IMPACT OF AI USAGE ON UNDERGRADUATE STUDENTS' UTILIZATION OF LIBRARY SERVICES

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ABSTRACT

AI (Artificial Intelligence) is one of the biggest digital transformation in all sectors. In the field of education, artificial intelligence has become an important stepping stone, shaping how students access and use library resources. This study explores and balance the positive and negative effects that AI may have on the academic library experience for undergraduate students. This study will examine how generative AI can potentially improve discovery and retrieval, personalize learning and engagement, and enhance digital literacy and information evaluation. The primary goal was to explore the extent to which AI has motivated the use of books and the library services, and to analyse how much students rely on AI for their academic needs. The potential advantages of using AI for students will be examined, and the effect of AI on students' usage of library books will be investigated through a questionnaire designed to gather their opinions. For this study, undergraduate students from Mangalore were taken as respondents. This study will guide the analysis of AI adoption among students, followed by an evaluation of its impact on their utilization of books and library resources.

Key words: Artificial Intellegence, Digital Tranformation, Library services, books, students

INTRODUCTION

In the education industry, technology is used for making innovations in which we learn & teach and made education more accessible to people of all ages and backgrounds. Online courses, virtual classrooms and educational apps have made it easier for people to learn at their own pace, space and on their own time. It improves the quality of service offered, making tasks easier, and expanding the capabilities. Technology has had a major effect on education, making learning more accessible and interesting.

Artificial intelligence (AI) is quickly becoming an essential part of our everyday lives, transforming industries and reshaping the way we work, learn and communicate. In the field of education, AI holds a great commitment in challenging the learning experience for students. To ensure that all students are not only well-equipped for their academic futures but also for workforce development. AI has the potential to innovator of the education sector by enriching the learning experiences, supporting teachers and offering more customised learning opportunities for students.

It is impractical to imagine a college without a library. A must required stop on campus tours, the library is the physical expression of the core values and various activities of academic life. The size of the collection is used as an indicator of academic quality of the college life. Traditional libraries play an important role in education by providing students, faculty, and researchers with access to a vast collection of resources. These libraries are typically housed within academic institutions and are assisted by trained professionals who help the students and others navigate the library's resources. In addition to physical books and journals, traditional libraries offer access to electronic resources such as online databases, e-books, and e-journals. These resources are often required for research in various fields of study and are frequently

updated to ensure the most current information is available. Traditional libraries also offer a variety of services to support students in their academic pursuits, such as reference services, interlibrary loan, and instruction in information literacy skills. These services are valuable for students who are just beginning their academic journey and need assistance in the vast array of resources available to them. Therefore, traditional libraries remain as an essential part of education for the students in their academic success.

In the digital age, libraries face many challenges in managing vast amounts of information, providing efficient services, and ensuring a seamless user experience. Traditional library systems have been slowly transformed by the integration of automation and information technologies like Artificial Intelligence.

With the revolution of AI, students are gradually shifting away from traditional library setups, depending more on the readily available, on-demand information AI provides. While this convenience enhances accessibility, it also surpress their critical thinking, creativity, and analytical skills, as knowledge is effortlessly obtained with just a single click.

LITERATURE REVIEW

Goyenka (2003) students who more frequently use the library reflect a studious work ethic and engage in academically challenging tasks that require higher-order thinking. Although certain student background characteristics (race, major, year in school, transfer status, access to computers) affect the nature and frequency of students' library activities, the library appears to be a positive learning environment for all students, especially members of historically underrepresented groups. At the same time, library use does not appear to contribute directly to gains in information literacy and other desirable outcomes. This is not surprising, as rarely does any single experience or set of activities during college affect student learning and personal development one way or the other; rather, what is most important to college impact is the nature and breadth of a student's experiences over an extended period.

Anderson (2022) The library architecture and space encode certain values and convey certain messages and we have witnessed considerable adaptation in the university library architecture. Over the last three decades the university library has been implicated in the global struggles and challenges of the university and, consequently, has shifted considerably from their traditional anchor points, becoming increasingly more organic, growing in scope and reach in new directions. In contemporary times university libraries are under increasing pressure to deliberate endlessly on what it means to be a library user and how such users consume and interact with digital technologies and assorted spaces within the library.

Aithal (2023) it is important for higher education libraries to carefully consider the implementation of ChatGPT technology and weigh the benefits and drawbacks. While it has the potential to improve efficiency and accessibility, it is important to balance these benefits with potential negative impacts on staff and student experience. By taking a thoughtful and strategic approach to the implementation of ChatGPT, higher education libraries can maximize the benefits of this technology while minimizing potential negative impacts. It can be argued that ChatGPT-based AI systems can be compliments instead of replacements of entire physical and digital library systems).

Manjunatha (2023) The integration of Artificial Intelligence (AI) in libraries presents significant strengths in rendering library services. AI offers libraries the potential for efficient information retrieval and management, enhanced user experiences through personalization, automation of routine tasks, and improved decision-making through data analysis. However, constraints such as ethical considerations, technical hurdles, and concerns about job displacement should be carefully addressed and the integration and impact of AI in libraries mark an exciting juncture in the evolution of these venerable institutions. AI is not merely a tool but an enabler of progress, a beacon guiding libraries toward a future where information is stored, intelligently curated, and made readily available to all. The AI-powered library is a symbol

of progress, a witness to our ability to harness innovation in service of knowledge and society.

Adekanye (2024) study examined the relationship between artificial lntelligence utilization and library service quality in University of Lagos Main Library. Although the research did not find a significant influence of the robot on service quality, it did identify crucial areas for improvement within the library itself. The results show how urgently the issue of insufficient space for group learning and insufficient computer workstations needed to be addressed. Improving workstation availability and space arrangement, especially in high-traffic areas, will improve user experience immediately

Meakin (2024) AI will have implications for the information skills training that libraries currently provide their students and which form an important part of the library services offered. Indeed, academic libraries have already begun to explore the implications of AI in associated training material and are developing library guides to support student use of AI. Libraries could use "virtual assistants" in the form of AI Chatbots to improve service quality, which will overcome the time and geographical divide in marketing and promotion of library resources to HE students. 49 The online 24/7 availability of these virtual assistants means that HE students will likely believe that using them will be free of effort and will enhance their academic ability and performance. The fact that these "assistants" will provide information readily and supply verifiable academic support and references will impact HE students' attitude towards the virtual assistants so that students will have positive feelings about using a virtual assistant.

OBJECTIVES OF THE STUDY

- To analyse the extent of AI usage among students.
- To assess students' perception and trust in AI for academic purposes.
- To examine students' library utilization patterns.
- To assess the impact of AI usage on library services.

Methodology:

For the purpose of this study questionnaire was prepared based on the objectives and distributed to undergraduate students of Mangalore. Around 132 students responded and based on the data analysis was done and result generated.

Result:

Based on the study and response received from the undergraduate students. The analyses were in four parts: demographic characteristics of participants, AI usage habit, and Library utilization pattern and perception of AI impact in usage of library services.

Demographic Information		
Age:	**Respondents**	**Percentage**
18-20	112	84.8
21-23	20	15.2
24 & Above	0	0
Total	**132**	**100**
Gender:		
Male	48	36.4
Female	84	63.6
Prefer not to say	0	0
Total	**132**	**100**
Year of study:		
I Year UG	46	34.8
II Year UG	52	39.4
III Year UG	34	25.8
IV Year UG	0	0
Total	**132**	**100**
Field of study		
BBA	78	59.1
BCA	40	30.3
BA	12	9.1
BCOM	2	1.5
Total	**132**	**100**

The majority of respondents (84.8%) are aged 18-20, meaning most students surveyed are in the

early years of their undergraduate program. Only 15.2% are aged 21-23, indicating fewer students in the later years of their undergraduate programme. The total (132 respondents) suggests that all students fall within these two age categories, with none explicitly listed as "24 & above".

Male students make up 36.4% of the respondents. Whereas Female students represent 63.6%, indicating a higher participation of female students in the survey.

II Year UG students form the largest group at 39.4%. I Year UG students follow with 34.8%, showing a significant presence of fresher's. III Year UG students make up the lowest proportion at 25.8%, possibly due to lower survey participation or a smaller cohort size. Out of the undergraduate student respondents BBA students form the largest group (59.1%), indicating the program's popularity. BCA students make up 30.3%, the second most chosen field. BA students account for 9.1%, and BCOM students are the least represented at 1.5%. This suggests that BBA and BCA programs dominate the respondent pool, with fewer students from Arts and Commerce.

AI USAGE HABITS		
How often do you use AI tools (e.g., ChatGPT, Grammarly, Gemini, AI search engines) for academic purposes?	**Respondents**	**percentage**
Never	10	7.6
Rarely (once a month or less)	34	25.8
Sometimes (a few times a month)	32	24.2
Often (a few times a week)	42	31.8
Always (daily)	14	10.6
Total	**132**	**100**
Which AI tools you frequently use?		
Chat GPT	104	50
Grammarly	6	2.9
AI based search engine	34	16.3
Gemini	34	16.3
Gama	12	5.8
Deepseek	8	3.8
Meta AI	10	4.8
Total	**208**	**100**
What academic work do you primarily use AI for?		
Assignment writing	90	26.8
Writing and editing	44	13.1
Solving technical problems	50	14.9
Studying or summarizing ma…	78	23.2
Preparation of Presentation	74	22.0
Total	**336**	**100**
On a scale of 1 to 5, how much you trust AI tools for academic purpose?		
1 not at all	6	4.5
2 Slightly	16	12.1
3 Moderately	60	45.5
4 Very much	38	28.8
5 completely	12	9.1
Total	**132**	**100**

Majority of students (31.8%) use AI tools "often" (a few times a week), indicating regular reliance on AI for academic work. 24.2% use AI "sometimes", meaning occasional but consistent use. 25.8% use it "rarely" (once a month or less), showing a moderate level of dependence. Only 10.6% use AI daily, suggesting that constant AI use is less common. 7.6% never use AI tools, indicating a small group that avoids them entirely. Majority of students use AI frequently, but daily use remains limited.

ChatGPT is the most popular AI tool (50%), showing its widespread adoption for academic

assistance. AI-based search engines (16.3%) and Gemini (16.3%) are the second most used, likely for research purposes. Grammarly is used by only 2.9%, suggesting that students rely less on AI for grammar and editing. But other tools like Gama (5.8%), Deepseek (3.8%), and Meta AI (4.8%) have lower adoption rates.

Assignment writing (26.8%) is the top use case, showing that students rely on AI for academic submissions. Studying/Summarizing material (23.2%) and Presentation Preparation (22%) are also significant uses, indicating that AI aids in comprehension and academic projects. Solving technical problems (14.9%) suggests AI is used for coding, problem-solving, or STEM-related subjects. Writing and editing (13.1%) is the least common use purpose, possibly because students prefer manual editing or human proofreading.

45.5% trust AI "moderately", showing cautious but open usage. 28.8% trust AI "very much", indicating strong confidence in AI's and its reliability. Only 9.1% trust AI "completely", meaning few students rely on AI without any hesitation. 12.1% have low trust ("slightly") and 4.5% do not trust AI at all, suggesting some reservations about AI's accuracy and still depending on traditional method to get the information. Overall most students trust AI, very few rely on it completely.

LIBRARY UTILIZATION PATTERN		
How often do you visit the college library (physically or online)?	**Respondents**	**Percentage**
Never	2	1.5
Rarely (once a month or less)	38	28.8
Sometimes (a few times a month)	44	33.3
Often (a few times a week)	42	31.8
Always (daily	6	4.5
Total	**132**	**100**
What services do you prefer to use in the library?		
Borrowing Books	76	27.0
Study spaces	78	27.7
Books Reference assistance from librarians	22	7.8
Online library resources (e-books, journals)	34	12.1
Question Bank Reference	72	25.5
Total	**282**	**100**
Has your interval of library use changed since you started using AI tools?		
Yes, I use the library lessYes,	48	36.9
I use the library more	12	9.2
No, my library usage has stayed thesame	70	53.8
Total	**132**	**100**

Most students visit the library occasionally, 33.3% visit a few times a month. 31.8% visit a few times a week. This suggests a moderate but regular engagement with the library activities. 28.8% visit rarely (once a month or less), showing a significant number of students use the library irregularly. Only 4.5% use the library daily, while 1.5% never visit library at all, indicating minimal daily dependence.

When asked why library is used for it revealed a answer Study Spaces (27.7%) and Borrowing Books (27.0%) are the most commonly used services. Question Bank Reference (25.5%) is also widely used, likely for exam preparation. Online Library Resources (12.1%) have relatively lower usage, suggesting that students may prefer physical books or other AI-based digital tools. Reference assistance from librarians (7.8%) is the least utilized service, indicating a shift towards technology and self-directed learning.

A significant portion (36.9%) reported using the library less due to AI. Only 9.2% use the library more after AI adoption, showing that AI tools have

not significantly increased library activities. 53.8% reported no change in library usage, indicating AI has not drastically affected traditional library habits for over half of the students.

For open question reasons for less usage of library Some students reported no change in their library usage, while others cited reasons for reduced visits. Common reasons include the convenience and speed of AI tools, the ease of accessing information on devices, and a lack of patience or time to search through books due to classes. A few students still appreciate the library for studying and reading, emphasizing that AI cannot replace the library experience

PERCEPTION OF AI IMPACT ON USAGE OF LIBRARY

To what extent do you agree with the following statements?	Stringly DisAgree	Disagree	Neutral	Agree	Strongly Agree
AI tools have reduced my need to visit the library.	13	36	50	20	13
AI tools help me find information faster than library resources.	12	18	24	50	28
I still rely on library resources for reliable academic materials despite using AI.	10	28	46	34	14
AI tools complement my library research rather than replace it.	10	22	48	40	12
I prefer guidance from librarians over AI tools for complex research.	14	18	74	20	6

The table presents responses on the impact of AI tools on library usage.

- A total of 49 respondents do not feel AI has significantly reduced their library visits. Some students rely on AI instead of the library, a larger group still sees the library as important place and space for academic pursuits.
- 78 respondents acknowledge AI's speed advantage. The students find AI faster than traditional library research.
- There is a balanced response and no overwhelming preference, but many still trust the library for academic reliability.
- AI is seen more as a supplement than a full replacement of libraries for students.
- There is no strong preference for librarians over AI, but some students still value human guidance.

Do you believe AI can fully replace the library resources in academic for students?	Respondents	Percentage
yes	32	24.2
No	58	43.9
May Be	42	31.8
Total	**132**	**100**

43.9% of respondents strongly believe AI cannot fully replace library resources, indicating a strong preference for traditional academic sources. 31.8% are uncertain ("Maybe"), suggesting that students recognize AI's potential but still see value in libraries. 24.2% believe AI can fully replace library resources, meaning a quarter of students are confident in AI's ability to provide all necessary academic materials compare to library. Students might be open to AI's potential but still see gaps in reliability, depth, or credibility.

Students believe AI and libraries should work together rather than replace one another. AI is seen as an helper, not a alternative for libraries. A few students expressed that AI lacks originality, creativity, and emotional depth in comparison to books. AI-generated content is often perceived as repetitive and unoriginal, whereas books provide a deeper thought process. Some students emphasized the importance of both AI tools and traditional library resources for academic and research purposes.

DISCUSSION

AI is used more frequently than library visits. Most of the students use AI tools daily (10.6%) compared to daily library users (4.5%). AI is primarily used for academic tasks like writing, summarizing, and presentations, while libraries are valued for physical study spaces, book borrowing, and reference materials. The maximum of students (74.3%) have at least moderate trust in AI tools for education purposes, which might influence their reduced dependency on library resources. AI has contributed to a reduction in library visits for a significant portion (36.9%) of students, indicating that AI is replacing some traditional library functions. Trust in AI among the students is high, which is leading to reduced library usage for some students. AI tools are supplementing or replacing some library functions, but the library remains relevant for certain academic needs.

AI is widely identified for its speed and convenience. Students should consider AI as more of a complement than a replacement of entire physical and digital library systems.

RECOMMENDATIONS:

- Based on the research findings, here are some recommendations to enhance the balance between AI tools and library usage for academic study among students:
- Use library-supported AI tools that help students locate relevant books and academic papers more efficiently and effectively.
- Provide training sessions to students on effective use of AI tools for while cross-referencing with library materials for accuracy.
- Educate students on AI's strengths and problems, of AI-generated contents.
- Highlighting the importance of books and libraries for deeper, original, and creative thought processes.
- Extend library hours or introduce digital library solutions to accommodate students with limited time.
- Encourage students to seek human expertise for complex topics where AI tools may fall short.
- Realising the students about the reliability and academic credibility of library materials.
- Providing information of students who effectively used both AI and library resources for academic purpose.

CONCLUSION

Artificial Intelligence holds tremendous power to redefine education, making it more personalized, accessible, and effective. From adaptive learning paths to virtual reality experiences and predictive analytics, AI technologies can transform the way students learn, grow, and succeed. By introducing AI in education in school and colleges, we can equip students with the required skills and knowledge to success in a future that increasingly depends on technological advancements.

The integration of Artificial Intelligence in Education represents a paradigm shift in education, which doesn't replace but actually empowers educators with tools to personalize instruction, enhance communication, and make informed decisions. Still, as we accept the transformative potential of AI, it's necessary to maintain a balance between technology and human interaction, recognizing the continued importance of educators in guiding learners and nurturing critical thinking skills among the students.

AI is not replacing libraries for students, but rather acting as a tool to enhance the library experience by automating repetitive tasks, allowing librarians to focus on more personalized guidance, critical thinking skills, and information literacy, which are areas where AI currently cannot fully replicate human expertise; essentially, AI is meant to complement librarians, not replace them.

The implementation of AI in schools and colleges has both positive and negative effects. On the positive side, AI can provide quick and accurate answers to student queries, freeing up time for more complex tasks. It can also help to expand the reach of the library, making it more accessible to students outside of regular hours. However, there are also some negative effects to consider, such as concerns around privacy and security when using AI-based technology. AI can help in improving writing skill and generate ideas, but it cannot replace the thought process and creativity found in books. AI is not as creative, and AI-generated content often lacks originality and variety. While AI can compile and generate content based on existing works, it cannot produce truly original work with depth and emotion. Therefore, it cannot replace books.

Lastly, AI may not be able to provide the same level of customised assistance as human staff, which could affect the overall quality of the student experience in their school and college life.

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