, have emerged as an influential virtual assistant in higher education. These AI systems offer multifaceted advantages, rendering a critical assessment of their impact on both the academic performance and mental well-being of university students' imperative

In this paper, the focus was on students' perceptions of AI applications in the educational process. This population was selected in mind that they are the main users of educational services. Following the service-dominant logic approach and co-creation, students can be identified even as customers, hereby, as active participants and co-creators of services, they should be put in a central place of a value creation process (Bowden, 2011). According to Celuch and Robinson (2016), for whom higher education represents a "unique experiential service", student involvement occurs in the academic domain and also in the total educational experience as well; therefore, the process of creating value in the delivery of educational service requires a better understanding of the relations between students and the institution. Since AI technology has the potential to influence the student experience (Barrett et al., 2019), with a better understanding of student aspects, the implementation of AI in education could be facilitated and adjusted to their needs. Therefore, after presenting some main features related to AI-Ed, attention was paid to research that included students. Therefore, the eight-factor model was applied. It was based on an instrument that measures the use of AI in education (UAIEd), developed by Cheng et al. (2023). The use of an already developed instrument in the new context imposed several research questions. First, there was a need to determine the relations of constructs within the model and conclude to which type of hierarchical model it belonged. Second, the instrument needed to be tested for application in the new cultural context. In addition, there were research questions that emerged from additional theoretical and practical considerations. The third research question was related to the comparison of the results obtained with previous research from abroad and Serbia. Finally, there was a need to provide general recommendations (based on research findings) to higher education institutions.

Artificial intelligence and academic performance

AI has emerged as a transformative force in education, significantly bolstering individual learning outcomes. Prior research affirms that AI enhances academic performance through personalized learning experiences, streamlined administrative operations, and targeted support mechanisms. However, to fully realize the benefits of AI in education, we must navigate complex issues related to bias, resource constraints, and ethical considerations. To address these challenges effectively, the multi-disciplinary and multi-stakeholder collaboration among researchers, educators, policymakers, and technology developers is indispensable. Previous work has not only elucidated these challenges but also offered best practices for the responsible integration of AI technologies, while assessing their long-term implications on academic performance and educational success. Generative AI platforms, such as ChatGPT, provide students with immersive and experiential learning environments. These technologies simulate real-world conditions, facilitating the practical application of theoretical knowledge and honing students' problem-solving skills. By immersing students in interactive learning experiences, AI tools like ChatGPT hold the promise to make a meaningful impact on academic performance. Nevertheless, effective deployment of AI in educational settings necessitates comprehensive implementation strategies, faculty training, and rigorous ethical and privacy frameworks. It is imperative to acknowledge that the human element retains its central role in education. AI technologies should act as complements to, not substitutes for, human instruction and mentorship. The integration of Generative AI like ChatGPT into educational systems presents a range of opportunities for enhancing academic performance. For example, personalized learning experiences, designed around a student's unique abilities, learning preferences, and interests, can elevate levels of engagement, motivation, and conceptual mastery

Statement of the problems

In the current digital age, artificial intelligence (AI) and social media platforms have become integral to students' daily lives, influencing not only their social interactions but also their academic activities. While AI tools such as chatbots, personalized learning systems, and digital assistants can support academic growth by providing tailored learning experiences and real-time assistance, the increasing use of social media raises concerns about its impact on students' focus, time management, and mental well-being.

This study aims to explore the relationship between AI usage, social media habits, and academic performance, shedding light on how these technologies influence students' learning outcomes and identifying strategies for optimizing their use in educational contexts.

Objectives of the study

The following are objectives of study
  ➢ To study about the socio-economic profile of the respondents.
  ➢ To examine about student insight towards artificial intelligence and socio media on academic performance among college students.

Research Methodology

Sources of data

Sources of data consists of both primary data and secondary data. Primary data has been collected by means of structured questionnaire. Secondary data has been collected by means of articles, magazines, newsletter and journals.

Sampling technique

Purposive Sampling technique has been used been in the study for collecting the data.

Sampling size

The structured questionnaire has been used to collect the data from 210 respondents.

Area of the study

The study has been conducted in Coimbatore City.

Statistical Tools
- Percentage and
- Friedman Rank Test

Data analysis and Interpretation
Percentage analysis
The following are the demographic profile of the respondents.

Table :1 Demographic profile of the respondents

Demographic Factors		No of Respondents	Per cent
Age	**18 to 20 years**	**173**	**82.4**
	21 to 23 years	28	13.3
	24 to 26 years	9	4.3
Gender	**Female**	**153**	**73**
	Male	57	27
Educational Qualification	**Under Graduate**	**106**	**50.5**
	Post Graduate	31	14.8
	Professional	59	28.1
	Philosophy	14	6.7
Source of Awareness	**Teachers**	**92**	**43.8**
	Friends	48	22.9
	Websites (Youtube)	34	16.2
	Journals and Magazine	36	17.1
Time/ Hours spent for learning	Less than one hour	64	30.5
	2 hours	**84**	**40.0**
	3 hours	44	21.0
	More than 3 hours	18	8.6
Main Purpose of usage of AI & social media	Content development	64	30.5
	Online Learning Portal	**84**	**40.0**
	Editing Document	44	21.0
	Project Work	18	8.6

Source: Primary Data
Inference:
Age:
The table 1 reveals that age of the respondents varied from 18 to 26 years. A large number (173) of 82.4 percent of the respondents were in the category of 18 to 20 years, followed by 13.3 percent of them from the category of 21 to 23 years, and followed by 24 to 26 years with 4.3 percent. It is observed that maximum number of respondents were in the age group of 18 to 20 years.
Gender:
The table 1 reveals that gender of the respondents where it is observed that maximum number (153) of 73 percent of them belong to the category of female, followed by 57 percent of them belong to male respondents.
Educational Qualification:
From table 1 the findings showed that the majority of them belong to the category of Undergraduate with the percent of 50.5, followed by 28.1 percent of them belong to the category of professional, 14.8 percent of them comes the category of post graduate and followed by 6.7 percent of them belong to philosophy.

Source of Awareness:

It is observed from table 1 that majority of there are aware through teachers with the 43.8 percent, followed by 22.9 percent of them belong to the category of friends, followed by 17.1 percent of them belong to the category of journals and magazine, and followed by 16.2 percent of them belong to the category of websites.

Time/Hours spent:

The findings from table 1 reveals that majority 40.0 percent of them belong to 2 hours of time spend in using AI and social media, followed by 30.5 percent of them belong to the category of spending less than one hour, followed by 21.0 percent of them belong to the category of 3 hours, followed by 8.6 percent of them belong to the category of spending more than 3 hours.

Main Purpose of Usage:

Regarding table 1 it shows that majority of 40.0 percent of them mainly used for online learning, followed by 30.5 percent of them belong to the category of content development, followed by 21 percent of them belong to the category of editing document, and followed by 8.6 percent of them belong to the category of project work.

Friedman Rank Test

The reason for the student to depend towards artificial intelligence and socio media for academic performance

Table: 2 The reason for the student to depend towards artificial intelligence and socio media for academic performance

Ranks		
Particulars	Mean Rank	Rank
Curriculum	1.65	1
Computer skills	2.50	2
Research development	3.28	3
Complementary services	3.60	4
Expectations and interests	3.96	5

Test Statistics^a	
N	210
Chi-Square	310.228
df	4
Asymp. Sig.	.000
a. Friedman Test	

From the above table, it is clearly shown that "Curriculum" mean value of 1.65 ranked highest among the respondents, followed by "Computer skills" with mean value of 2.50, followed by "Research development" with a mean value of 3.28, followed by "Complementary services" with the mean value of 3.60, "Expectations and interests" has the mean value of 3.96 has been ranked least among the respondents.

Limitations of the study

- The study is conducted only for the college students, might be of any streams has been considered.
- The study has been conducted only within Coimbatore city.
- The analysis has been conducted only for short term period, so in-depth analysis is not possible.

Suggestion

- Educational institutions could develop systems to track student performance alongside their usage of AI tools and social media platforms. This data-driven approach will help identify patterns, providing insights into how the two technologies influence academic success.
- Encourage students to self-assess their academic progress in relation to their usage of AI and social media through surveys, reflection journals, or academic progress tracking apps.

- Parents and educators should play an active role in guiding students on the effective use of AI and social media. By understanding these technologies, they can help students create boundaries and use AI tools to their fullest academic potential while discouraging excessive social media usage that hinders learning.

Conclusion

This study underscores the importance of striking a balance between leveraging AI for academic purposes and managing social media usage to minimize its detrimental effects. While AI has the potential to revolutionize the way students learn and achieve academic success, the overuse or misuse of social media can hinder this progress. Therefore, students must develop digital literacy skills to use these technologies effectively, educational institutions should promote the responsible use of both AI and social media, and educators should guide students in optimizing these AI tools for academic growth. Hence, future strategies can be developed to ensure that students harness the power of these technologies to enhance their academic performance rather than detract from it.

Reference

1. Chen, X., Xie, H., Zou, D. and Hwang, G-J., 2020. Application and theory gaps during the rise of Artificial Intelligence in Education. Computers and Education: Artificial Intelligence, 1, pp. 1-20. https://doi.org/10.1016/j.caeai.2020.100002.
2. Dinu, V., 2011. The Knowledge - Based Economy: Implications for Higher Education in Economics and Business. Amfiteatru Economic, 13(30), pp. 343-344.
3. Dai, Y., Chai, C.-S., Lin, P.-Y., Jong, M.S.-Y., Guo, Y. and Qin, J., 2020. Promoting Students' Well-Being by Developing Their Readiness for the Artificial Intelligence Age. Sustainability, 12(16), article no. 6597. https://doi.org/10.3390/su12166597.
4. Jeffrey, T., 2020. Understanding College Student Perceptions of Artificial Intelligence. Systemics, cybernetics and informatics, 18(2), pp. 8-13.
5. IAU. (2020). COVID-19: Higher education challenges and responses. International Association of Universities. Available from: https://www.iau-aiu.net/COVID-19-Higher-Education-challenges-and-responses
6. Wu, J. H., Tennyson, R. D., & Hsia, T. L. (2010). A study of student satisfaction in a blended e-learning system environment. Computers & Education., 55(1), 155–164. https://doi.org/10.1016/j.compedu.2009.12.012
7. Zhang, P. & Goel, L. (2011). Is e-learning for everyone? An internal-external framework of e-learning initiatives. Online Learn Teach., 7(2), 193–205. https://jolt.merlot.org/vol7no2/goel_0611.pdf37
8. F. Giunchiglia, M. Zeni, E. Gobbi, E. Bignotti, I. Bison, Mobile social media usage and academic performance, Comput. Human Behav. 82 (2018) 177–185, https://doi.org/10.1016/j.chb.2017.12.041
9. M. Shafiq, K. Parveen, Social media usage: analyzing its effect on academic performance and engagement of higher education students, Int. J. Educ. Dev. 98 (2023) 102738, https://doi.org/10.1016/j.ijedudev.2023.102738
10. M.F. Shahzad, S. Xu, O. Rehman, I. Javed, Impact of gamification on green consumption behavior integrating technological awareness , motivation , enjoyment and virtual CSR, Sci. Rep. (2023) 1–18, https://doi.org/10.1038/s41598-023-48835-6