Examining the Influence of AI-Driven Chat-GPT in Higher Education

Submitted by-

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Abstract

As artificial intelligence (AI) continues to permeate various sectors, its application in higher education has gained momentum. One significant manifestation of AI in this domain is AI-driven chatbots, particularly Chat-GPT (Generative Pre-trained Transformer). This study aims to investigate the influence of Chat-GPT on consumer adoption within the higher education context.

Utilizing a mixed-methods approach, this research examines both quantitative data derived from surveys and qualitative insights obtained through interviews. The study seeks to understand the factors that influence students' and educators' adoption of Chat-GPT in educational settings, as well as its impact on their experience and outcomes.

Key factors such as perceived usefulness, ease of use, trust, and privacy concerns will be analyzed to ascertain their role in shaping individuals' attitudes towards Chat-GPT. Additionally, the study explores how demographic variables such as age, gender, and prior experience with AI technologies may moderate adoption behavior. Furthermore, the research investigates the implications of Chat-GPT deployment on various stakeholders within higher education institutions, including students, faculty, administrators, and support staff. It explores the potential benefits such as enhanced accessibility, personalized learning experiences, and administrative efficiency, as well as challenges such as ethical considerations, biases, and job displacement.

The findings of this study are expected to contribute to the existing literature on AI adoption in higher education and offer practical insights for educational institutions seeking to implement Chat-GPT systems. Understanding the factors influencing consumer adoption will enable stakeholders to design and implement AI-driven solutions that effectively address the needs and concerns of the higher education community, ultimately fostering innovation and improving educational outcomes.Artificial Intelligence (AI) is revolutionizing various sectors, including education, with its applications ranging from personalized learning to administrative tasks. Among these applications, AI-driven chatbots, such as Chat GPT, have emerged as valuable tools for enhancing student experiences in higher education institutions. This report investigates the impact of AI-driven chatbots on consumer adoption within the higher education sector. Through a comprehensive analysis of existing literature, case studies, and surveys, the report explores the factors influencing the adoption of AI-driven chatbots by students and institutions. It also examines the benefits and challenges associated with the integration of AI-driven chatbots in higher education settings. The findings of this report provide valuable insights for educational institutions aiming to leverage AI technologies to improve student engagement, support services, and overall learning outcomes.

Introduction

In recent years, advancements in artificial intelligence (AI) have significantly transformed various industries, including education. Higher education institutions are increasingly exploring AI-driven solutions to enhance student experiences, streamline administrative tasks, and improve learning outcomes. One such AI application gaining traction

in the education sector is chatbots, with ChatGPT being a prominent example. These AI-driven chatbots offer personalized support, instant responses, and round-the-clock assistance to students and faculty members. However, the adoption of AI-driven chatbots in higher education is influenced by various factors, including technological readiness, user acceptance, and institutional policies. Understanding these factors is crucial for educational institutions seeking to harness the potential of AI technologies effectively. This report delves into the influence of AI-driven chatbots, particularly ChatGPT, on consumer adoption in higher education, examining the key drivers, challenges, and implications for institutions.

The integration of artificial intelligence (AI) into various facets of society has spurred transformative changes, and higher education is no exception. As educational institutions strive to adapt to the demands of a rapidly evolving digital landscape, AI-driven technologies, particularly chatbots powered by Generative Pre-trained Transformers (Chat-GPT), have emerged as promising tools to enhance the educational experience.

The proliferation of Chat-GPT in higher education raises significant questions regarding its impact on consumer adoption, encompassing both students and educators. Understanding the factors that influence the adoption of AI-driven chatbots in educational settings is crucial for maximizing their potential benefits and addressing potential challenges.

This thesis seeks to delve into the intricate dynamics surrounding the adoption of Chat-GPT in higher education, exploring its influence on various stakeholders and shedding light on the broader implications for educational practice and policy.

The adoption of AI-driven chatbots in higher education represents a paradigm shift in the way educational services are delivered and accessed. Chat-GPT systems leverage natural language processing and machine learning algorithms to provide personalized assistance, guidance, and support to users. Whether it's answering academic inquiries, providing administrative assistance, or offering personalized learning recommendations, these chatbots have the potential to revolutionize the educational experience.

Literature Review

Artificial Intelligence (AI) has garnered significant attention across various industries, including higher education, where its potential to transform teaching, learning, and administrative processes is increasingly recognized. One of the prominent manifestations of AI in higher education is AI-driven chatbots, particularly those powered by Generative Pre-trained Transformers (Chat-GPT). These chatbots offer personalized assistance, guidance, and support to students and educators, thereby reshaping the educational experience. This literature review explores the existing research on the influence of AI-driven Chat-GPT on consumer adoption in higher education, focusing on factors that affect adoption behavior, implications for stakeholders, and avenues for future research.

Factors Influencing Consumer Adoption:

Perceived Usefulness and Ease of Use:

The Technology Acceptance Model (TAM) posits that perceived usefulness and ease of use are key determinants of technology adoption. Studies have shown that students and educators are more likely to adopt AI-driven chatbots like Chat-GPT if they perceive them as useful tools that enhance learning outcomes and streamline tasks (Davis, 1989). Additionally, ease of use, including factors such as user interface design and accessibility, significantly influences adoption behavior (Venkatesh & Davis, 2000).

Demographic variables such as age, gender, and educational background play a role in shaping adoption behavior. Younger students, who are digital natives, may be more receptive to AI-driven technologies compared to older generations (Dwivedi et al., 2019). Similarly, male students have been found to exhibit higher levels of acceptance towards AI compared to their female counterparts (Lu et al., 2019). However, these findings are not universal, and the influence of demographic factors on adoption behavior varies across contexts and populations.

Problem Statement:

1. People are getting more interested in AI chatbots like Chat-GPT for higher education, but we still don't fully understand why students and teachers decide to use them.

2. Making AI chatbots like Chat-GPT work well in colleges depends on knowing what students and teachers think about them – what they like and what worries them.

3. We need to figure out exactly why people choose to use AI chatbots in colleges. Is it because they find them helpful, easy to use, or because they trust them? And do things like age, gender, or how much education someone has affect their decision?

4. We don't know enough about how using Chat-GPT affects everyone involved in colleges – students, teachers, administrators, and others.

5. Colleges need smart plans and rules based on facts to bring Chat-GPT into classrooms in a good way, while also dealing with any problems or worries that come up.

Objective of the study

1. To identify the key factors influencing consumer adoption of AI-driven Chat-GPT in higher education settings.

2. To assess the perceived usefulness and ease of use of Chat-GPT among students, educators, and other stakeholders in higher education.

3. To investigate trust and privacy concerns associated with the adoption of Chat-GPT and their impact on adoption behavior.

4. To explore individual attitudes towards AI technology, including familiarity, prior experience, and perceived risks, and their influence on adoption behavior.

5. To contribute to a deeper understanding of the influence of AI-driven Chat-GPT on consumer adoption in higher education and its implications for educational practice and policy.

Methodology

- The research will employ a mixed-methods approach, combining both quantitative and qualitative methods to comprehensively investigate the influence of AI-driven Chat-GPT on consumer adoption in higher education.

- The survey questionnaire will include items related to participants' perceptions, attitudes, and behaviors towards Chat-GPT adoption, utilizing validated scales to measure constructs such as perceived usefulness, ease of use, trust, and privacy concerns.

- Interviews will explore participants' perceptions of Chat-GPT, their usage patterns, challenges encountered, and suggestions for improvement.

- Sampling for interviews will ensure representation from diverse stakeholder groups and perspectives within the higher education community.

- Qualitative data from interviews will be analyzed using thematic analysis to identify recurring themes, patterns, and insights related to Chat-GPT adoption.

- Quantitative and qualitative findings will be integrated to provide a comprehensive understanding of the research problem.

Data Collection

The data collection process for examining the influence of AI driven Chat GPT on consumer Adoption in Higher Education involved the following steps:

A structured questionnaire was developed to capture various aspects related   influence of AI driven Chat GPT on Consumer Adoption in Higher Education. The survey included questions about age, use of Chat GPT, Effectiveness of Chat GPT.

The survey was hosted on a reliable online survey platform and distributed to potential participants using convenience sampling methods. The survey link was shared across various online channels, including social media platforms, community groups, and google forms.

The number of responses received was monitored throughout the data collection period to ensure that the target sample size of 52 respondents was reached.

A predetermined data collection period was specified during which participants could respond to the survey. This helped create a sense of urgency and encouraged timely participation, ensuring that data collection was completed within the specified timeframe.

Once 52 responses were collected, the data was compiled and prepared for analysis. Data cleaning was performed to remove any incomplete or irrelevant responses, and then the data was analyzed using appropriate statistical techniques and methods to identify patterns, trends of the consumer using AI tool Chat GPT.

DATA ANALYSIS AND INTERPRETATION

Age Group
52 responses

|	
🔵	15-20
🔴	20-25
🟠	25-30
🟢	30-35
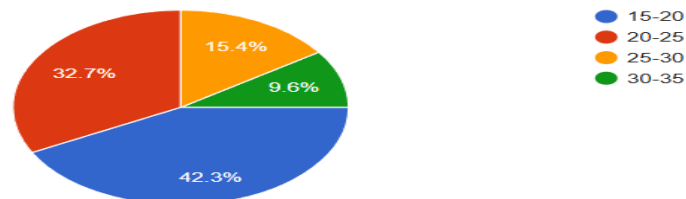
Interpretation-
From the above graph we can see that the majority of the responses were from the age group of 15-20 years who uses the Chat Gpt for their school Education purposes. Then the age group 20-25 are the individual who uses Chat GPT for their higher Education .And the rest are the age group which use less AI tool for there work and education.

What is your highest Qualification?

52 responses

- High School
- Bachelors
- Masters
- Doctorate
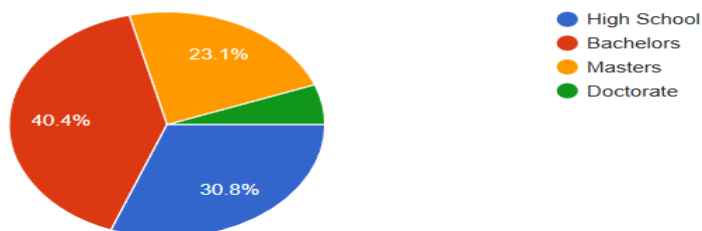
Interpretation-

In the Above chart we can see that the most of the individuals who are using Chat GPT are the one who are doing their graduation and are in bachelors, then come the group who uses are in schhol and are using for their school work and homework and then are the group of people who are masters are using their AI tools for their Assignments, project works and Presentations work, very less are the people who are in doctorate course who prefer to use AI Chat GPT for their education purposes.

Are you aware of ChatGPT or similar AI-driven tools?
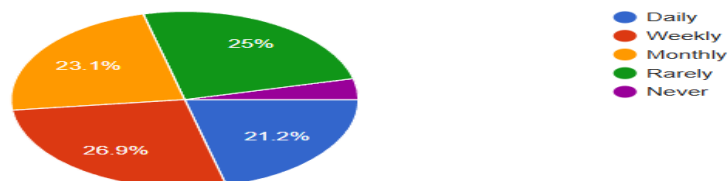
52 responses

- Yes
- No
- Maybe
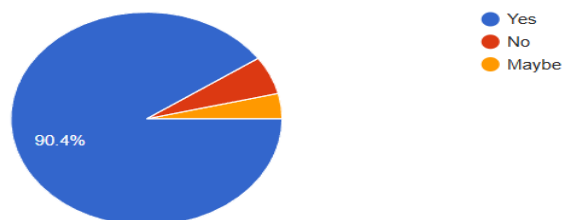
Interpretation-

From the above information we can interpret that any people are aware of the Chat GPT and similar AI driven tools and very less are unaware of the AI driven Tools.

How often do you use ChatGPT for educational purposes?

52 responses

- Daily
- Weekly
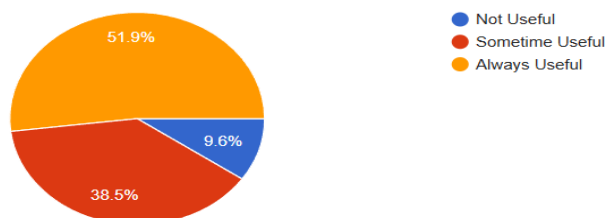- Monthly
- Rarely
- Never

Interpretation-

This chart shows the factors that how often people use the ChatGPT for educational purposes that most people use ChatGPT on Weekly basis, then 25% people use it on Rarely basis, then monthly and daily basis are also some people who use i

How would you rate the usefulness of ChatGPT for your educational needs?
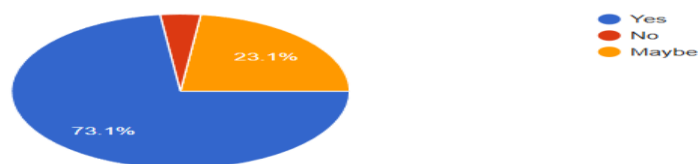
52 responses

Interpretation-

The data chart directly indicates that the people have a rated that Chat GPT is useful for the Educational needs and helps them to fulfill their requirements in educational purposes.

Do you believe ChatGPT improve the quality of your academic work?
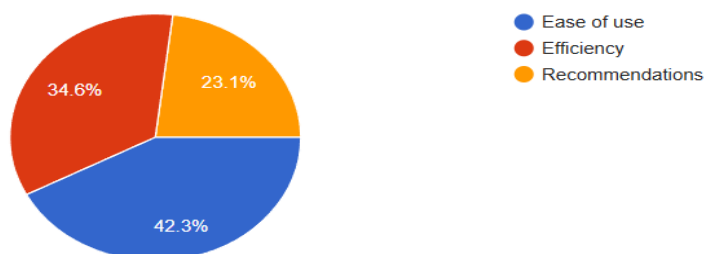
52 responses

Interpretation-

This chart shows that majority of people have a believe that Chat GPT improves the quality of their academic work and helps them to work in that where some people have a dilemma that whether the Chat GPT is useful or not.

What motivates you to use AI tools like ChatGPT?

52 responses

Interpretation-

According to the data collected from the survey, it is clearly indicated that most of the feel that the use of AI Tools like Chat GPT helps them to ease of use, and its efficiency and recommendations helps the people to use it for their educational purposes and higher studies.

Has ChatGPT reduced the time you spend on academic task?

52 responses

- Yes
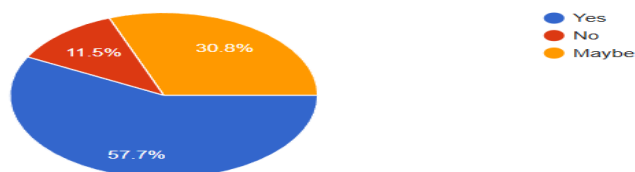- No
- Maybe

34.6%
11.5%
53.8%
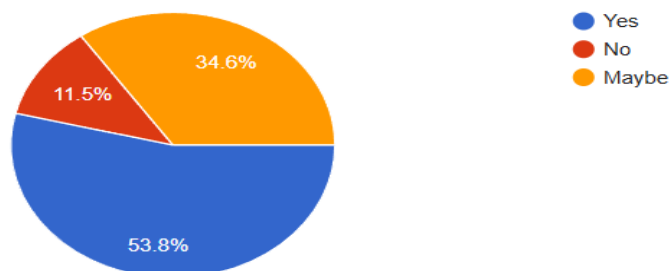
Interpretation-

The chart represents that most people feel that AI driven tools helps them to reduce the time you spend on academic task like it helps to ease the work, reduces the time and make it effective.

Do you think institutions should officially integrate ChatGPT into their learning systems?

52 responses

- Yes
- No
- Maybe

11.5%
30.8%
57.7%

Interpretation-

According to the survey most people think that institutions should officially integrate Chat GPT into their Learning system where as most people are not sure that whether to officially integrate Chat GPT into their learning systems or not.

Would you recommend ChatGPT to other in your institution?

51 responses
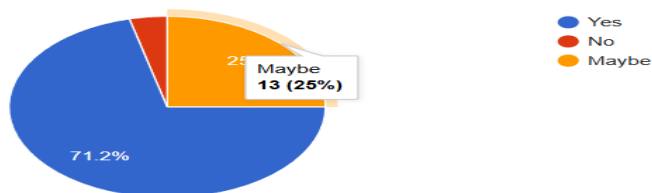
- Yes
- No
- Maybe
- Never

25.5%
64.7%
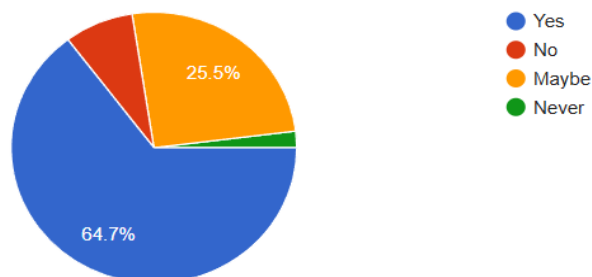
Interpretation-

From the above the survey , it is directly indicated that people use of recommend ChatGPT to others in their schools, colleges and in there doctorate programs.

Do you feel ChatGPT helps you understand concepts better?
52 responses

- Yes
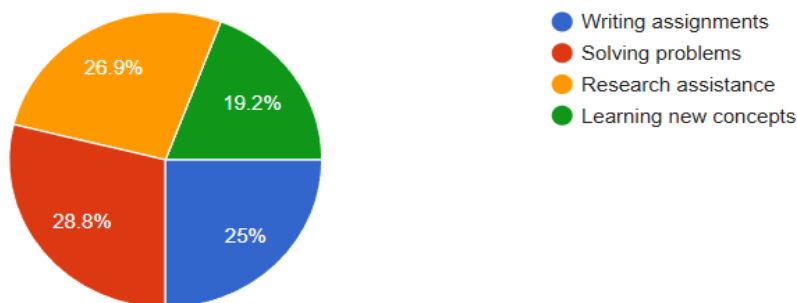- No
- Maybe

Maybe
13 (25%)

71.2%

Interpretation-

From the responses collected from 52 respondents it is clear that people easily understand the concept from the AI tools like Chat GPT and where as few people are in dilemma that whether they understand or not from AI or not.

For which activites do you use ChatGPT?
52 responses

- Writing assignments
- Solving problems
- Research assistance
- Learning new concepts

26.9%

19.2%

28.8%

25%

Interpretation-

From the data collection we came to know that people use Chat GPT for solving problems , and for research assistance and for writing assignments and learning new concepts as well.

Findings

People use Chat GPT for understanding the concepts, writing and Completing the assignments in their higher educations.

To make work easy and efficient, time saving people use AI driven data.

It helps people to provide quick information on varieties of topic.

People finds AI driven Tool useful as it provide instant response as no waiting line for any questions.

Limitations

- The participants in the study may not represent the entire population of higher education stakeholders, leading to potential sample bias.

- Participants may provide biased or inaccurate responses, either intentionally or unintentionally, leading to self-reporting bias.

- The findings of the study may have limited generalizability beyond the specific context and population under investigation.

- Participants may provide responses that they perceive as socially desirable rather than reflecting their true beliefs or experiences.

- This bias could affect the validity of the findings, particularly in surveys or interviews where participants may feel pressure to conform to societal expectations.

Conclusion-

In conclusion, the uses of ChatGPT are vast and varied, making it a valuable tool across different fields. From educational support and content creation to language learning and personal development, AI-driven chatbots enhance productivity and engagement. They provide instant access to information, facilitate brainstorming, and offer a non-judgmental space for discussions. As technology continues to evolve, the potential applications of ChatGPT will likely expand, making it an even more integral part of our daily lives. Overall, leveraging ChatGPT can lead to improved learning experiences, creativity, and efficiency in various tasks.

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