PERSPECTIVES ON THE ROLE AND IMPACT OF AI IN EDUCATION

Project Report

Submitted by

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Under the guidance of

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In partial fulfilment of the requirements for award of the degree of

Bachelor of Management Studies (International Business)

ST. TERESA'S COLLEGE (AUTONOMOUS), ERNAKULAM

COLLEGE WITH POTENTIAL FOR EXCELLENCE

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ST. TERESA'S COLLEGE (AUTONOMOUS), ERNAKULAM,

KOCHI – 682011

CERTIFICATE

This is to certify that the project entitled "Perspectives on the role and impact of AI in Education" is a Bonafide record submitted by Ms. Rachel Jil, Reg. No. SB21BMS027, in partial fulfilment of the requirements for the award of the degree of Bachelor of Management Studies in International Business during the academic year 2021- 2024.

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INTERNAL FACULTY GUIDE

DECLARATION

I, Rachel Jil, Reg. No.SB21BMS027, hereby declare that this project work entitled "Perspectives on the role and impact of AI in Education" is my original work.

I further declare that this report is based on the information collected by me and has not previously been submitted to any other university or academic body.

DATE: **RACHEL JIL**

REG. NO. SB21BMS027

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EXECUTIVE SUMMARY

This study explores the role and impact of Artificial Intelligence (AI) in education. The study investigates how familiarity with AI technologies leads to increased usage of AI tools by students, and the roles it plays in improving student education. While respondents value AI for automating tasks and freeing up time for critical thinking, they tend to use it more for academic purposes than personal development. There is a positive perception of AI enhancing learning, but concerns exist about over-reliance, hindering critical thinking. Technical difficulties, inadequate prompts, inaccurate feedback, and privacy issues were also cited. Despite these worries, the benefits outweigh the drawbacks for most, highlighting the potential of AI in education. The study also finds that simulations are seen as effective for grasping theoretical concepts. Interestingly, personality traits like introversion and extroversion have a role in influence of AI tool usage. Overall, the research suggests AI is becoming a valuable tool in education, offering improved efficiency, deeper understanding, and a more engaging learning experience. Addressing user concerns about over-reliance and technical issues will be crucial for wider adoption. The findings suggest opportunities for EdTech and other IT companies to refine their products and functionalities, positioning AI to revolutionize education similar to the impact of smartphones.

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CHAPTER 1

INTRODUCTION

1.1 **INTRODUCTION TO THE STUDY**

Artificial intelligence (AI) is rapidly transforming our lives, including education. Al's ability to analyse data, personalize experiences, and automate processes has the potential to completely transform the way we learn and teach. Al systems can handle massive volumes of data, recognize patterns, and make data-driven judgements. Before the birth of educational AI tools, learning always faced difficulties. Remember clambering over classmates at the library, anxiously looking for that one book required for a project? Textbooks were our lifelines, yet, delving further into a subject felt like navigating a maze while blindfolded. Large class numbers required teachers to be superheroes balancing a large number of students, and occasionally that critical question you had got lost in the chaos.

Fast forward to present, and artificial intelligence (AI) has transformed the way we learn. Personalized learning routes - AI tutors who work as your digital guide, identifying your strengths, weaknesses, and learning style. No more information overload; AI adjusts the difficulty level of the content based on your progress, keeping you challenged but not overwhelmed. Need help reading that essay feedback? AI can analyze your work and provide fast feedback.

This enables Personalized Learning, in which Al instructors adjust learning routes to individual students' requirements, skills, and limitations. Adaptive Learning Al systems can alter the difficulty level of content based on a student's performance, ensuring that they are not overwhelmed or underchallenged. Automated Assessment is an approach in which Al swiftly grades multiple-choice questions and even provides feedback on essays, freeing up teachers' time for more interactive teaching.

As Al evolves, the next generation may expect a more integrated learning experience, such as Al-powered interactive simulations that can build immersive virtual settings for students to study complicated concepts in business, science, history, and even social issues. Real-time feedback, Al instructors provide rapid feedback and direction during practice tasks, allowing students to self-correct and enhance their understanding. Language learning partners, which are Al- powered chatbots, can imitate interactions with native speakers, giving students personalized language practice opportunities.

Several Al tools are already having an impact in education. Large language models such as Gemini and ChatGPT can answer student questions, provide summaries of hard topics, and even assist with creative writing. Intelligent tutoring systems These Al-powered systems provide personalized learning paths, practice assignments, and feedback based on each student's specific needs. Al is widely used in educational apps and platforms to produce interactive video simulations. These can bring abstract ideas to life, making them easier to grasp and retain. Educators may use Al's skills to create a more interesting and effective learning environment, instilling a love of learning in students from all backgrounds and academic fields.

However, it is important to acknowledge the fact that AI should be employed as a supplementary tool to enhance, not replace, the irreplaceable role of skilled teachers in educational community.

1.2 STATEMENT OF THE PROBLEM

AI has the potential to revolutionize personalized learning, develop individual's cognitive abilities, improve evaluation, and provide interesting educational experiences. In this study the researcher attempts to critically analyse the potential benefits of AI integration. Through this Edtech firms can analyse different roles AI can display to enhance learning, from theoretical to hands on experience regarding various business scenarios and other education streams, paving the way for a future in which AI enables a more effective, engaging, and equitable learning experience for all**.** The researcher also tries to find if there is any correlation between the Extroversion / Introversion of an individual in using AI tools.

1.3 LITERATURE REVIEW

Artificial Intelligence (AI) has come a long way since its inception in the year 1950– 1956. Evolving from the realm of science fiction into a progressive indispensable technology that is changing each industry sectors like healthcare, e-commerce and education. Artificial Intelligence is described as an array of computer programs and technologies that mimic human's brain functioning and intellect.

AI-systems are known to be mechanically intelligent, capable of executing repetitive tasks, and/or thinking – intelligent, learning from data and adapting their performance accordingly. Machine learning and deep learning are two such methods that help in learning data (Huang, Rust & Maksimovic,2019) (Akanksha Jaiswal & C. Joe Arun, 2021). According to Tom Mitchell (1997), Machine learning is defined as the study of computer algorithms that allow computer programs to automatically improve through experience. It is a sophisticated process that uses statistical techniques to train machines to do cognitive tasks and solve problems. It's not just a simple "out-of-the box" outcomes and requires trained individuals, such as data scientists and machine learning engineers, to manage and supervise the algorithms. Since its innovations are evolving, there is an obstacle in finding availability of experts with knowledge and training in machine learning (Rameshbabu, Vijayakumaran, Prabhakar, 2023). On the other hand, deep learning is an element of artificial intelligence (AI) that use deep neural networks to process and analyse data. Algorithms of deep learning are similar to machine learning techniques that automatically learn and make judgements from vast amounts of data, recognizing patterns and anticipating outcomes. Thus, AI systems can be applied to come up with natural language processing, speech recognition, recommendation systems, healthcare, computer vision tasks like image recognition, object detection (Ghosh & Thirugnanam,2021).

1.3.1 AI familiarity

It is of no doubt that involvement of technology in education as brought immense development in student's learning outcomes, especially in improving cognitive and critical thinking skills. Hence, since individuals are used to technology, they are also familiar to AI – technology. AI development offers numerous perks that fascinate people; yet, as technology advances, they tend to become more redundant because AI gadgets may one day become cleverer and more capable than humans. According to research, people's actual behaviour is usually governed by their goals and willingness to participate in a specific activity. In other words, if people intend and are willing to do something, they are more likely to carry it out. Furthermore, studies on

service robots, such as those done, have shown that people's willingness to adopt the technology is positively influenced by their perceived trust and comfort in utilizing AI gadgets (Barbul M. and Bojescu, 2023). Recent article about AI evolution has mentioned that during early 2000s, artificial intelligence (AI) did not receive the recognition it has today, AI did exist but researches were going on different areas like natural language processing, computer vision, and robotics, paving the way for today's AI revolution (Bernard Marr, 2023). With the launch of Generative Pre-trained Transformer (GPT) by OpenAI clearly shows how AI has evolved in the past years. Hence, the release of OpenAI's ChatGPT, an advanced language model that is exposed to vast amount of data which helps in engaging interactive and dynamic conversations with users, providing human-like responses (Stibbs, Woo and Brody, 2023). Unlike other chatbots that work on fixed scripts, ChatGPT has more flexible and dynamic approach. It is able to give human nature responses to the given prompts. Gemini is Google's conversational AI chatbot, designed to function similarly to ChatGPT, with the main distinction being that Google's service gets its knowledge from the web. (ChatGPT data is limited to 2021.) Gemini, like most AI chatbots, can code, solve math problems, and assist with writing tasks. This chatbot was first revealed on February 6 by Google and Alphabet CEO Sundar Pichai. Google Bard was published just over a month later, on March 21, 2023. Almost a year later, Bard was renamed Gemini. Fast forward to today, these apps as well as other apps such as quillbot, perplexity are widely used by students for their Homework assistance as virtual study assistants and personal development guidance (Zikra Riyaz and Suvaid Salim, 2023).

1.3.2 AI Usage

AI seeks to advance on a daily basis, opening the path for it to be used as a tool to do any activity with ease. Artificial intelligence (AI) applications are employed in numerous areas, including e-commerce, education, healthcare, and marketing. In a recent study it was found that only 20% of respondents utilized AI in 2017, but this figure is expected to rise to 50% by 2022. In addition, 44% of organizations plan to integrate AI into their present applications. Furthermore, two-thirds of companies have used or plan to use AI to achieve their sustainability goals (Forbes Advisor,2024). Indeed, many sectors of society have the potential to benefit from AI developments. As for education, artificial intelligence (AI) is being applied in various tasks in the education system. From automating grading for multiple -choice and fill-in-the -blank tests, identifying areas of improvement in online courses through AI tutors. Thus, providing personalization and interactivity in the learning provided. Artificial intelligence integrated education applications can facilitate communication and collaboration among student and

teachers and eventually improving students cognitive and critical thinking skills (Suyuti, Jamil and Aditia, 2023).

With the help of technology and artificial intelligence (AI), we can create video simulations that can help students understand the real-world scenarios thoroughly instead of only theoretical practice. A survey was conducted to understand how college students perceive the use of video simulations in their learning routine. The study identifies four stages in online learning: login, core learning, social interaction, and evaluation. The use of virtual simulation instruction considerably enhanced college students' academic achievements, with all participants in the test obtaining above 90 points on the final assessment. Therefore, the involvement of video simulation teaching method contributed engagement and interactivity which helped in building active learning consciousness of students contributing to improved academic performance (Li et al., 2023). In another study to analyse college student's perception on using artificial intelligence in their learning routine, data was collected and the analysis of comments were positive. One of the student's perceptions was Artificial intelligence is an important tool for improving technology, fostering new advancements in medical and standard technologies, and assisting in research and discovery, as technology evolves and improves over time. I Whereas, the other student showed concern expressed most commonly by participant. They feel that in the wrong hands and without proper care, the adverse effects might be disastrous. Another respondent believes that AI, like all technological developments, will eventually run its course, and that humans will always have power since AI will only be as "smart as they decide to make them"(Thomas Jeffrey, 2023). As a result, AI in education has enormous potential to personalize learning, increase engagement, and eventually improve student results; yet, concerns about responsible development and human control over AI must be addressed.

1.3.3 Impact of AI

AI is impacting many industries and the education sector is one among them. There is no doubt, that use of AI in education has transformed traditional learning to modern learning method. Use of AI technologies in education doesn't confine to smart learning, tutoring. It also includes virtual facilitators, online learning environments, learning management systems.

One of the impacts in using AI is it helps in eliminating learning gaps. For instance, use of AI – based system that allows you to deliver subtitles in real – time application mode. If students face trouble in understanding the language being communicated, they can apply these systems to understand it in their native language, with the help of Machine Translation.

Previously, computers used to evaluate multiple-choice tests, such as Olympiads. This has led to advancements; you can grade written responses including paragraphs and assertions using computers (R. Jayadurga, S. Rathika,2023)

1.4 SIGNIFICANCE OF THE STUDY

This research focuses on areas that students require assistance of AI to tailor their learning experience so that they receive personalized education that suits their unique requirements and learning preferences. Therefore, resulting in enhanced engagement, achieving better academic results and more understanding of the study materials. It also looks into how AI can support instructors in their roles, making students understand concepts which teachers might feel tough to convey, freeing them from paper grading duties to concentrate on helping students develop their critical thinking and creativity. This promotes a more engaging and stimulating educational environment.

1.5 SCOPE OF THE STUDY

This research project will focus on comprehensively exploring the role and impact of AI in education. It will investigate the applications of AI in educational settings using exiting in – demand AI tools and incorporating intelligent tutoring systems, adaptive learning platforms and AI –powered simulations providing a better learning experience. As a result, this study assists in exploring new dimensions in education.

1.6 OBJECTIVE OF THE STUDY

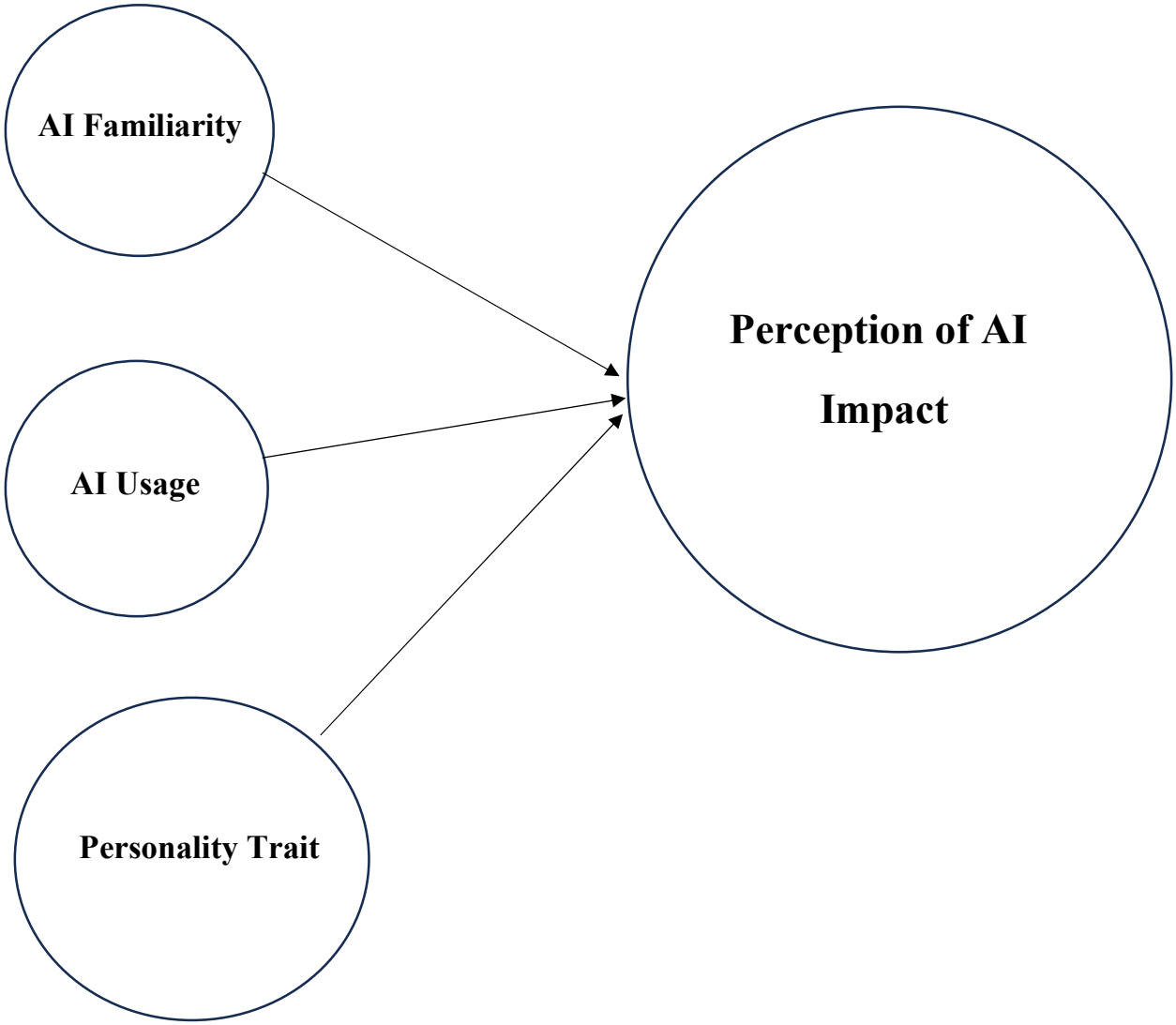
This research project aims to achieve the following key objectives:

1. The study aims to explore the potential benefits of AI in education, including personalized learning experiences, enhanced evaluation methods, and the creation of engaging learning environments.
2. Analyse potential issues with AI integration, such as algorithm bias and over-reliance on technology in education.

3. Identify effective strategies for integrating AI tools in classrooms while maintaining teacher involvement and fostering critical thinking and social-emotional learning skills.
4. Create recommendations for edtech firms and educators based on the research findings, the study intends to give practical direction to them on harnessing the potential of AI while addressing ethical concerns and guaranteeing equitable access to AI-powered learning experiences.

1.7 CONCEPTUAL MODEL

Figure 1.7 Conceptual framework



1.8 RESEARCH HYPOTHESIS:

H1: There is a positive relationship between perception of impact of AI on education and the degree of familiarity of AI among instructors and students.

H2: There is a positive relationship between perception of impact of AI on education and the degree of usage of AI among instructors and students.

H3: There is a positive relationship between degree of familiarity of AI and degree of usage of AI among instructors and students.

H4: There is a difference in perception of AI impact between Introverts and Extroverts.

H5: There is a difference in Usage of AI between Introverts and Extroverts.

1.9 RESEARCH METHODOLOGY:

1.9.1 Data Collection

When it comes to data gathering, researchers employ two strategies. These strategies involve acquiring both primary and secondary data. The survey's foundational data were gathered quantitatively. The data is acquired via self-administered questionnaires that comprise questions on nominal, interval, ratio, and ordinal scales.

1.9.2 Sampling Method

The study included only students from age 15-24, hence the sample size was limited to 100 respondents due to limitations on time and resources. The respondents received questionnaires via social media sites, including Facebook, Instagram, WhatsApp, and LinkedIn.

1.9.3 Sample Technique

Non – Probability – Convenience Technique

There are two kinds of sampling techniques: nonprobability sampling technique and probability sampling technique. Using the probability sampling technique, every element in the sample has an established probability of being selected, and sampling units are selected at random. Techniques for probability sampling include cluster, stratified, plain random, and targeted sampling. However, sample items in the non-probability sampling technique are chosen using the individual's judgment. Techniques for non-probability sampling include judgment, quota, convenience, and snowball sampling. Convenience sampling is a type of non-probability sampling strategy that was employed in this study to ensure timely data collection and prevent poor response rates.

1.9.4 Tools used for data collection

The questionnaire has been thoughtfully created to satisfy the study's needs. The majority of the questions are written in nominal, ordinal, interval, and scales. The first section concentrates on the respondent's demographics. The second, third, and fourth sections include questions about the financial decision-making of women and the variables influencing in their decision-making routine.

1.9.5 Data Analysis Technique:

The entire data has been analysed using the SPSS software package. The tools used in the analysis in SPSS are as follows:

1. T - test
2. Regression

1.10 LIMITATIONS OF THE STUDY:

1. One of the main constraints had been time because the research was conducted in addition to academic work. So only a limited number of respondents were included in the data gathering.
2. Not able to get response from all educational streams, with a balance in the number of respondents.
3. Adding more questions will get more difficult as the answer rate drops.
4. A fair number of respondents were reluctant to fill out the survey.
5. Exploring and covering a broad population can appear challenging.

CHAPTER – 2

INDUSTRY PROFILE

2.1 Industry Profile

2.2.1 AI – Worldwide

In the early half of the 20th century, science fiction introduced the world to the concept of artificially intelligent robots. It started with the "heartless" Tin Man from The Wizard of Oz (1939) and ended with the humanoid robot who impersonated Maria in Metropolis (1927). By the 1950s, a generation of scientists, mathematicians, and philosophers had culturally adopted the concept of artificial intelligence (AI). Alan Turing, a young British polymath, was one such individual who investigated the mathematical possibilities of artificial intelligence. Turing proposed that humans solve issues and make judgements using both available knowledge and reason; why can't machines do the same? This was the logical that supports for his 1950 study, Computing Machinery and Intelligence, which described how to create intelligent machines and measure their intelligence. Fast forward to present, AI is being adopted by various sectors for the effective delegation of tasks. Despite the likelihood of future encounters whether negative or positive, they are ready to accept AI in their daily life.

The fact that this technology can train regular devices into smart devices utilizing machine learning techniques and algorithms. They are capable of taking in vast quantities of information, provide solutions to issues, and make decisions on their own. According to Forbes, an analysis was conducted by IBM to study the adoption rate of AI by each country. It showed Indian and Chinese enterprises are the leaders in AI adoption, with IT companies spending in AI with an annual growth rate of around 27% from 2021 – 2026. AI is quickly evolving, with potential ranging from Business to education. This technology has ability to deliver benefits in healthcare, including faster diagnosis and better treatment options based on larger health – related databases, improved healthcare procedures and operations for greater speed, reliability, efficiency, and effectiveness inside facilities. Also improved communication and cooperation between healthcare facilities and professionals. At present, companies such as Ezra and Zebra Medical Vision are using AI to aid in the early detection of cancer and osteoporosis in X-rays, hence increasing diagnostic speed and accuracy.

Furthermore, AI-powered robots are increasingly being employed in surgery to assist surgeons with complicated surgeries such as open-heart surgery. These robots give accuracy and control, resulting in effective surgeries with fewer problems, quicker recovery times, and less post-operative pain for patients. Apart from healthcare, artificial intelligence is used extensively in

the financial, IT and retail industries. In finance, its used for estimating market trends, predictive analytics, improving portfolio management, risk assessment, and fraud detection. As for IT sector, AI automates routine tasks, performs predictive analysis, and facilitates advanced system development in software development, data analysis, cybersecurity, and IT infrastructure management. Automation is one of the most significant ways that AI is transforming business IT operations. By automating repetitive, dull tasks, AI allows employees to focus on more important and creative tasks. For example, chatbots and virtual assistants manage consumer inquiries and support requests, which speeds up response times. It is also utilized to ensure quality control and maintenance. In retail industry, AI-powered chatbots and virtual assistants are becoming commonplace in finance and retail, delivering 24-hour customer care, answering questions, and even making personalized recommendations. Moreover, can be utilized for predictive analytics to improve inventory management, pricing strategies, and consumer interaction.

While most of the conversations surrounding artificial intelligence (AI) tools is directed at business. AI has the ability to modify education from a system based on memorizing facts to one that enables students to reach their full potential and learn critical skills through more personalized instruction. And, as AI technology advances, it becomes increasingly accessible for educators to employ AI tools in their classrooms and create personalized learning experiences. Some of the applications of AI are personalized learning, ongoing assistance during learning, use of Virtual reality (VR) in visualizing the theoretical study in making the whole experience of learning more effective developing critical skills and productivity. For instance, a leading language learning app, Duolingo assists in providing personalized learning approach in language learning using AI (Viktoriya Shamkina,2024). At present, some of the AI tools incorporated by students in education include Grammarly, otter.ai, Brainly, Nuance, Blackboard, Notion, Quill Bot, perplexity and many more. These tools include a variety of features, including homework assistance, personalised learning experiences, language learning support, essay writing assistance, lecture recording, transcribing, and much more, all of which improve student's overall educational experiences. Moreover, AI will rise rapidly in the educational sector in the future years. According to reports, the AI in education market is expected to witness a rising Compound Annual Growth Rate (CAGR) of roughly 36.14% to 47% by 2031, with an anticipated overall revenue of approximately US$ 34,597.13 million. This expansion is linked to the increased use of educational technology, particularly AI tools, among students. The importance of EdTech is expected to rise dramatically, thanks to the rapid

evolution and growth of AI technologies, particularly generative AI-like large language models (LLMs) like ChatGPT and Bard. According to reports, as AI technologies become more widely available, more youngsters are using them in their education, both independently and with the supervision of educators (Calcum Chase,2020).

Therefore, AI is not just a trend, it's a revolutionizing phenomenon just like smartphone that's reshaping all industries. But As AI becomes more prevalent, ethical considerations are coming to the forefront, with issues like data privacy, algorithmic bias, and transparency being critical to all using AI.

2.2.2 AI – At Present: India

India is seen as a country with immense potential and willingness to embrace technology developments and advancements. The country's strong economic growth is being powered by digital transformation, making technology an important driver of advancement. India's willingness to embrace technological innovations and advancements has paved the path to adopt and employ artificial intelligence (AI) in a variety of areas. It was the COVID-19 pandemic that contributed significantly to India's rapid adoption and integration of Artificial Intelligence (AI) tools in a variety of industries, including healthcare, education, and government. The epidemic emphasized the urgent need for innovative solutions to battle the crisis, resulting in a rise in AI applications to address pandemic-related difficulties. To understand people's readiness to accept AI in their lives, a survey was conducted by KPMG company. The results show that developing countries like India are more accepting of AI, with a rate of 75% acceptance rate in India. It is accepted as a vital element in improving progress and efficiency in various domains such as education, e-commerce, and healthcare (Sneha Swaminathan, 2023).

When compared to the UK and the US, Indian firms are ahead of the competition in terms of AI adoption, with a high number of organizations using AI for management and decision making. According to the State of AI 2022 survey, the majority of Indian firms with 100 or more employees already use AI, indicating a strong desire to incorporate AI technologies into their operations (Economic Times,2022). Other applications of AI in India include healthcare, agriculture, and education. Niramai Health Analytix, a health tech startup created by Geetha Manjunath, has developed a groundbreaking AI solution for detecting early-stage breast cancer in a non-invasive, radiation-free method. Infosys, a global leader in IT services and consulting

have created their own AI platform titled “Mana”. It is used to automate jobs, optimize corporate processes, and enable intelligent decision-making.

2.2.3 AI in Education Industry: India

With the advent of Covid-19, education no longer revolves around only books and notebooks. AI tools have been widely used in education to bridge learning gaps and enhance teaching methods. Thus, the Indian education system is currently witnessing a significant shift towards the integration of artificial intelligence (AI). In an article by Times Now, it says the Central Board of Secondary Education (CBSE) has been planning to draft a complete policy on the application of AI in education to prepare students for the job market of the future and encourage creativity and invention. Some of the ways AI can transform Indian education system:

- Personalized Learning: AI-powered tools can adapt to individual students' needs, delivering personalized learning experiences by analysing their strengths, weaknesses, and learning styles. This tailored approach enhances student engagement and achievement.
- Enhanced Teaching Methods: AI can help educators create interactive and immersive learning materials, incorporating multimedia elements, simulations, and virtual reality to enhance student understanding and engagement.
- Access to Quality Education: AI-enabled platforms can bridge the educational divide by granting students in remote areas access to high-quality educational resources, irrespective of geographical limitations.
- Data-Driven Decision Making: AI can analyse vast amounts of educational data, providing valuable insights for educators and policymakers. This data-driven decision-making aids in designing effective teaching strategies, curriculum planning, and educational policy development.
- Intelligent Tutoring Systems: AI can serve as a virtual tutor, offering immediate feedback, tracking student progress, and providing targeted interventions. This personalized guidance helps students identify their areas of improvement and allows for adaptive learning paths.
- AI – powered video simulations: Use of AI – powered simulations to help students understand study topics better. Instead of mere textbook reading and browsing videos that are partially related to their topic, they can watch simulations that explain in depth about their topic. Furthermore, it can bridge the educational gap faced by students in

rural areas by providing high – quality learning materials. Furthermore, AI-driven tests and quizzes may be tailored to individual learners based on their unique data, resulting in a genuinely personalized learning experience. AI can provide brief summaries and facilitate individualized learning materials, removing barriers across locations and languages.

In addition to that, by analysing student performance, AI can identify knowledge gaps and recommend targeted practice exercises. This can improve outcomes and address the teacher-student ratio limitations in Indian classrooms. AI is also being used for administrative tasks like attendance management, freeing up valuable teacher time for focused instruction. However, ensuring equitable access to AI technology and addressing potential biases in algorithms remain important considerations.

2.2.4 Challenges faced in AI integration

- Data Privacy and security**:** Since AI systems depend on huge amounts of data, it raises concerns about data privacy and security. Hence, it is crucial to establish clear regulations to protect student's information and ensure AI systems are transparent and accountable in their data practices.
- Regulation and compliance: As AI systems become more integrated into numerous sectors, there are worries about their ethical use, accountability, and potential algorithmic bias. Governments and organizations are dealing with the necessity to build strong regulatory frameworks to ensure AI systems comply with the rules, avoiding legal penalties and retaining public trust.
- User experience: At times, AI technologies used for providing smart learning can be complicated to use.
- Costs: Installing AI systems in classrooms, businesses, and healthcare requires significant investments, making it unaffordable for many. Furthermore, teachers and personnel should be trained on how to run AI systems, which would incur additional costs.
- Overreliance on technology: Both teachers and students face the risk of becoming overly reliant on AI-powered technology, which can have a negative impact on learning and development. It is critical to achieve a balance between employing AI to enhance teaching and learning and keeping the human touch in education.

CHAPTER 3

DATA ANALYSIS & INTERPRETATION

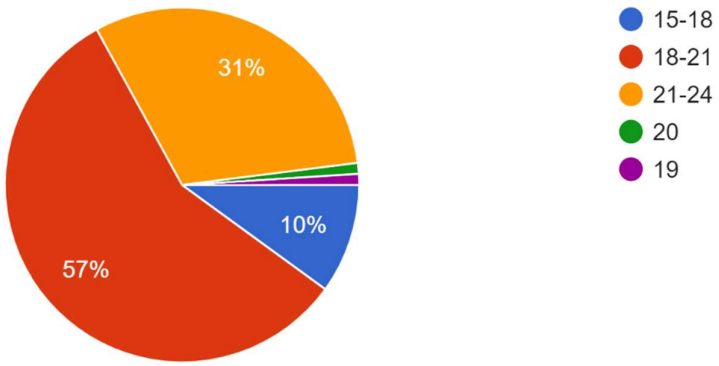
3.1 Demographic Characteristics

Table 3.1 provides demographic information for the respondents listed below. The study included 100 individuals from Kerala, ranging in age from 15 to 21, and from various educational streams.

Table 3.1 (a) Frequency table depicting age percentage of the respondents

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	15 - 18	11	11.0	11.0	11.0
	18 - 21	57	57.0	57.0	68.0
	21 - 24	32	32.0	32.0	100.0
	Total	100	100.0	100.0	

Figure 3.1 (a) Pie chart depicting age percentage of the respondents

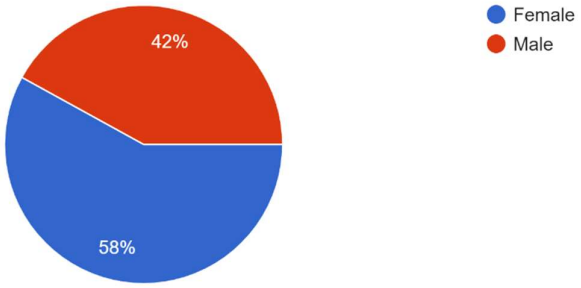


For this study, a total of 100 students were surveyed. It was shown that out of 100, a majority of individuals are between the ages of 18 and 21, accounting for 57% of the overall sample. The age range of 21-24 accounts for 32% of the entire sample and 15-18 has the lowest representation, accounting for only 11% of the entire sample.

Table 3.1 (b) Frequency table depicting gender percentage of the respondents

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	.00	58	58.0	58.0	58.0
	1.00	42	42.0	42.0	100.0
	Total	100	100.0	100.0	

Figure 3.1 (b) Pie chart depicting gender percentage of the respondents



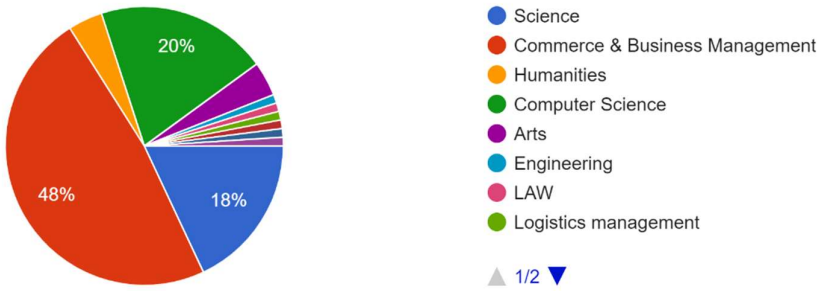
The table shows that 58% of the sample is female, while 42% is male, with category "0" representing the female group and category "1" representing the male group.

Table 3.1 (c) Frequency table depicting education percentage of the respondents.

Education

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1.00	48	48.0	48.0	48.0
	2.00	20	20.0	20.0	68.0
	3.00	4	4.0	4.0	72.0
	4.00	19	19.0	19.0	91.0
	5.00	1	1.0	1.0	92.0
	6.00	3	3.0	3.0	95.0
	7.00	2	2.0	2.0	97.0
	8.00	1	1.0	1.0	98.0
	9.00	1	1.0	1.0	99.0
	10.00	1	1.0	1.0	100.0
	Total	100	100.0	100.0	

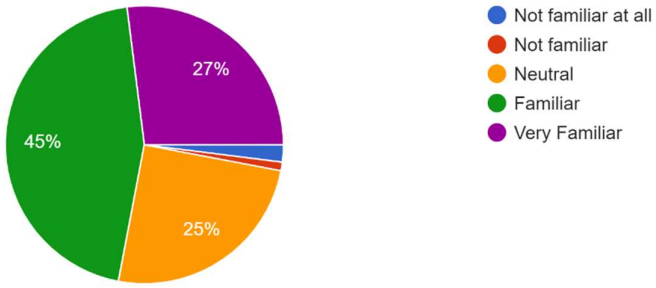
Figure 3.1 (c) Pie chart depicting education percentile of the respondents



The education stream from which the respondents are considered significant for knowing which discipline prefers AI integration in their education. Commerce and Business Management stream appears to be the most prevalent in the questioned population, accounting for 48% of responses. Following that, Computer Science stream accounts for 20% of the sample, while Science stream makes up 19%. The remaining academic levels, which include streams Humanities, Economics, Logistics Management, Law, Engineering, Arts, and class 10, have lower percentages of responses, ranging between 1% and 4%. Overall, this distribution provides useful insights into the participants' educational backgrounds, revealing the diversity of educational attainment throughout the questioned community.

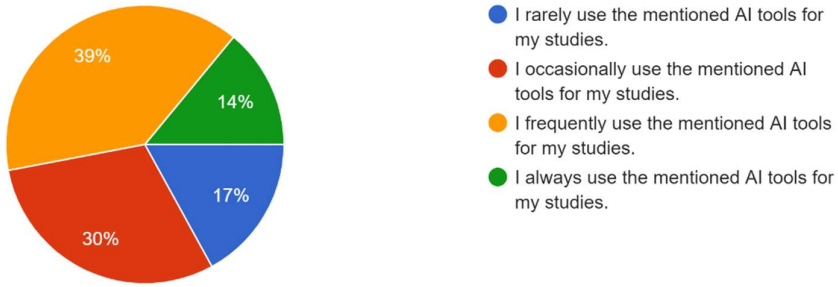
3.2 GRAPHICAL REPRESENTATIONS

Figure 3.2.1 Graphical representation of "How familiar are you with the concept of artificial intelligence (AI)".



The survey on how familiar each respondent is with the concept of artificial intelligence (AI), out of 100 respondents, 27% are very familiar with the concept of AI, 45% familiar with AI, 25% neutral with the concept, 1% not familiar with the concept and 2% not at all familiar with concept of AI. Majority of the respondents are well aware of AI and its concept.

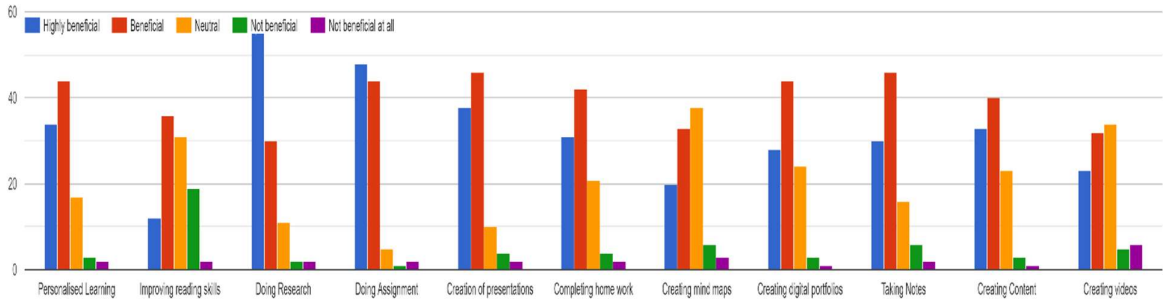
Figure 3.2.2 Graphical representation of "How often do you use the following AI tools in your day-to-day life as a student (ChatGPT, perplexity.ai, Grammarly, Gemini, quill Bot, scispace)".



The survey on involvement of mentioned AI tools student (ChatGPT, Perplexity.ai, Grammarly, Gemini, quill Bot, Scispace) in day-to-day life of respondents as a student. Out of 100 respondents, 39% of respondents frequently use those tools, 30% occasionally use them, 17% rarely use them and there are 14% who always use in their day-to-day life. Hence, majority of the students are well equipped regarding these tools that makes learning easy.

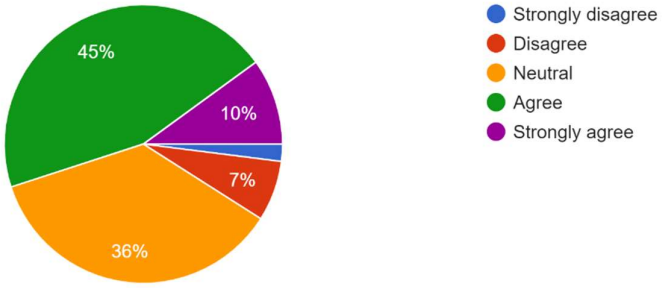
Figure 3.2.3 Graphical representation of "Which of the below mentioned activities do you think AI tools are beneficial for?"

(Personalized Learning, improving reading skills, Doing Research, Doing Assignment, Creation of presentations, completing homework, creating mind maps Creating digital portfolios, Taking Notes, Creating Content and videos).



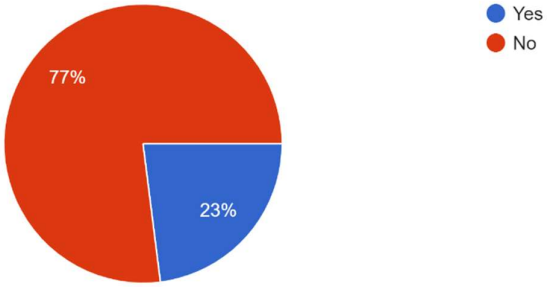
The survey evaluates on which of each mentioned activities does the respondents feel AI can be Highly beneficial or beneficial. According to 55% of respondents AI is **highly beneficial** for research, 48% for doing assignments,38% for creating presentations, 34% for personalized learning,33% for creating content related to education. Whereas, only 12% - 30% respondents feel AI is highly beneficial for creating digital portfolios, taking notes, doing homework, creating mind maps and improving reading skills. There is a significant rise in percentage of respondents who find personalized learning **beneficial,** with only 44% rating it as beneficial, 40% - 46% of them finding doing assignments, creating presentations, completing homework, creating digital portfolios, taking notes beneficial. Following that, 31% - 39% finds doing research, improving reading skills, creating mind maps and vids beneficial. Therefore, a positive response can be seen from the respondents in using AI tools for their education.

Figure 3.2.4 Graphical representation of "Using AI tools have impacted my learning experience positively".



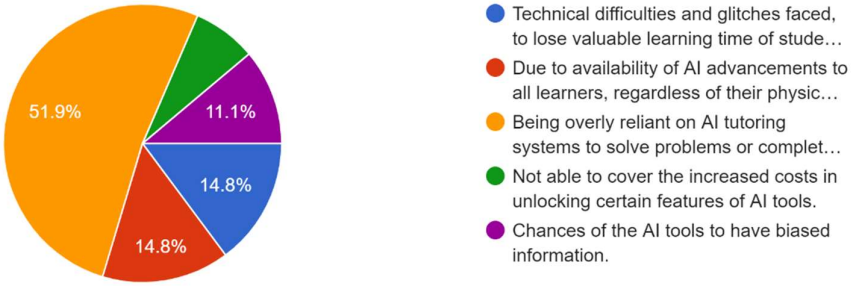
This graph demonstrates that 10% strongly agree that employing AI technologies improved their learning experience. Following that, 45% agree that employing AI technologies has improved their learning experience, while 36% are neutral about the statement. However, 7% disagree with the statement, and 2% strongly disagree with it.

Figure 3.2.5 Graphical representation of "Did the use of an AI tool hinder your learning in your course?".



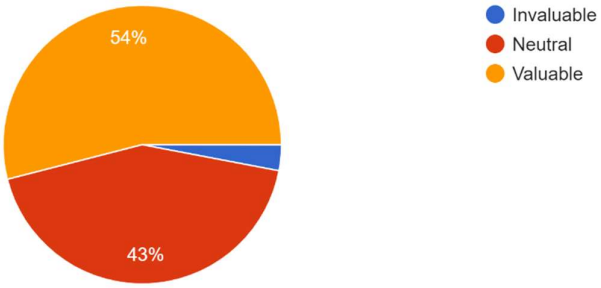
The graph shows that 77% of respondents do not believe AI tools hindered their learning. However, 23% of respondents believe AI tools hindered their learning in their course.

Figure 3.2.6 Graphical representation of "If yes, specify in what ways an AI tool hinders your learning in your course.".



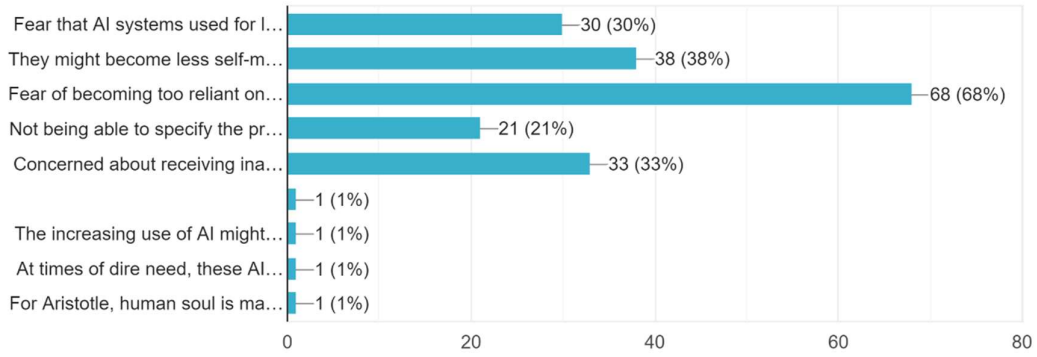
In a survey to determine how an AI tool hinders your learning, 14.8% of respondents reported technical difficulties and glitches while using them. Consequently, those students valuable learning time is lost. Whereas, 14.8% believe due to the unavailability of AI advancements or certain premium features to all learners, regardless of their physical abilities or geographical location, 51.9% believe that being overly reliant on AI tutoring systems to solve problems or complete tasks is reducing their ability or motivation to think critically and independently, 7.4% are unable to cover the increased costs in unlocking certain features of AI tools, and 11.1% believe that AI tools may contain biased information.

*Figure 3.2.7 Graphical representation of "How valuable do you believe combining traditional learning with AI simulations could be for improving your understanding and application of study topics. (*Simulation is a virtual model of a real activity, created for training purposes or to solve a problem)".*



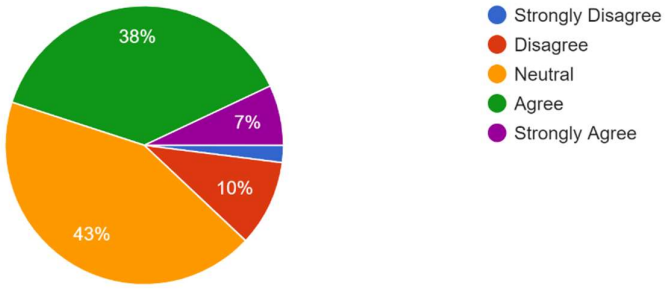
The graph demonstrates that 54% of the respondents feel believe combining traditional learning with AI simulations could be for improving your understanding and application of study topics. Whereas, 43% of the respondents are neutral towards the statement and 3% believe its invaluable.

Figure 3.2.8 Graphical representation of "What are your biggest concerns about using AI in your education? (Select upto 2 concerns)".



From the graph showing respondents biggest concerns about using AI in their education, 68% of the respondent's fear of becoming too reliant on AI tools for assistance and 38% think they might become less self-motivated and independent learners if they use AI tools. Following that, 33% are concerned about receiving inaccurate feedback, learning biased information when searching for information using AI tools. 30% of the respondents fear that AI systems used for learning could track their activity and collect sensitive information to use them in unexpected ways. Whereas, 21% are not being able to specify the prompt question for the doubt they face. Fewer percentages take on this statement was, AI tools were of no help when asked doubts regarding topics that are too local specific, or over – dependence on AI by institutions can replace specific jobs of individuals.

Figure 3.2.9 Graphical representation of "State your degree of agreement/ disagreement for the following statement: "AI tools offer a more engaging and personalized learning experience for my course compared to traditional learning methods".



According to the graph above, 38% of respondents feel that AI tools provide a more interesting and personalized learning experience than traditional approaches. With 7% strongly agreeing with the statement and 43% neutral towards it. Whereas, 12% of the respondents are completely against it.

3.3 HYPOTHESIS TESTING

3.3.1 Hypothesis 1 (H1): There is a positive relationship between the degree of familiarity of AI and perception of impact of AI on education among instructors and students.

H1 explores the relationship between how students and teachers perceive the impact of AI on learning as a result of their familiarity with AI tools. To test the hypothesis a simple linear regression was performed. The outcome is as follows:

Table 3.3.1 showing the association between perception of impact of AI on education and the degree of familiarity of AI.

Model Summary [b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.266[a]	.071	.061	.81949

a. Predictors: (Constant), AI_Familiarity

ANOVA [a]

Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	5.027	1	5.027	7.485	.007[b]
	Residual	65.813	98	.672		
	Total	70.840	99			

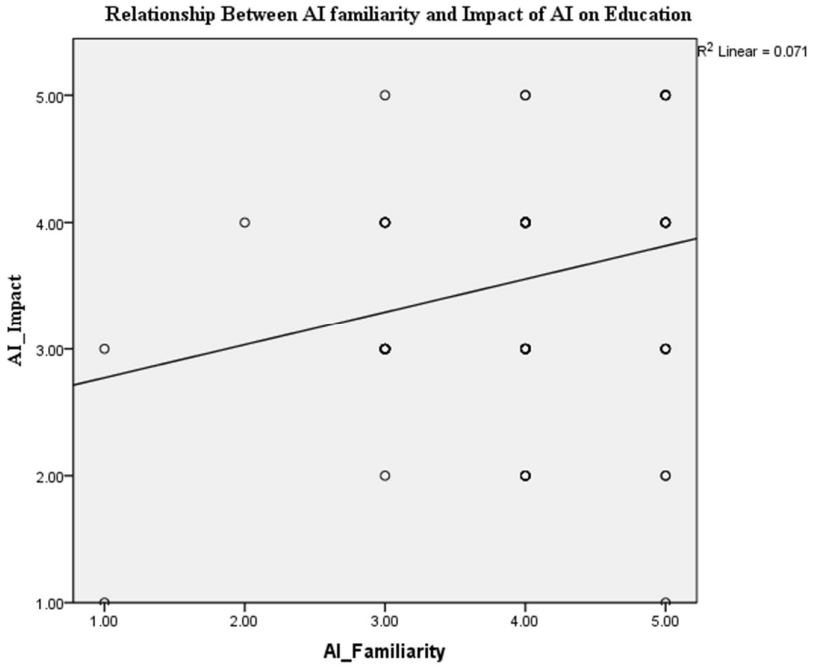
a. Dependent Variable: AI_Impact

b. Predictors: (Constant), AI_Familiarity

Coefficients [a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	2.511	.385		6.520	.000
	AI_Familiarity	.261	.095	.266	2.736	.007

a. Dependent Variable: AI_Impact



Simple linear regression

Simple linear regression analysis is a method that investigates the relationship between a dependent variable and independent variable. Here, we evaluate only one independent variable. Then a straight line is included that connects the data points to model the independent and dependent variable.

Simple linear regression analysis was conducted to evaluate the extent to which the degree of familiarity of AI among instructors and students could predict perception of impact of AI on education.

A significant regression was found (F (1), (98)) = (7.485), p = (.007)). The R^2 was .071, indicating that degree of familiarity of AI among instructors and students explained approximately *7.1%* of the variance in perception of impact of AI on education.

The regression equation shows the relationship:

$$\text{Impact of AI} = 2.511 + .261\ (\text{AI Familiarity}).$$

That is, for each one unit increase in the degree of familiarity of AI among instructors and students, the perception of impact of AI on education increased by approximately 26.1%.

3.3.2 Hypothesis 2 (H2): There is a positive relationship between degree of usage of AI and perception of impact of AI among instructors and students.

H2 explores the relationship on how actively students and teachers use AI tools and their perception of AI's influence on learning. It proposes that those who utilize AI tools more extensively are likely to hold a stronger opinion, positive or negative, about the impact of AI on education.

Table 3.3.2 shows the association between perception of impact of AI on education and the degree of usage of AI.

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.392[a]	.154	.145	.78200

a. Predictors: (Constant), Usage of AI

b. Dependent Variable: Impact of AI

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	10.910	1	10.910	17.841	.000[b]
	Residual	59.930	98	.612		
	Total	70.840	99			

a. Dependent Variable: Impact of AI

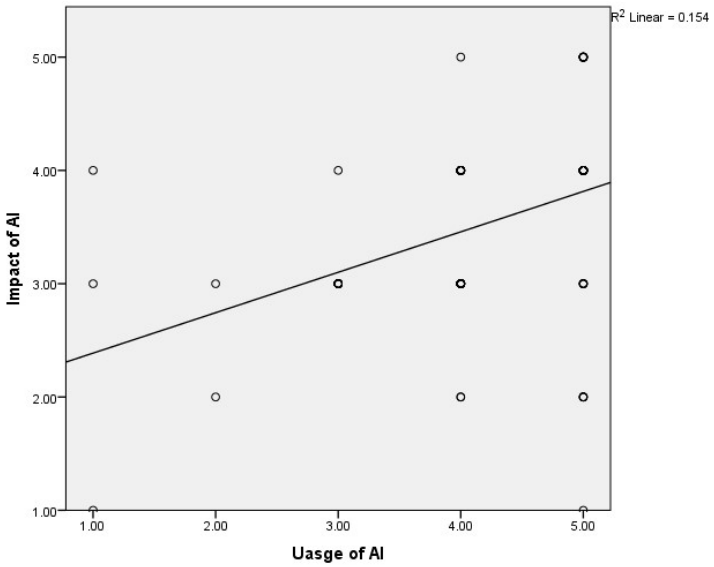
b. Predictors: (Constant), Usage of AI

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	2.031	.366		5.552	.000
	Uasge of AI	.357	.084	.392	4.224	.000

a. Dependent Variable: Impact of AI

Relationship between Usage of AI and Impact of AI in education



Simple linear regression analysis was conducted to evaluate the extent to which degree of usage of AI among students and teachers could predict perception of impact of AI on education.

A significant regression was found (F (1), (38)) = (17.841), p = (.000b)). The R^2 was (.154), indicating that the degree of use of AI among the respondents explained approximately 15.4 % of the variance in perception of impact of AI on education.

The regression equation shows the relationship:

$$\text{Impact of AI} = 2.031 + .357\ (\text{Usage of AI})$$

That is, for one unit increase in the degree of usage of AI among students, the perception on the impact of AI on education increased by approximately 36%

3.3.3 Hypothesis 3 (H3): There is a positive relationship between the degree of familiarity of AI and its degree of usage of AI among instructors and students.

H3 investigates the connection between how familiar or knowledgeable are students with AI and if that connection influences the use of AI. It suggests that Understanding AI enhances its acceptance in teaching and learning, as it increases comfort and confidence among instructors and students.

Table 3.3.3 shows the association between the degree of familiarity of AI and its degree in usage of AI.

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.433[a]	.187	.179	.84309

a. Predictors: (Constant), Familiarity of AI

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	16.051	1	16.051	22.581	.000[b]
	Residual	69.659	98	.711		
	Total	85.710	99			

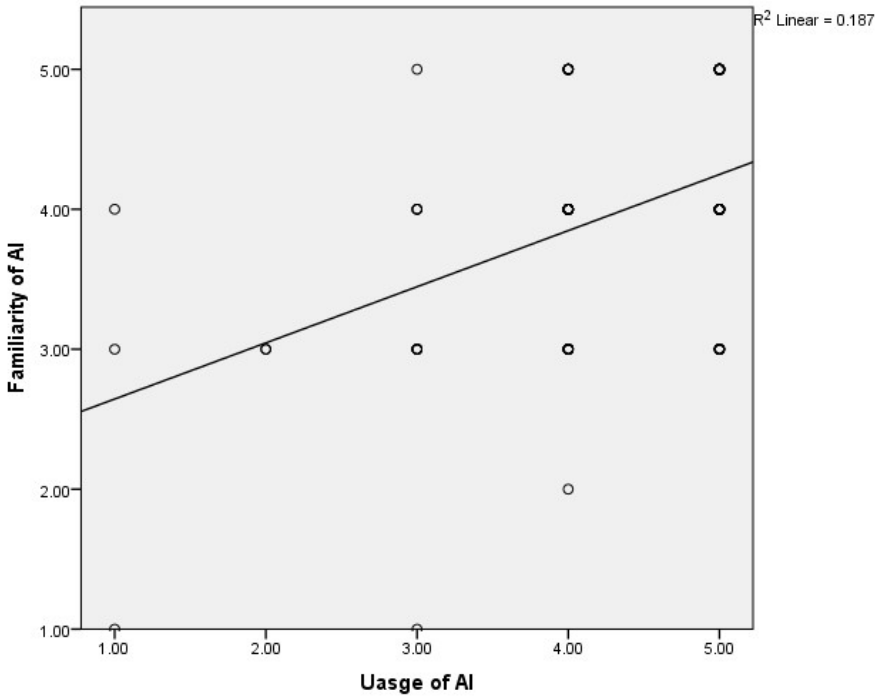
a. Dependent Variable: Usage of AI

c. Predictors: (Constant), Familiarity of AI

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	2.391	.396		6.034	.000
	Familiarity of AI	.467	.098	.433	4.752	.000

a. Dependent Variable: Usage of AI



Simple linear regression analysis was conducted to evaluate the extent to which the degree of familiarity of AI could predict the degree of usage of AI among students and educators.

A significant regression was found (F (1), (98)) = (22.581), p = (.000b)). The R2 was (.187), indicating that degree in familiarity of AI explained approximately 18.7 % of the variance in the degree of usage of AI among students and educators.

The regression equation showing this relationship is:

$$\text{Usage of AI} = (2.391) + (.467)\ (\text{Familiarity of AI}).$$

That is, for each one unit increase in degree in familiarity of AI, the usage of AI among students and educators increased by approximately 47%

3.3.4 Hypothesis 4 (H4): There is a difference in perception of AI impact between Introverts and Extroverts**.**

H4 suggests that the personality traits, introversion and extroversion have difference in view regarding the influence of AI. Introverts, who value separation and reflection, may have a different perspective on AI's influence than extroverts, who prefer social connection and teamwork.

Table 3.3.4 shows the association between perception of AI impact between Introverts and Extroverts.

Group Statistics

	PER	N	Mean	Std. Deviation	Std. Error Mean
Impact of AI	Introverts	39	3.3077	.73104	.11706
	Extroverts	61	3.6885	.88583	.11342

Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means						
									95% Confidence Interval of the Difference	
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	Lower	Upper
Impact of AI	Equal variances assumed	1.344	.249	-2.240	98	.027	-.38083	.17001	-.71822	-.04344
	Equal variances not assumed			-2.336	91.670	.022	-.38083	.16299	-.70457	-.05710

T- TEST

A statistical test called a t-test compares the means of two groups. It is frequently employed in hypothesis testing to see if a procedure or treatment truly affects the population of interest or whether two groups differ from one another in some manner.

T- test was conducted to evaluate the differences in perception of AI between an extrovert and introvert. The group statistics shown in the table show that, on average, extroverts report a slightly stronger influence of artificial intelligence (AI) than introverts. The mean score for extroverts on the measure of AI effect is 3.6885, whereas introverts have a somewhat lower score of 3.3077.

This shows that extroverts believe AI has a greater impact on their lives than introverts. However, it is worth noting that extroverts exhibit greater variety in responses, as evidenced by their higher mean (M=3.68) compared to introverts (M= 3.30). Despite this variation, the standard error of the mean values for both groups are quite small, implying that the reported mean scores are likely credible estimates of population means.

3.3.5 Hypothesis 5 (H5): There is a difference in Usage of AI between Introverts and Extroverts.

H5 explores the relationship between extroverts and introverts in using AI tools.

Table 3.3.5 shows the association between the usage of AI between introverts and extroverts.

Group Statistics

	PER	N	Mean	Std. Deviation	Std. Error Mean
Uasge of AI	Introverts	39	4.0000	1.05131	.16835
	Extroverts	61	4.3770	.81984	.10497

Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means						
									95% Confidence Interval of the Difference	
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	Lower	Upper
Uasge of AI	Equal variances assumed	.267	.607	-2.006	98	.048	-.37705	.18792	-.74996	-.00414
	Equal variances not assumed			-1.901	66.889	.062	-.37705	.19839	-.77305	.01895

The group statistics shown in the table show that, on average, extroverts report a slightly stronger influence of artificial intelligence (AI) than introverts. The mean score for extroverts on the measure of usage of AI is 4.3770, whereas introverts have a somewhat lower score of 4.0000. This shows that extroverts have a higher usage of AI than introverts. However, it is worth noting that extroverts exhibit greater variety in responses, as evidenced by their higher Mean (M=4.37) compared to introverts (M = 4.0). Despite this variation, the standard error of the mean values for both groups are quite small, implying that the reported mean scores are likely credible estimates of population means.

CHAPTER FOUR

FINDINGS, SUGGESTIONS AND CONCLUSIONS

4.1 LIST OF FINDINGS

I. Table 3.1(a) and table 3.1(b), shows the demographic information of the respondents. We can conclude that, majority of the respondents are female. Which comprises 58% of the respondents and 42% are male. Majority of the respondents belong to the age group 18-21 and are students.

II. Table 3.1(c) shows the education stream of the respondents. 49% of them are from the commerce & business management background. Following that, are computer science with percentage value of 20%, science with 19% of respondents.

III. From fig 3.2.1 and fig 3.2.2, by grouping the votes in favour of AI, can see 72 % of the respondents who are familiar with the concept of AI have the tendency to use AI tools in their learning routine. Moreover, mentioned tools are commonly used among students. This indicates peer influencing can act as a catalyst in introducing AI tools.

IV. In Fig 3.2.3, respondents rated AI as useful for completing assignments (92%), research (84%), presentations (84%), personalized learning (78%), and taking notes (76%). This suggests that respondents are comfortable using AI technologies and prefer to use them to avoid repetitive and time-consuming tasks. As a result, they have more time to spend on cognitively demanding tasks. On the other hand, the lowest scores came from generating videos and developing reading skills. This, reveals that respondents favour AI tools for academic purposes more than personal pursuits.

V. From fig 3.2.5, fig 3.2.6 and fig 3.2.8, we can derive that 77% of the respondents believe AI has a positive impact on learning and doesn't hinder their progress in their course. However, out of 100 respondents, 23% believe AI tool hampers their learning in their courses. Being over reliant to AI tools to solve problems, could

lead to loss of ability to think critically and independently. This was the most voted concern among the students. While some reported losing valuable learning time due to technical difficulties, others concern were of not giving proper prompts for solving problems, receiving inaccurate or biased feedback, or when the feedback on a topic is too local specific, the tools are unable to assist, and privacy concerns when storing or sharing data. Based on this, we may conclude that, such concerns can lead to a slight decrease in individuals adopting AI. Still despite their concerns, students are ready to put up with them in order to use AI for learning, demonstrating that AI tools have enhanced their educational experience. Furthermore, AI tools are becoming a new revolution just like the smartphones when they were introduced. despite of its drawbacks, people utilize it because it makes life easier. The same goes for AI tools.

VI. Fig 3.2.7 and fig 3.2.9 shows respondents believe simulations are effective to grasp theoretical topics. Also, they prefer to opt AI in their learning when compared to traditional learning. This shows how valuable respondents find simulations for improving the understanding and application of study topics. The effectiveness of using AI in learning has led to its increased acceptance over traditional learning.

VII. **3.3.1 (H1)** tests the relationship between AI familiarity and impact of AI on education. It is seen that as the degree of familiarity of AI increases it leads to the increase use of AI in education thereby increasing its impact. In other words, familiarity promotes impact. Simple linear regression analysis measures one unit increase in the degree of familiarity leads to approximately 26.1% increase in its impact.

VIII. **3.3.2 (H2)** tests the positive relationship between usage of AI and impact of AI on education. Simple linear regression analysis indicates that the degree of usage can certainly predict the extent of perception of impact of AI on education, as a unit increase of degree of usage brings about 36 % increase in the perception of impact of AI on education.

IX. **3.3.3 (H3)** tests the positive relationship between degree of familiarity of AI and the degree of usage of AI among instructors and students. Understanding AI brings about comfort and confidence in using it to our advantage. The Simple linear regression analysis showed a unit increase in degree of familiarity of AI supported 47 % increase in the usage of AI among instructors and students.

X. **3.3.4 (H4)** tests the difference in perception of AI impact between introverts and extroverts. To study on the basis of this personality trait t-test was used to check how it affected the perception of AI impact. It was concluded that extroverts took greater impact from AI than introverts.

XI. **3.3.5 (H5)** tests the difference in usage of AI between introverts and extroverts. To study on the basis of this personality trait t-test was used to check how it affected the usage of AI. Testing the average use between the two groups indicate a stronger influence of AI in extroverts compared to introverts.

4.2 Suggestions

1) AI technologies are beneficial to student's education by helping them understand concepts and come up with problem-solving techniques. As a result, student's learning experiences are improved when they save time by not getting trapped on a task for hours. In the survey conducted, high usage of AI was shown in doing assignments and for personalized learning. Hence, there is scope for conducting research to understand the reason behind why students felt AI tools are useful. This can be done through focus groups and interviews (cross-impact analysis of using AI tools with/without in doing an activity) which can bring forth new perspective. Insights received from the in-depth study can be used to find new AI technologies by edtech firms that suit those needs to improve learning experience.

2) It was found that 23% of respondents feel AI technologies interfered with their ability to study. Some of their concerns were about AI tools giving biased feedback, relying too much on AI tools to solve problems, privacy issues with data storage and sharing, and the tool's inability to help when requested for feedback on a topic that was too localised. There exist strong security procedures in e-commerce companies like Shopify to protect customer data. Similarly, if this feature is included in data privacy of artificial intelligence system, it can overcome the concerns of scams raised among existing AI users who disclose their personal information for user customisation in AI technologies. Therefore, if IT firms are able to develop systems that have the ability to handle these mentioned issues, it can convert non-users to users, as well as provide reassurance to existing users.

3) In this study, we were able to get a general perspective of impact of artificial intelligence in education among students having different learning styles. Further research can be done on perceived impact of AI among students of different learning styles. Comprehensive research may be conducted on the learning styles of students with learning disability or who are physically disabled. Research findings may be applied to develop personalized AI systems that can support students in their daily studying.

4) Artificial intelligence may be used to improve learning experiences by including gamification features, personalised storytelling, and interactive simulations to increase student engagement and enjoyment.

5) In addition to helping students, artificial intelligence systems may be designed to help teachers by monitoring student performance and progress and giving them immediate feedback on their strengths and weaknesses. This can assist teachers in providing support and interventions with focused assistance to students who need it the most.

6) Artificial intelligence represents the new future, and it will continue to develop and provide new discoveries for years to come. Hence, teachers and education systems play a crucial role in guiding students to effectively utilizing AI's potential, ensuring they embrace rather than avoid it in their educational journey. By empowering students to leverage AI tools responsibly, we equip them to navigate and adapt to the ever-changing world of technology, preventing challenges and fostering a future-ready generation.

4.3 CONCLUSION

The integration of artificial intelligence (AI) tools to the area of education was explored in this study. Based on the findings, a large number of students who are aware of AI are already using it for education. This implies that students are increasingly choosing artificial intelligence (AI) to improve their educational experience. The ability of AI technologies to facilitate concept learning and problem solving for students is one of its advantages. Moreover, AI has the potential to be a useful tool for teachers in tracking student progress and coming up with different interpretations for teaching. This makes the goal for edtech firms to create AI solutions that meet the requirements of students and education system, while maintaining ethical data practices.

However, the integration of AI in education is confronted with challenges such as student over-reliance and bias in feedback. Similarly, ensuring data security and privacy will be a cornerstone of building trust among users in future.

One major breakthrough in education in future, can be the development of personalized AI systems specifically designed for learning styles of students with physical or learning disabilities. Since, at present, there exist no such facilities to support them.

Therefore, by adopting this new technology, we can provide the information and abilities needed for future generations to thrive in a world where artificial intelligence will keep influencing life.

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ANNEXURE – 1

Questionaire

1. Name:
2. Age
    - 15-18
    - 18-21
    - 21-24
3. Gender
    - Female
    - Male
4. Your current stream of education
    - Science
    - Commerce & Business Management
    - Humanities
    - Computer Science
    - Arts

Personality Test

This section includes few questions to understand the connection of human personality in using AI tools. Choose your degree of agreement / disagreement to the following statements.

1. When a stranger talks to me, I consider it an opportunity to make a connection.

	1	2	3	4	5	
Disagree	○	○	○	○	○	Agree

2. I think that being on a reality show would be a nightmare.

	1	2	3	4	5	
Disagree	○	○	○	○	○	Agree

3. I think it's always better to have a roommate than to live alone.

	1	2	3	4	5	
Disagree	○	○	○	○	○	Agree

4. I don't mind talking about anything, even if I'm not that knowledgeable about it.

	1	2	3	4	5	
Disagree	○	○	○	○	○	Agree

5. I'd rather spend time with a close friend alone than be with a group. *

	1	2	3	4	5	
Disagree	○	○	○	○	○	Agree

6. I like to get my friends and co-workers excited about our plans.

	1	2	3	4	5	
Disagree	○	○	○	○	○	Agree

*

7. I don't like to feel pushed into dancing at parties.

	1	2	3	4	5	
Disagree	○	○	○	○	○	Agree

8. When I'm in charge, I prefer conducting large team brainstorming sessions rather than one-on-one basis session.

	1	2	3	4	5	
Disagree	○	○	○	○	○	Agree

9. A day spent alone working on my hobbies sounds perfect

	1	2	3	4	5	
Disagree	○	○	○	○	○	Agree

10. One of the great attractions of travel is the opportunity to meet new people.

	1	2	3	4	5	
Disagree	○	○	○	○	○	Agree

PERSPECTIVES ON ROLE OF AI IN YOUR EDUCATION

This section includes few questions to understand your familiarity with AI tools and your thoughts on applying it in your studies

1.How familiar are you with the concept of artificial intelligence (AI) ?

- ◯ Not familiar at all
- ◯ Not familiar
- ◯ Neutral
- ◯ Familiar
- ◯ Very Familiar

.

2.How often do you use the following AI tools in your day-to-day life as a student? (ChatGPT, perplexity.ai, Grammarly ,Gemini, quillbot, scispace)

- ◯ I rarely use the mentioned AI tools for my studies.
- ◯ I occasionally use the mentioned AI tools for my studies.
- ◯ I frequently use the mentioned AI tools for my studies.
- ◯ I always use the mentioned AI tools for my studies.

3. I have used at least one AI tool during my course.

- ◯ Strongly disagree
- ◯ Disagree
- ◯ Neutral
- ◯ Agree
- ◯ Strongly Agree

4.Which of the below mentioned activities do you think AI tools are beneficial for? *

	Highly beneficial	Beneficial	Neutral	Not beneficial	Not beneficial at all
1. Personalised Learning	◯	◯	◯	◯	◯
2. Improving reading skills	◯	◯	◯	◯	◯
3. Doing Research	◯	◯	◯	◯	◯
4. Doing Assignment	◯	◯	◯	◯	◯
5. Creation of presentations	◯	◯	◯	◯	◯
6. Completing home work	◯	◯	◯	◯	◯
7. Creating mind maps	◯	◯	◯	◯	◯
8. Creating digital portfolios	◯	◯	◯	◯	◯
9. Taking Notes	◯	◯	◯	◯	◯
10. Creating Content	◯	◯	◯	◯	◯
11. Creating videos	◯	◯	◯	◯	◯
12. Add row	◯	◯	◯	◯	◯

5.Using AI tools have impacted my learning experience positively.

- ◯ Strongly disagree
- ◯ Disagree
- ◯ Neutral
- ◯ Agree
- ◯ Strongly agree

6. Did the use of an AI tool hinder your learning in your course.
(If no, skip to question 8)

- ◯ Yes
- ◯ No

7. If yes, specify in what ways an AI tool hinders your learning in your course.

- ◯ Technical difficulties and glitches faced, to lose valuable learning time of students.
- ◯ Due to availability of AI advancements to all learners, regardless of their physical abilities or geographica...
- ◯ Being overly reliant on AI tutoring systems to solve problems or complete tasks, reducing their ability or ...
- ◯ Not able to cover the increased costs in unlocking certain features of AI tools.
- ◯ Chances of the AI tools to have biased information.

8. How valuable do you believe combining traditional learning with AI simulations could be for * improving your understanding and application of study topics?
*(*Simulation is a virtual model of a real activity, created for training purposes or to solve a problem)*

- ◯ Invaluable
- ◯ Neutral
- ◯ Valuable

9.If you were not using any AI tools like chatGPT, Perplexity, or any learning apps, how confident would you feel in your study?

- ◯ Not strongly confident
- ◯ Not confident
- ◯ Neutral
- ◯ Confident
- ◯ Strongly confident

10.Rate your current study routine that incorporates AI tools. How helpful do you think AI tools have improved your study routine? *

- ◯ Not at all helpful
- ◯ Slightly helpful
- ◯ Somewhat helpful
- ◯ Very helpful
- ◯ Extremely helpful

11. To what extent are you comfortable in the role of AI in your education? *

- ◯ Highly uncomfortable
- ◯ Uncomfortable
- ◯ Neutral
- ◯ Comfortable
- ◯ Highly comfortable

*

12.What are your biggest concerns about using AI in your education?
(Select upto 2 concerns)

- [ ] Fear that AI systems used for learning could track their activity and collect sensitive information to use
- [ ] They might become less self-motivated and independent learners.
- [ ] Fear of becoming too reliant on AI for assistance.
- [ ] Not being able to specify the prompt question for the doubt.
- [ ] Concerned about receiving inaccurate feedback, learning biased information.
- [ ] Other...

13. AI tools make managing my time and workload for my course _____

- ○ Highly inefficient
- ○ Inefficient
- ○ Neutral
- ○ Efficient
- ○ Highly efficient

*

14.State your degree of agreement/ disagreement for the following statement :
"AI tools offer a more engaging and personalized learning experience for my course compared to traditional learning methods".

- ○ Strongly Disagree
- ○ Disagree
- ○ Neutral
- ○ Agree
- ○ Strongly Agree