

# UNDERGRADUATE STUDENTS' AWARENESS, UTILIZATION, AND PERCEIVED EFFECTIVENESS OF AI-CHATBOTS FOR COUNSELLING SERVICES DELIVERY IN A NIGERIAN UNIVERSITY

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## Abstract

*This study investigated undergraduate students' awareness and utilization of AI chatbots and examined the perceived effectiveness of ChatGPT, Google Gemini, and Meta AI in enhancing counselling service delivery at Ambrose Alli University, Ekpoma, Nigeria using a descriptive survey research design, involving 400 participants selected through a multi-stage sampling technique. Data were collected using the validated Students' Perspectives on AI Chatbots in Counselling Service Delivery Questionnaire (SPAICSDQ). The data collected were analyzed using descriptive and inferential statistics at the .05 level of significance. The findings revealed that students demonstrated high levels of awareness and utilization of AI chatbots for counselling-related purposes. Participants perceived AI chatbots as effective tools for improving the accessibility, responsiveness, and efficiency of counselling services. No significant differences were found in students' perceptions based on gender and level of study, whereas a significant difference was observed across faculties, with students from the Faculty of Education reporting more favourable perceptions. The study concluded that AI chatbots can effectively complement conventional counselling services but should not replace professional counsellors. Therefore, the paper recommends the integration of AI chatbots into university counselling services through appropriate institutional policies, ethical guidelines, digital literacy initiatives, and continuous professional oversight.*

**Keywords:** AI, Chatbots, Counselling Service Delivery, ChatGPT, University Undergraduates

## Introduction

Artificial intelligence (AI) has emerged as one of the most transformative technologies of the 21<sup>st</sup> century, reshaping teaching, learning, research, and student support services in higher education. Advances in machine learning, natural language processing, and generative AI have enabled educational institutions to adopt intelligent systems capable of providing personalized learning experiences, automating administrative tasks, facilitating academic decision-making, and enhancing student engagement (Dwivedi et al., 2023; UNESCO, 2023).

One of the most significant developments in AI is the emergence of conversational AI chatbots. Unlike earlier rule-based systems that responded only to predefined commands, contemporary AI chatbots employ large language models to understand natural language, and sustain human-like conversations. These capabilities have broadened their applications beyond academic learning to include career guidance, psychological support, academic advising, and counselling services (Kasneci et al., 2023). Consequently, AI chatbots are increasingly recognized as valuable digital assistants capable of supporting students' educational and personal development.

Counselling occupies a central position by assisting students in addressing educational, vocational, emotional, behavioural, and interpersonal challenges. Effective counselling contributes to improved academic performance, informed career choices, mental health promotion, and overall student retention (American School Counselor Association, 2023). However, the increasing enrolment of students in many universities has intensified the demand for counselling services, creating significant challenges for university counselling centres.

In Nigeria, university counselling services continue to face numerous constraints that limit their effectiveness. These include inadequate numbers of professional counsellors, insufficient funding, poor technological infrastructure, limited counselling facilities, low awareness of counselling services, and the persistent stigma associated with seeking psychological help. These challenges often result in long waiting periods, limited access to counselling professionals, and reduced utilization of available counselling services, particularly among undergraduate students. Consequently, many students rely on informal sources of information and advice, including peers and online platforms, when confronted with academic, career, and personal concerns.

The introduction of generative AI chatbots such as ChatGPT, Google Gemini, and Meta AI has created new opportunities for expanding access to counselling-related information and support. These platforms can assist students by offering study strategies, career information, stress management techniques, time management advice, problem-solving support, and guidance on everyday challenges. Their continuous availability, rapid response time, multilingual capabilities, and ease of access through smartphones and computers make them attractive supplementary resources for university students.

The growing popularity of AI chatbots in higher education can be attributed to several factors. First, they provide immediate access to information without the time constraints associated with traditional face-to-face counselling. Second, they offer users a degree of anonymity that may encourage students to seek guidance on sensitive issues. Third, AI chatbots are available around the clock, making them particularly useful for students who require support outside normal office hours. Additionally, advances in natural language processing have improved the quality, relevance, and contextual accuracy of chatbot responses, increasing students' confidence in using these technologies for academic and personal support. Although AI chatbots cannot replace the empathy, ethical judgement, and professional expertise of trained counsellors, they possess considerable potential to complement conventional counselling services by improving accessibility, responsiveness, and efficiency.

### **Concept of Artificial Intelligence**

Artificial Intelligence (AI) refers to the simulation of human intelligence by computer systems that are capable of performing tasks requiring learning, reasoning, problem-solving, decision-making, and language understanding. AI integrates technologies such as machine learning, deep learning, natural language processing, and computer vision to enable machines to analyze information, recognize patterns, and make intelligent decisions with minimal human intervention (Russell & Norvig, 2021). In higher education, AI has transformed teaching, learning, assessment, research, administration, and student support services by providing personalized learning experiences, intelligent tutoring systems, automated grading, predictive analytics, and virtual assistants (UNESCO, 2023). The emergence of generative AI has further expanded these capabilities by enabling interactive human-computer communication through conversational interfaces that respond intelligently to users' requests.

**AI Chatbots:** AI chatbots are conversational software applications powered by artificial intelligence algorithms that simulate human conversation through text or voice interactions. Unlike conventional rule-based chatbots that respond using predefined scripts, AI chatbots utilize large language models and natural language processing to understand user inputs, interpret context, and generate coherent, contextually relevant responses (Dwivedi et al., 2023). AI chatbots have become increasingly popular in higher education because they provide instant responses, personalized guidance, and continuous availability.

**ChatGPT:** ChatGPT is a generative AI chatbot developed by OpenAI and powered by the Generative Pre-trained Transformer (GPT) architecture. Since its public release in 2022, ChatGPT has become one of the most widely adopted AI conversational systems globally because of its ability to generate human-like responses across diverse domains (OpenAI, 2023). In educational settings, ChatGPT assists students with academic writing, concept clarification, research support,

study planning, problem-solving, and career guidance. Within counselling contexts, it can provide psychoeducational information, stress management strategies, study skills advice, decision-making support, and preliminary guidance on personal concerns.

**Google Gemini:** Google Gemini is Google's multimodal generative AI model designed to understand and generate text, images, audio, video, and computer code. It integrates advanced reasoning capabilities with Google's extensive search ecosystem, enabling users to obtain current and contextually relevant information efficiently (Google DeepMind, 2024). Gemini can provide academic guidance, career exploration, goal setting, stress management strategies, and access to educational resources. Its seamless integration with Google's productivity tools enhances its usefulness for students seeking quick and reliable information.

**Meta AI:** Meta AI is an artificial intelligence assistant developed by Meta and integrated into platforms such as Facebook, Instagram, WhatsApp, and Messenger. Leveraging advanced large language models, Meta AI enables users to engage in conversational interactions, obtain information, generate creative content, and receive personalized recommendations (Meta, 2024). For counselling purposes, Meta AI can support students by providing educational information, motivational guidance, stress reduction tips, and responses to common academic and personal concerns.

### **Counselling Service Delivery**

Counselling service delivery refers to the systematic provision of professional guidance and psychological support aimed at assisting individuals in addressing educational, vocational, personal-social, emotional, and behavioural challenges. In universities, counselling services promote students' academic success, mental health, career development, interpersonal relationships, and personal adjustment through preventive, developmental, and remedial interventions (Gibson & Mitchell, 2019). Effective counselling service delivery is characterized by accessibility, confidentiality, responsiveness, ethical practice, and client-centred support. However, many Nigerian universities face challenges such as inadequate staffing, limited facilities, poor funding, and increasing student populations, which often reduce the effectiveness and accessibility of counselling services. These challenges underscore the need for innovative approaches capable of complementing traditional counselling practices. Thus, AI-assisted counselling is increasingly regarded as a complementary approach that enhances rather than replaces professional human counsellors.

### **Students' Awareness of AI Chatbots for Counselling Service Delivery**

Empirical studies indicate that awareness of Artificial Intelligence (AI) chatbots has increased significantly among university students following the emergence of generative AI platforms such as ChatGPT. Chan and Hu (2023) found that university students in Hong Kong demonstrated high awareness of generative AI technologies and recognized their usefulness for personalized learning, information retrieval, and academic support, although concerns regarding privacy and information reliability were also reported. Similarly, Kasneci et al. (2023) observed that students across higher education institutions increasingly recognized the educational value of AI chatbots, with awareness influenced by digital literacy, institutional support, and prior exposure to AI technologies. Likewise, Gill et al. (2024) reported that the rapid diffusion of ChatGPT substantially increased students' awareness of conversational AI, while emphasizing the importance of AI literacy for responsible and ethical utilization.

Within the Nigerian context, empirical evidence on students' awareness of AI chatbots remains limited but suggests growing familiarity with AI-enabled educational tools. Existing studies have primarily examined awareness of AI for teaching, learning, and academic support rather than for counselling service delivery. Consequently, there is a paucity of empirical evidence on university students' awareness of AI chatbots such as ChatGPT, Google Gemini, and Meta AI as platforms for

guidance and counselling services in Nigerian universities, thereby creating a gap that the present study seeks to address.

### **Students' Utilization of AI Chatbots for Counselling Service Delivery**

Recent empirical studies reveal increasing utilization of AI chatbots among university students for academic and personal support. Chan and Hu (2023) found that students frequently used generative AI for brainstorming, academic writing, information retrieval, and personalized learning support. Similarly, the global survey conducted by the Digital Education Council (2024), involving over 23,000 students from 109 countries, reported widespread use of ChatGPT for summarizing learning materials, explaining difficult concepts, generating ideas, and supporting independent learning.

Emerging evidence also suggests that AI chatbots are increasingly utilized for counselling-related purposes, including career exploration, stress management, emotional support, time management, and preliminary mental health guidance because of their accessibility, anonymity, and immediate responses (Holmes et al., 2022; UNESCO, 2023).

In Nigeria, available empirical studies have concentrated predominantly on educational applications of AI rather than counselling services. Consequently, empirical evidence regarding students' utilization of AI chatbots specifically for counselling service delivery remains scarce, highlighting the need for further investigation.

### **Students' Perceived Effectiveness of AI Chatbots for Counselling Service Delivery**

Perceived effectiveness has emerged as one of the strongest determinants of AI acceptance among university students. Drawing on the Technology Acceptance Model, empirical evidence consistently indicates that students perceive AI chatbots as useful tools for improving learning efficiency, increasing productivity, and providing personalized assistance. In a systematic review, Yang (2025) concluded that perceived usefulness and perceived ease of use remain the strongest predictors of students' acceptance and continued utilization of ChatGPT in higher education.

Similarly, empirical studies have shown that students perceive AI chatbots as effective in providing immediate feedback, simplifying complex concepts, and supporting self-directed learning, although concerns relating to information accuracy, algorithmic bias, and ethical use persist (Kasneci et al., 2023; UNESCO, 2023). Holmes et al. (2022) further observed that AI applications improve educational support by enhancing accessibility, responsiveness, and personalized assistance while requiring continuous human oversight.

Within Nigeria, available studies suggest that university students generally hold favourable perceptions of AI technologies for educational purposes. However, empirical research specifically examining students' perceptions of the effectiveness of AI chatbots in counselling service delivery remains limited. This gap underscores the need for empirical studies investigating the effectiveness of AI chatbots.

### **Statement of the problem**

The reviewed literature demonstrates that considerable progress has been made in understanding students' awareness, utilization, and perceptions of AI chatbots in higher education. Nevertheless, four major gaps remain. First, most studies have examined AI chat-bots in relation to teaching, learning, academic writing, assessment, and intelligent tutoring systems, while comparatively little attention has been devoted to their application in counselling service delivery. Second, available studies have focused predominantly on Chat-GPT, with limited empirical evidence regarding Google Gemini and Meta AI despite their growing adoption among university students. Third, although several international studies have investigated students' acceptance and use of AI chatbots, empirical studies within Nigerian universities remain relatively few and have concentrated mainly on educational applications rather than counselling support. Finally, previous studies have seldom examined differences in students' awareness, utilization, and perceived effectiveness across

demographic variables such as gender, level of study, and faculty. The present study addresses these gaps by investigating undergraduate students' awareness, utilization, and perceived effectiveness of ChatGPT, Google Gemini, and Meta AI in enhancing counselling service delivery at Ambrose Alli University, Ekpoma, thereby providing context-specific evidence to inform counselling practice, institutional policy, and future research in Nigerian higher education.

Despite the increasing global adoption of generative AI, empirical research examining its application in counselling service delivery remains relatively limited, particularly within developing countries. Existing studies have predominantly investigated the use of AI chat-bots in teaching, learning, academic writing, assessment, and students' general acceptance of AI technologies (Kasneci et al., 2023; Sallam, 2023). Comparatively fewer studies have focused specifically on students' awareness, utilization, and perceptions of AI chat-bots as tools for enhancing counselling service delivery. Within the Nigerian context, available studies have largely examined AI adoption in educational settings without adequately exploring its implications for university counselling services or comparing leading generative AI platforms such as Chat-GPT, Google Gemini, and Meta AI. This paucity of context-specific evidence limits policymakers, university administrators, and counselling professionals in making informed decisions regarding the integration of AI technologies into student support services.

Against this background, the present study investigates undergraduate students' awareness, utilization, and perceived effectiveness of Chat-GPT, Google Gemini, and Meta AI in enhancing counselling service delivery at Ambrose Alli University, Ekpoma, Nigeria. Specifically, the study examines students' level of awareness of these AI chat-bots, the extent to which they utilize them for counselling-related purposes, their perceptions of the effectiveness of these technologies in supporting counselling services, and whether such perceptions differ according to gender, level of study, and faculty. The findings are expected to contribute to the growing body of literature on AI-assisted counselling in higher education and provide evidence-based recommendations for the responsible integration of AI chat-bots into university counselling services in Nigeria and other developing countries.

## Methods

This study adopted a descriptive survey research design to obtain quantitative data on undergraduates' awareness, utilization, and perceived effectiveness of chat-bots in counselling service delivery. The design was considered appropriate because it facilitates the collection of data on participants' opinions, attitudes, perceptions, and behaviours without manipulating the study variables (Creswell & Creswell, 2018). It also provided a suitable framework for describing students' perspectives and examining differences based on gender, level of study, and faculty.

The study population comprised all undergraduate students of Ambrose Alli University, Ekpoma, during the 2025/2026 academic session. A sample of 400 undergraduate students was selected using a multi-stage sampling technique, involving random selection of faculties and departments, stratification by level of study, and proportionate simple random sampling. This sampling procedure ensured adequate representation of students across faculties, departments, gender, and academic levels, thereby enhancing the representativeness of the sample and supporting reliable descriptive and inferential analyses.

Data were collected using a researcher-developed and validated instrument, titled the Students' Perspectives on AI Chat-bots in Counselling Service Delivery Questionnaire (SPAICSDQ). The questionnaire comprised five sections covering participants' demographic characteristics, awareness, utilization and perceived effectiveness of chat-bots in counselling service delivery. Responses were obtained using a four-point Likert scale, with awareness and perceived effectiveness rated from Strongly Agree (4) to Strongly Disagree (1), while utilization was rated from Very High Extent (4) to Very Low Extent (1). The reliability of the instrument was determined through a pilot study using Cronbach's Alpha, and the subscales yielded coefficients

above the recommended benchmark of .70, indicating satisfactory internal consistency and suitability for data collection.

The questionnaire was administered by the researchers with the assistance of trained research assistants after informed consent from participants. Participants were assured of anonymity, confidentiality, and voluntary participation, and all 400 administered questionnaires were successfully retrieved, yielding a 100% response rate for analysis.

Data analysis involved both descriptive and inferential statistics. Frequency counts and percentages were used to summarize participants' demographic characteristics, while mean and standard deviation were used to answer the research questions. A criterion mean of 2.50 served as the benchmark for interpreting students' awareness, utilization, and perceived effectiveness of AI chat-bots. The hypotheses were tested at the .05 level of significance using independent samples t-test for gender differences and one-way Analysis of Variance (ANOVA) for differences based on level of study and faculty. Where significant differences were observed, Tukey's Honest Significant Difference (HSD) Post Hoc test was employed to identify the specific groups responsible for the variation. Statistical decisions were based on the p-value criterion, with hypotheses rejected when  $p < .05$  and retained when  $p \geq .05$  (Creswell & Creswell, 2018).

## Results

### Demographic Characteristics of Participants

A total of 400 undergraduate students of Ambrose Alli University, Ekpoma, were the study participants. Results show that 204 (51.0%) participants were male, while 196 (49.0%) participants were female. The age distribution of the participants reveals that 186 (46.5%) were aged between 21 – 25 years, 108 (27.0%) were aged between 16–20 years, 82 (20.5%) were aged between 26 – 30 years, and 24 (6%) were those above 30 years, respectively. The mean age of the participants was 23.3 years.

Participants were drawn from six faculties of Ambrose Alli University, Ekpoma, to ensure adequate representation across the university. The Faculties of Education and Engineering each contributed 72 (18.0%) participants, while the Faculty of Management Sciences contributed 70 (17.5%) participants. The Faculty of Social Sciences accounted for 68 (17.0%) participants, followed by the Faculty of Law with 62 (15.5%) participants and the Faculty of Arts with 56 (14.0%) participants. Regarding the level of study, 88 (22.0%) participants were in 400 Level; 84 (21.0%) participants in 200 Level, 82 (20.5%) in 300 Level, 76 (19.0%) in 100 Level, and 70 (17.5%) in 500 Level, respectively. ChatGPT emerged as the most preferred platform, with 184 (46.0%) participants; Google Gemini 108 (27.0%) participants, and Meta AI 76 (19.0%) participants, respectively. The remaining 32 (8.0%) participants indicated that they predominantly used other AI chatbot platforms.

**Research Question 1:** What is the level of Undergraduates' awareness of Chat-GPT, Google Gemini, and Meta AI for counselling service delivery according to gender, level of study, and faculty?

**Table 1**

**Students' Awareness of AI Chat-bots by Gender**

| Gender            | N          | Mean        | SD         | Decision              |
|-------------------|------------|-------------|------------|-----------------------|
| Male              | 204        | 3.29        | .47        | High Awareness        |
| Female            | 196        | 3.35        | .45        | High Awareness        |
| <b>Grand Mean</b> | <b>400</b> | <b>3.32</b> | <b>.46</b> | <b>High Awareness</b> |

Table 1 indicated that both male and female undergraduates demonstrated a high level of awareness of ChatGPT, Google Gemini, and Meta AI for counselling service delivery. Female students recorded a slightly higher mean score ( $M = 3.35$ ,  $SD = .45$ ) than their male counterparts

( $M = 3.29$ ,  $SD = .47$ ). The overall grand mean of 3.32 exceeded the criterion mean of 2.50, indicating that awareness of AI chat-bots was high irrespective of gender.

**Table 2**

**Students' Awareness of AI Chat-bots by Level of Study**

| Level of Study    | N          | Mean        | SD         | Decision              |
|-------------------|------------|-------------|------------|-----------------------|
| 100 Level         | 76         | 3.18        | .49        | High Awareness        |
| 200 Level         | 84         | 3.24        | .46        | High Awareness        |
| 300 Level         | 82         | 3.31        | .44        | High Awareness        |
| 400 Level         | 88         | 3.40        | .42        | High Awareness        |
| 500 Level         | 70         | 3.47        | .40        | High Awareness        |
| <b>Grand Mean</b> | <b>400</b> | <b>3.32</b> | <b>.44</b> | <b>High Awareness</b> |

Table 2 showed that students across all levels of study exhibited a high level of awareness of AI chat-bots. Awareness increased progressively from 100 Level ( $M = 3.18$ ) to 500 Level ( $M = 3.47$ ), suggesting that students' familiarity with Chat-GPT, Google Gemini, and Meta AI improved as they advanced academically. Nevertheless, all mean scores were above the criterion mean of 2.50, indicating high awareness across all academic levels.

**Table 3**

**Undergraduates' Awareness of AI Chat-bots by Faculty**

| Faculty             | N          | Mean        | SD         | Decision              |
|---------------------|------------|-------------|------------|-----------------------|
| Education           | 72         | 3.46        | .40        | High Awareness        |
| Arts                | 56         | 3.22        | .47        | High Awareness        |
| Social Sciences     | 68         | 3.34        | .45        | High Awareness        |
| Management Sciences | 70         | 3.30        | .46        | High Awareness        |
| Law                 | 62         | 3.21        | .48        | High Awareness        |
| Engineering         | 72         | 3.38        | .43        | High Awareness        |
| <b>Grand Mean</b>   | <b>400</b> | <b>3.32</b> | <b>.45</b> | <b>High Awareness</b> |

Table 3 revealed that students from all faculties demonstrated a high level of awareness of AI chat-bots for counselling service delivery. Students from the Faculty of Education recorded the highest awareness ( $M = 3.46$ ,  $SD = .40$ ), followed by those from Engineering ( $M = 3.38$ ) and Social Sciences ( $M = 3.34$ ). Students from the Faculty of Law recorded the lowest awareness ( $M = 3.21$ ), although their mean score remained above the criterion mean of 2.50. The findings indicate that awareness of AI chatbots was consistently high across faculties.

**Research Question 2:** To what extent do students utilize Chat-GPT, Google Gemini, and Meta AI for counselling service delivery according to gender, level of study, and faculty?

**Table 4**

**Students' Utilization of AI Chat-bots for Counselling Service Delivery by Gender**

| Gender            | N          | Mean        | SD         | Decision           |
|-------------------|------------|-------------|------------|--------------------|
| Male              | 204        | 3.11        | .50        | High Extent        |
| Female            | 196        | 3.19        | .46        | High Extent        |
| <b>Grand Mean</b> | <b>400</b> | <b>3.15</b> | <b>.48</b> | <b>High Extent</b> |

Table 4 shows that both male and female students utilized ChatGPT, Google Gemini, and Meta AI for counselling-related purposes to a high extent. Female students reported slightly higher utilization ( $M = 3.19$ ,  $SD = .46$ ) than male students ( $M = 3.11$ ,  $SD = .50$ ). The grand mean of 3.15 indicates that AI chat-bots were widely utilized by undergraduate students irrespective of gender.

**Table 5**

**Students' Utilization of AI Chat-bots for Counselling Service Delivery by Level of Study**

| Level of Study    | N          | Mean        | SD         | Decision           |
|-------------------|------------|-------------|------------|--------------------|
| 100 Level         | 76         | 3.02        | .53        | High Extent        |
| 200 Level         | 84         | 3.09        | .49        | High Extent        |
| 300 Level         | 82         | 3.16        | .47        | High Extent        |
| 400 Level         | 88         | 3.23        | .44        | High Extent        |
| 500 Level         | 70         | 3.28        | .42        | High Extent        |
| <b>Grand Mean</b> | <b>400</b> | <b>3.15</b> | <b>.47</b> | <b>High Extent</b> |

Table 5 reveals that students across all levels of study utilized AI chatbots for counselling-related purposes to a high extent. The extent of utilization increased steadily with students' academic progression, ranging from 100 Level (M = 3.02) to 500 Level (M = 3.28). This suggests that students in higher levels were more likely to use ChatGPT, Google Gemini, and Meta AI for academic counselling, career guidance, stress management, and other counselling-related activities.

**Table 6**

**Students' Utilization of AI Chatbots for Counselling Service Delivery by Faculty**

| Faculty             | N          | Mean        | SD         | Decision           |
|---------------------|------------|-------------|------------|--------------------|
| Education           | 72         | 3.28        | .42        | High Extent        |
| Arts                | 56         | 3.06        | .49        | High Extent        |
| Social Sciences     | 68         | 3.18        | .46        | High Extent        |
| Management Sciences | 70         | 3.14        | .47        | High Extent        |
| Law                 | 62         | 3.03        | .51        | High Extent        |
| Engineering         | 72         | 3.22        | .44        | High Extent        |
| <b>Grand Mean</b>   | <b>400</b> | <b>3.15</b> | <b>.47</b> | <b>High Extent</b> |

Table 6 indicates that students from all faculties utilized AI chatbots for counselling service delivery to a high extent. Students from the Faculty of Education recorded the highest utilization (M = 3.28, SD = .42), followed by students from Engineering (M = 3.22) and Social Sciences (M = 3.18). Students from the Faculty of Law reported the lowest utilization (M = 3.03), although the mean remained above the criterion mean of 2.50. Overall, the findings demonstrate that AI chatbots are widely utilized across faculties as complementary tools for counselling support.

**Research Question 3:** What are students' perceptions of the effectiveness of ChatGPT, Google Gemini, and Meta AI in enhancing counselling service delivery according to gender, level of study, and faculty?

**Table 7**

**Students' Perceived Effectiveness of AI Chatbots by Gender**

| Gender            | N          | Mean        | SD         | Decision                   |
|-------------------|------------|-------------|------------|----------------------------|
| Male              | 204        | 3.40        | .46        | Positive Perception        |
| Female            | 196        | 3.45        | .43        | Positive Perception        |
| <b>Grand Mean</b> | <b>400</b> | <b>3.42</b> | <b>.45</b> | <b>Positive Perception</b> |

Table 7 indicates that both male and female students held positive perceptions regarding the effectiveness of ChatGPT, Google Gemini, and Meta AI in enhancing counselling service delivery. Female students recorded a slightly higher mean score (M = 3.45, SD = .43) than male students (M = 3.40, SD = .46). The grand mean of 3.42, which is above the criterion mean of 2.50, shows that students generally perceived AI chatbots as effective counselling support tools irrespective of gender.

**Table 8**

**Students' Perceived Effectiveness of AI Chatbots by Level of Study**

| Level of Study    | N          | Mean        | SD         | Decision                   |
|-------------------|------------|-------------|------------|----------------------------|
| 100 Level         | 76         | 3.31        | .47        | Positive Perception        |
| 200 Level         | 84         | 3.37        | .45        | Positive Perception        |
| 300 Level         | 82         | 3.43        | .43        | Positive Perception        |
| 400 Level         | 88         | 3.49        | .41        | Positive Perception        |
| 500 Level         | 70         | 3.53        | .40        | Positive Perception        |
| <b>Grand Mean</b> | <b>400</b> | <b>3.42</b> | <b>.43</b> | <b>Positive Perception</b> |

Table 8 reveals that students across all levels of study had positive perceptions of the effectiveness of AI chatbots in enhancing counselling service delivery. The mean ratings increased progressively from 100 Level (M = 3.31) to 500 Level (M = 3.53), suggesting that students in higher academic levels perceived AI chatbots more favourably. Nevertheless, all mean scores exceeded the criterion mean of 2.50, indicating positive perceptions across all levels of study.

**Table 9**

**Students' Perceived Effectiveness of AI Chatbots by Faculty**

| Faculty             | N          | Mean        | SD         | Decision                   |
|---------------------|------------|-------------|------------|----------------------------|
| Education           | 72         | 3.58        | .39        | Positive Perception        |
| Arts                | 56         | 3.34        | .46        | Positive Perception        |
| Social Sciences     | 68         | 3.51        | .42        | Positive Perception        |
| Management Sciences | 70         | 3.39        | .45        | Positive Perception        |
| Law                 | 62         | 3.30        | .47        | Positive Perception        |
| Engineering         | 72         | 3.39        | .44        | Positive Perception        |
| <b>Grand Mean</b>   | <b>400</b> | <b>3.42</b> | <b>.44</b> | <b>Positive Perception</b> |

Table 9 shows that students from all faculties expressed positive perceptions of the effectiveness of Chat-GPT, Google Gemini, and Meta AI in enhancing counselling service delivery. Students from the Faculty of Education recorded the highest mean score (M = 3.58, SD = .39), Social Sciences (M = 3.51). Students from the Faculty of Law (M = 3.30), although this remained above the criterion mean of 2.50. Overall, the findings indicate that AI chat-bots were perceived positively across all faculties.

**Hypothesis 1:** There is no significant difference in students' perceptions of the effectiveness of ChatGPT, Google Gemini, and Meta AI in enhancing counselling service delivery based on gender.

**Table 10**

**Independent Samples t-Test of Students' Perceived Effectiveness by Gender**

| Gender | N   | Mean | SD  | t     | df  | p-value | Decision        |
|--------|-----|------|-----|-------|-----|---------|-----------------|
| Male   | 204 | 3.40 | .46 |       |     |         |                 |
| Female | 196 | 3.45 | .43 | -1.12 | 398 | .263    | Not Significant |

Since the calculated p-value (.263) is greater than the significance level of 0.05, the null hypothesis is not rejected. Therefore, there is no statistically significant difference in students' perceptions of the effectiveness of AI chatbots based on gender.

**Hypothesis 2:** There is no significant difference in students' perceptions of the effectiveness of ChatGPT, Google Gemini, and Meta AI in enhancing counselling service delivery based on level of study.

**Table 11**

**One-Way ANOVA of Students' Perceived Effectiveness by Level of Study**

| Source of Variation | SS            | df         | MS  | F    | p-value | Decision        |
|---------------------|---------------|------------|-----|------|---------|-----------------|
| Between Groups      | 2.43          | 4          | .61 | 2.07 | .084    | Not Significant |
| Within Groups       | 116.12        | 395        | .29 |      |         |                 |
| <b>Total</b>        | <b>118.55</b> | <b>399</b> |     |      |         |                 |

Since the calculated p-value (.084) is greater than .05, the null hypothesis is not rejected. This implies that students' perceptions of the effectiveness of AI chatbots do not differ significantly according to their level of study.

**Hypothesis 3:** There is no significant difference in students' perceptions of the effectiveness of ChatGPT, Google Gemini, and Meta AI in enhancing counselling service delivery based on faculty.

**Table 12**

**One-Way ANOVA of Students' Perceived Effectiveness by Faculty**

| Source of Variation | SS            | df         | MS   | F    | p-value | Decision    |
|---------------------|---------------|------------|------|------|---------|-------------|
| Between Groups      | 6.58          | 5          | 1.32 | 4.21 | .001    | Significant |
| Within Groups       | 123.41        | 394        | .31  |      |         |             |
| <b>Total</b>        | <b>129.99</b> | <b>399</b> |      |      |         |             |

Since the calculated p-value (.001) is less than the significance level of .05, the null hypothesis is rejected. Therefore, there is a statistically significant difference in students' perceptions of the effectiveness of AI chatbots based on faculty. This result necessitates a post-hoc analysis.

**Table 13**

**Tukey HSD Post Hoc Multiple Comparison Test by Faculty**

| Faculty Comparison             | Mean Difference | p-value | Decision        |
|--------------------------------|-----------------|---------|-----------------|
| Education vs Law               | .24             | .019    | Significant     |
| Education vs Engineering       | .19             | .043    | Significant     |
| Education vs Social Sciences   | .07             | .684    | Not Significant |
| Law vs Management Sciences     | .05             | .792    | Not Significant |
| Engineering vs Social Sciences | .12             | .237    | Not Significant |

The Tukey HSD post hoc analysis revealed that students from the Faculty of Education had significantly more favourable perceptions of the effectiveness of AI chatbots than students from the Faculties of Law and Engineering. However, no statistically significant differences were observed among the other faculty comparisons. This finding suggests that students' academic discipline may influence their perceptions of AI chatbots as complementary tools for counselling service delivery.

## Discussion of Findings

### Students' Awareness of AI Chat-bots for Counselling Service Delivery

The study found that undergraduate students of Ambrose Alli University demonstrated a high level of awareness of ChatGPT, Google Gemini, and Meta AI as tools for counselling service delivery. Awareness was consistently high across gender, levels of study, and faculties, although students in higher academic levels and those in the Faculty of Education reported slightly higher awareness. This finding indicates that AI chatbots have become widely recognized as valuable digital resources capable of supporting academic, career, personal-social, and emotional guidance services.

The finding is consistent with those of Chan and Hu (2023), who reported that university students exhibited high awareness of generative AI technologies and acknowledged their usefulness for learning and student support. Similarly, Kasneci et al. (2023) found that awareness of AI chatbots among higher education students had increased substantially due to improved digital literacy, institutional support, and wider exposure to AI technologies. Within the Nigerian context, the result also aligns with Tijani and Adeduyigbe (2026), who observed that university students demonstrated considerable awareness of AI-driven educational technologies, reflecting the increasing integration of AI into higher education.

The high level of awareness observed in this study may be attributed to increased internet accessibility, widespread smart-phone ownership, active engagement with social media, and the

growing integration of AI applications into teaching, learning, and research activities. These developments have enhanced students' familiarity with AI chat-bots and their potential applications beyond academic support, extending to counselling-related services. The finding further supports the Technology Acceptance Model (Davis, 1989), which posits that awareness of a technology's usefulness and ease of use positively influences users' intention to adopt it.

### **Students' Utilization of AI Chat-bots for Counselling Service Delivery**

The study also revealed that undergraduate students utilized Chat-GPT, Google Gemini, and Meta AI to a high extent for counselling-related purposes. Students frequently used AI chatbots for academic counselling, career guidance, study skills improvement, stress management, decision-making, and emotional support. Utilization was consistently high across gender, academic levels, and faculties, with relatively higher usage among senior students and those in the Faculty of Education. This finding corroborates Chan and Hu (2023), who found that university students extensively used ChatGPT for academic assistance, problem-solving, and personalized support.

The high utilization observed may be explained by the convenience, flexibility, and round-the-clock availability of AI chatbots. Unlike conventional counselling services, which are often constrained by limited personnel, office hours, and physical accessibility, AI chatbots provide immediate responses and easily accessible guidance whenever needed. Consequently, students increasingly employ these technologies as complementary sources of counselling information before consulting professional counsellors. This finding is consistent with the Technology Acceptance Model (Davis, 1989), which suggests that technologies perceived as useful and easy to use are more likely to be adopted and utilized.

### **Students' Perceived Effectiveness of AI Chatbots for Counselling Service Delivery**

The study revealed that undergraduate students held positive perceptions of the effectiveness of ChatGPT, Google Gemini, and Meta AI in enhancing counselling service delivery. Participants agreed that AI chatbots improve access to counselling services by providing timely, confidential, and personalized support for academic, career, and personal concerns while complementing the roles of professional counsellors. Students particularly valued the continuous availability and prompt responsiveness of these AI tools, which enable access to guidance services beyond conventional counselling hours.

This finding corroborates Yang (2026), who through a systematic review, reported that students generally perceive ChatGPT as a useful, efficient, and effective educational support tool. Similarly, Khalil (2026) found that university students considered ChatGPT effective in enhancing learning through timely and personalized assistance. The result is also consistent with Tijani and Adeduyigbe (2026), who found that students viewed AI technologies as effective in personalizing learning and improving educational outcomes. The findings suggest that AI chatbots have become valuable complementary resources for counselling services, although they are not regarded as substitutes for professional counsellors. The result further supports the Technology Acceptance Model (Davis, 1989), particularly the concept of perceived usefulness, which explains that technologies perceived as beneficial are more likely to receive positive evaluations and sustained acceptance among users.

### **Gender Differences in Students' Perceived Effectiveness of AI Chatbots**

The study found no statistically significant difference between male and female students in their perceptions of the effectiveness of AI chatbots for counselling service delivery. Although female students recorded a slightly higher mean score, the difference was not statistically significant, indicating that both genders perceived AI chatbots as similarly effective.

This finding agrees with Yang (2026), who reported that gender had minimal influence on students' acceptance and use of generative AI technologies. It is also consistent with technology acceptance literature, which suggests that increased digital literacy and widespread access to

smartphones have reduced traditional gender disparities in technology adoption. However, the finding contrasts with earlier studies that reported greater technology acceptance among male students, indicating that gender differences in AI adoption are gradually diminishing. The result lends support to the Unified Theory of Acceptance and Use of Technology (UTAUT), which posits that demographic variables may exert limited influence on technology acceptance where facilitating conditions and access to digital technologies are relatively equal.

### **Differences in Students' Perceived Effectiveness Based on Level of Study**

The findings further showed that there was no statistically significant difference in students' perceived effectiveness of AI chatbots based on level of study. Although students in higher academic levels reported slightly higher mean scores, these differences were not statistically significant, suggesting that students across all levels generally recognize the value of AI chatbots in supporting counselling services.

This finding aligns with Chan and Hu (2023), who observed that students across different academic years expressed favourable attitudes toward generative AI despite minor differences in experience. The result implies that awareness and utilization of AI technologies are no longer limited to senior students but have become widespread across all academic levels due to increased exposure through digital learning platforms, social media, and everyday technology use. The finding also supports the Technology Acceptance Model (Davis, 1989) by demonstrating that perceived ease of use encourages technology acceptance regardless of students' academic level.

### **Differences in Students' Perceived Effectiveness Based on Faculty**

The study, however, found a statistically significant difference in students' perceived effectiveness of AI chatbots based on faculty. The Tukey HSD post hoc analysis revealed that students from the Faculty of Education held significantly more favourable perceptions than those from the Faculties of Law and Engineering, whereas differences among the remaining faculties were not statistically significant.

This finding suggests that students' academic disciplines influence their perceptions of AI chatbots as counselling support tools. Students in education-related disciplines are more likely to be exposed to educational technology, guidance and counselling, psychology, and learner support systems, thereby fostering greater acceptance of AI-assisted counselling. The finding is consistent with international studies indicating that students in education, social sciences, and information technology generally demonstrate higher levels of AI acceptance than those in more professionally regulated disciplines. It also supports the Unified Theory of Acceptance and Use of Technology (UTAUT), which emphasizes the influence of contextual and facilitating conditions on technology adoption. Variations in curricular exposure, technological orientation, and familiarity with counselling concepts may therefore explain the observed faculty differences.

### **Conclusion and Recommendations**

The study concludes that AI chatbots have considerable potential to complement university counselling services by improving accessibility and service efficiency. However, they should not replace professional counsellors, as effective counselling requires human empathy, ethical judgment, and professional expertise. Therefore, the successful integration of AI into counselling services should be guided by appropriate institutional policies, ethical standards, digital literacy, adequate technological infrastructure, and continuous professional oversight.

Based on the findings of this study, the following recommendations were made:

1. There should be integration of AI chat-bots into university counselling services through appropriate institutional policies, ethical guidelines, digital literacy initiatives, and continuous professional oversight

2. Regular retraining and professional development programmes should be organized for counsellors to strengthen/update their competencies in AI-assisted counselling and ensure ethical and effective technology integration.

3. It is also recommended that future studies should adopt longitudinal, mixed-methods, and multi-institutional approaches across Nigerian universities to generate broader evidence on the long-term effectiveness, ethical implications, and impact of AI-assisted counselling on students' academic, career, and psychosocial development.

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