

The impact of using AI-powered chatbots on customer service and institutional reputation at Gulf University: The Maryam chatbot as a case study through the lens of technology acceptance theory

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Abstract— This study aims to evaluate the impact of using the Chatbot "Mariam" on customer service and institutional reputation at Gulf University, this study falls within the framework of descriptive-analytical research and adopted a survey methodology through an electronic questionnaire distributed to a stratified sample consisting of students, faculty members, and administrative staff at Gulf University. The results showed that 64.6% of respondents intend to use the chatbot in the future, while 77.4% confirmed that the chatbot enhances the university's image as an innovative educational institution. The study recorded strengths of the chatbot, such as response speed and continuous availability (24/7), in addition to challenges including a perceived lack of security and privacy (29%) and difficulty in understanding Arabic queries (12.9%). The majority of participants (74.2%) recommended expanding the scope of the chatbot's services to include all administrative, financial, and academic domains. The study concludes that the "Mariam" chatbot at Gulf University represents a strategic tool for improving user experience and enhancing institutional reputation, provided that the existing gaps identified in the results are addressed technically and functionally.

Keywords—communication, media, chatbot, artificial intelligence, Gulf University

INTRODUCTION

The world is currently witnessing radical developments in technology and rapidly evolving digital technologies, particularly within the competitive environments of organizations that have transformed innovation into a strategic imperative to maintain their competitive edge. This has led to the emergence of artificial intelligence and the continuous pursuit of its development to keep pace with all smart, digital, and technological advancements.

Artificial intelligence is now considered one of the most prominent drivers for transforming ideas into innovative realities, especially in the field of customer service through its various applications, most notably chatbots. These chatbots can serve as a primary link between organizations and their customers, providing services around the clock, reducing waiting times, and offering immediate responses. This results in a positive impact on the customer in general. It is also worth noting that the impact of this technology extends beyond direct customer service to touch the very core of an organization's existence: its corporate reputation, which is considered one of the most valuable and difficult-to-build intangible assets.

Despite the significant investment Gulf University is making in adopting and implementing artificial intelligence tools, particularly chatbots, to improve and modernize its service environment and user experience, there is a lack of scientific evidence measuring the actual return on this investment for the university's strategic outcomes. The problem addressed by this study lies in the ambiguity surrounding the effectiveness of this technology in achieving the two primary objectives of improving customer service quality and enhancing the university's institutional reputation. Furthermore, there is a lack of studies that adequately clarify the nature of the relationship between these variables within an academic context. Therefore, this study seeks to address this knowledge and application gap by conducting systematic investigations to evaluate the true impact of chatbots on customer service and enhancing Gulf University's

institutional reputation. This aims to provide a clear, data-driven picture for developing more effective future policies.

The importance of this study lies in its response to the critical digital transformation in the education sector by providing a practical analysis of the impact of the latest artificial intelligence technologies (chatbots) on two key axes: customer service quality and institutional reputation. In addition to the practical aspect, this study can provide the Gulf University administration with an accurate assessment of the feasibility of investments in this technology and provide clear data that helps in making informed decisions to provide advanced student services and enhance the university's competitive position. As for the scientific level, the study is a qualitative addition to Arab research in the field of artificial intelligence applications in higher education and the possibility of measuring the strategic returns of this technology to become tools for building reputation and enhancing loyalty.

Research Questions and Hypothesis

RQ1: How satisfied are the beneficiaries (students, faculty, and parents) with the quality of services provided by chatbots at Gulf University? **H1:** There is a statistically significant positive relationship between the use of chatbots and customer satisfaction at Gulf University.

RQ2: How does the use of chatbots contribute to improving the overall user experience with the university in terms of efficiency and ease of use? **H2:** The use of chatbots results in a noticeable improvement in the user experience in terms of speed, ease of use, and accuracy at Gulf University.

RQ3: What is the tangible impact of using chatbots on the public image of Gulf University and its institutional reputation? **H3:** The Gulf University's use of chatbots as a service-oriented technological tool contributes to enhancing its institutional reputation and establishing it as an innovative university that keeps pace with technological advancements.

RQ4: What challenges and obstacles might limit the effectiveness of chatbots in providing excellent customer service at the university? **H4:** A positive correlation exists between user satisfaction with chatbots and improved public perception of the Gulf University.

RQ5: What are the developmental methods for improving the performance of current chatbots to enhance customer service and the institutional reputation of Gulf University? **H5:** Statistically significant differences exist in the evaluation of chatbot effectiveness based on

demographic variables (faculty, nature of use, academic level).

LITERATURE REVIEW

(Shaheen, 2023) aimed to identify the factors affecting customer satisfaction with the use of chatbots as an alternative to traditional customer service in Egypt. This field study, which included 320 respondents, resulted in a set of results, the most prominent of which is that there is a statistically significant positive correlation between customer satisfaction and a set of determinants that were represented in the quality of information provided, the embodiment of the robots' personalities, the ability to solve problems, ease of use and access, and the accuracy of its allocation to the service. The results showed that younger age groups were superior in terms of the level of satisfaction, but no differences were recorded that could be attributed to the gender variable or the educational level variable. The study indicated that the financial and service sectors are the most widespread incubators for the use of this technology. The study (Salama, 2021) aimed to determine the effectiveness of chatbot technology, its fields, uses, and positive and negative effects in digital marketing through social media sites from the perspective of students in marketing communication departments in Saudi universities.

Suleiman's study (2023) aimed to analyze the impact of organizations' electronic efforts in the Egyptian market and to clarify the extent of their contribution to building the brand and enhancing customers' purchasing intention. The qualitative analysis method was adopted for chatbots in this study and on a sample of users. Among its most prominent results is that the bots possess visual attraction elements and use natural language, and that their electronic efforts are represented in the elements of media and interaction. The study revealed positive trends among users towards using this technology in marketing operations and the association of several factors, the most important of which are ease of use, expected benefits, reducing the technological gap, and proving the existence of a positive correlation between the electronic efforts of chatbots and both the perception of brand value and customers' purchasing intention. (Qarni and Gharib, 2025) aimed to evaluate the impact of chatbots on audience interaction during live broadcasts and to find out how to enhance real-time interaction through them and improve user experience and behavior. This study relied on multiple methodologies, including network analysis of digital content of interactions on the Facebook platform during the live broadcast of the Seventh Day channel. One

of the most prominent results of this study is the existence of a strong and influential positive correlation between technology users and the improvement in their experience. (Fawzi, 2025) aimed to identify the attitudes of Egyptian healthcare professionals and users towards the use of health chatbots in analyzing health data and allocating treatment recommendations, and to assess the potential of artificial intelligence in this field in the future. The study relied on cognitive computing theory and used the Mixed-Methods and included in-depth interviews with specialists and conducting an applied experiment on a sample of users. Among the most prominent results of this study was the existence of great acceptance and high confidence among specialists and users towards the role of health robots in the possibility of predicting diseases and analyzing data to improve the quality of care. The most important factors affecting users' adoption of the technology were identified, which are the accuracy of diagnosis and speed of response. It was found that the younger age group, 18 to 20 years, who belong to the low-income segment, showed higher confidence in the robot compared to other groups.

The study (Abdul Ghani, 2023) aimed to explore chatbot technology, identify its history and development, and highlight how it is used in various sectors, focusing on the possibility of information institutions benefiting from it. The design stages of these robots were analyzed, and the most important standards adopted in this were clarified to assess the readiness of Arab libraries to implement them and the obstacles that prevent this. The descriptive analytical method was adopted, and it reached a set of results, the most prominent of which is that the main goal of using chatbots in libraries is to enhance the role of employees and reduce their burden by automating repetitive tasks such as responding to inquiries, and not to insist on replacing the human element as some other groups claim. The results also showed that the robots were developed to support basic library services and provide them to the largest possible number of beneficiaries, despite their different categories, in a frequent and attractive manner, which results in the possibility of access to information and improving the user experience in general. (Al-Mutairi, 2024) aimed to reveal the extent of the use of chatbots in the educational process from the perspective of faculty members in some Saudi universities. The descriptive survey method was adopted by conducting a questionnaire on a simple sample consisting of 39 faculty members. Among the most prominent results was the high agreement of the sample members on the importance of activating chatbots in the educational process, as the general average agreement

reached 2.58 out of 3. In contrast, the results showed the existence of difficulties that limit agreement on this technology, and the reason is due to the difficulty of dealing with this technology by some faculty members and students, and the lack of sufficient time for members. The study also recommended holding training courses dedicated to faculty members and redistributing the workloads to provide sufficient time for application and pre-setting, which results in technological interaction in the context of university education. (Al-Mahdi, 2024) aimed to investigate the use of interactive chatbots and artificial intelligence applications in the media field through a theoretical reading based on contemporary knowledge frameworks, with an explanation of the concept of artificial intelligence and its development since the middle of the twentieth century, and an explanation of its main types and characteristics, in addition to how these technologies contribute to improving the user experience, especially chatbots, through automating tasks and services and interacting with the public on social media platforms and relying on natural language processing to generate responses and understand inquiries.

(Nassar, 2025) explored the effect of the interaction between the design of smart chatbots and the management of electronic discussions on developing programming skills among middle school students. This study relied on a three-part methodology that included the descriptive approach, the approach to developing educational systems, and the experimental approach through a factorial experimental design. The study sample was divided into four experimental groups based on two independent variables: the type of chatbot, whether traditional or smart, and the style of managing electronic discussions, whether restricted or free. Several results emerged from this study, the most important of which was the existence of a statistically significant difference in favor of the post-application in both the conventional achievement measurement and the skill performance observation checklist. In addition, there was a statistically significant interaction effect between the design of smart robots and the management of electronic discussions, and a positive correlation between cognitive achievement, skill performance, and student satisfaction, which resulted in the effectiveness of the proposed educational model in achieving the targeted learning outcomes. (Nazir, 2025) aimed to determine the effect of different interaction patterns (text-audio, audio, text-) in a chatbot environment on developing voice recording skills in English and measuring self-efficacy among students at the College of Education. The research was based on a

three-group training design, and the sample included 120 students. Among the most prominent results that emerged from this study was the positive effect of all interaction patterns on developing the cognitive and skill aspects of voice recording, as well as self-efficacy. In addition, the text-based interaction pattern was superior to the audio and mixed patterns in developing the cognitive and skill aspects of voice recording skills. Paired comparisons revealed the superiority of the text-based pattern over the mixed pattern and the superiority of the mixed pattern over the audio pattern in developing self-efficacy among students, which illustrates the variation in interaction patterns according to the type of targeted educational outcome.

Theoretical and Conceptual Background

The present study draws on the Technology Acceptance Model (TAM), originally developed by Davis (1989), which posits that users' adoption of a new technology is principally determined by two perceptual constructs: perceived usefulness; the degree to which a system is expected to enhance performance; and perceived ease of use; the degree to which its operation is expected to be free of effort. These constructs shape user attitudes, behavioural intentions, and ultimately actual system use, mediated by external variables such as system design and institutional context. In the present study, TAM provides the theoretical lens through which chatbot adoption among Gulf University stakeholders is examined, with both constructs considered critical determinants of user satisfaction with the service. Chatbots are AI-driven conversational systems designed to simulate human interaction via text or voice interfaces, leveraging natural language processing, dialogue management, and machine learning. Their institutional role has evolved substantially; from rule-based systems of the 1990s to context-aware, AI-powered agents capable of handling complex queries in real time. In customer service contexts, chatbots contribute to 24/7 availability, reduced response latency, consistency of information delivery, and scalable query handling. Gulf University's chatbot, *Maryam*, exemplifies this trajectory, having been recognised with the Bahrain Digital Content Award (BDCA) 2025 in the Learning and Education category for its contribution to flexible, AI-enhanced academic support.

Institutional reputation, in this context, is understood as the cumulative perception held by all stakeholders; direct and indirect; regarding an organization's credibility, quality, and distinctiveness relative to peers over time. In

higher education, reputational dimensions encompass academic quality, service excellence, innovation, and responsiveness to student needs. The theoretical pathway examined in this study posits that chatbot adoption does not directly or immediately affect institutional reputation; rather, its influence operates through an intermediate mechanism; the measurable improvement of customer service quality; which, in turn, shapes positive stakeholder perceptions across reputational dimensions such as innovation, reliability, and responsiveness.

METHODOLOGY

A descriptive, cross-sectional survey design was employed to examine the impact of chatbot utilization on customer service quality and institutional reputation within Gulf University. This design was selected for its capacity to capture a comprehensive snapshot of participants' perceptions, attitudes, and experiences at a single point in time, while enabling the systematic description and quantification of the phenomenon under investigation. The study is bounded by the following delimitations as the thematic scope where the impact of chatbot use on customer service and institutional reputation at Gulf University. Secondly, Geographic boundary where Gulf University, Kingdom of Bahrain. Thirdly temporal boundary as Mid-November, 2025 to end of December 2025. And finally, human boundary as all stakeholders who interact with the university's chatbot service.

Sampling Strategy

The target population comprised all stakeholders who have utilized the chatbot service at Gulf University, encompassing three distinct groups: undergraduate and postgraduate students, academic faculty members, and university administrative staff. Given the heterogeneous nature of the population, a stratified random sampling technique was employed. This approach ensures proportional and representative inclusion of each subgroup, thereby enhancing the external validity of the findings and reducing the risk of sampling bias inherent in the application of a single-group sampling strategy to a multi-strata population.

Data Collection

Data were collected by means of a structured self-administered questionnaire, developed specifically to elicit the information required to address the study's

objectives. The questionnaire was distributed electronically via Google Forms, selected for its accessibility, ease of dissemination, and suitability for reaching geographically concentrated institutional populations. The instrument comprised both closed-ended items; to facilitate quantitative measurement and cross-group comparison; and open-ended items; to allow for richer, more nuanced qualitative insights. The questionnaire was organized into four principal thematic dimensions: demographic and background information, assessment of participants' chatbot interaction experience, measurement of chatbot impact on customer service quality, and evaluation of chatbot impact on institutional reputation.

Data Analysis

Quantitative data were analyzed using descriptive statistical methods, specifically frequencies and percentages, to summarize and present the distribution of responses across the study's dimensions. These techniques are appropriate for characterizing the patterns of participants' perceptions and for comparing responses across the three stakeholder strata. Results are presented in tabular and graphical formats to facilitate interpretation and enable transparent reporting of findings.

Validity and Reliability

To establish the content validity of the research instrument, the questionnaire was submitted to a subject-matter expert for review and adjudication. The expert provided targeted recommendations for revising specific items, all of which were incorporated prior to final deployment. Regarding reliability, the instrument was administered to the full study sample; comprising students, faculty, and administrative staff of Gulf University; thereby subjecting the tool to a real-world test across the intended population. This procedure serves as an applied reliability check, confirming the instrument's internal consistency and appropriateness for the research context.

RESEARCH FINDINGS

The field study was conducted among students, academic faculty members, and administrative staff at Gulf University to evaluate the use of the Maryam chatbot and its impact on customer service quality and institutional reputation. The study sample comprised a stratified survey sample drawn from the three aforementioned

strata, who responded to an electronically distributed questionnaire administered via Google Forms. Sample size was determined with due consideration of available resources and time constraints.

Table 1 presents the distribution of study participants according to their institutional affiliation. Most respondents were students (80.6%), followed by academic faculty (12.9%) and administrative staff (6.5%). This distribution reflects the typical demographic composition of a university campus, where students constitute the largest segment of the institutional community.

Table 1. Distribution of respondents by stakeholder category

Category	Frequency	Percentage (%)
Student	25	80.6
Academic Faculty	4	12.9
Administrative Staff	2	6.5
Total	31	100.0

Table 2 illustrates the distribution of respondents across colleges and administrative departments. The sample is characterized by an unequal representation across academic units. The College of Media accounted for the largest proportion (48.1%), representing approximately half of the total sample. The College of Business and Financial Sciences followed with 25.9%, while the College of Law (11.1%) and the College of Engineering (7.4%) were represented at notably lower proportions. Administrative departments; the Registration Office and the Accounting Department; each contributed 3.7%, reflecting their marginal numerical representation within the study population.

Table 2. Distribution of respondents by college and administrative unit

College / Department	Frequency	Percentage (%)
College of Media	13	48.1

College of Business and Financial Sciences	7	25.9
College of Law	3	11.1
College of Engineering	2	7.4
Registration Department	1	3.7
Accounting Department	1	3.7
Total	27	100.0

As shown in Table 3, the overwhelming majority of student respondents were enrolled at the undergraduate level (92.6%), while postgraduate (Master's) students represented 7.4% of the student sub-sample. This distribution reflects the prevailing enrolment patterns at Gulf University, where undergraduate students constitute the dominant cohort.

Table 3. Distribution of student respondents by academic level

Academic Level	Frequency	Percentage (%)
Bachelor's (Undergraduate)	25	92.6
Master's (Postgraduate)	2	7.4
Total	27	100.0

Table 4 reveals distinct patterns in participants' usage frequency of the Maryam chatbot. Approximately half of the respondents (48.4%) reported using the chatbot only rarely, while 29.0% indicated that the current survey represented their first interaction with the system. Weekly users accounted for 19.4%, and monthly users for 3.2%. Notably, no respondent reported daily usage, highlighting a significant gap between the tool's availability and its integration into participants' routine academic or administrative workflows. These findings indicate a relatively limited penetration of regular use and

underscore the need for awareness-raising initiatives regarding the chatbot's functional capabilities.

Table 4. Distribution of respondents by chatbot usage frequency

Usage Frequency	Frequency	Percentage (%)
Daily	0	0.0
Weekly	6	19.4
Monthly	1	3.2
Rarely	15	48.4
First time	9	29.0
Total	31	100.0

Table 5 presents respondents' evaluations of their experience with the Maryam chatbot, assessed across eight items measuring perceived usefulness and ease of use in accordance with the Technology Acceptance Model (TAM) framework. The results indicate an overall positive orientation. Most participants agreed that the chatbot effectively assists in retrieving information, saves time and effort relative to traditional inquiry methods, and presents a simple and accessible interaction interface. The item pertaining to minimal effort required to understand the chatbot's operation received the highest level of agreement, suggesting broad accessibility across varying levels of technological proficiency. Conversely, the item addressing the chatbot's accuracy in understanding Arabic-language queries recorded the highest degree of response variability, with a notable proportion expressing disagreement; a finding that points to deficiencies in the system's Arabic natural language processing capabilities and warrants targeted technical improvement.

Table 5. Respondents' assessment of chatbot experience (perceived usefulness and ease of use) SA = Strongly Agree; A = Agree; N = Neutral; D = Disagree; SD = Strongly Disagree

Statement	SA	A	N	D	SD
The chatbot effectively helps me obtain the information I need.	9	11	7	4	0

The chatbot saves me time and effort compared to traditional enquiry methods.	9	12	6	3	1
The chatbot provides clear and accurate responses to my queries.	9	10	8	4	0
The chatbot interface is simple and easy to navigate.	8	13	7	3	0
Little effort is required to understand how the chatbot operates.	10	12	5	4	0
The chatbot accurately understands queries written in Arabic.	8	10	7	5	1
Using the chatbot improves my productivity in university-related tasks.	8	13	5	3	2
Overall, I prefer the chatbot over other communication channels with the university.	11	9	5	4	2

Table 6 presents respondents' evaluations of the service quality delivered by the Maryam chatbot. The findings reveal a notable variation in assessments across service dimensions. Technical and operational aspects — including response speed, information accuracy, and 24/7 availability; received the most favorable ratings, with strongly agree responses exceeding 40% for these items. By contrast, trust-related and experiential dimensions exhibited more pronounced disagreement: security and privacy of personal information (29.0% expressing some level of disagreement), consistency of performance (32.2%), and the attractiveness of the conversation interface (35.5%) emerged as areas of concern. Additionally, 64.5% of respondents expressed a need for a smooth escalation option to a human staff member when

the chatbot is unable to resolve their query, underscoring the continued importance of human-AI service integration.

Table 6. Respondents' assessment of chatbot customer service quality SA = Strongly Agree; A = Agree; N = Neutral; D = Disagree; SD = Strongly Disagree

Statement	SA	A	N	D	SD
Response speed following query submission.	12	10	5	4	0
Accuracy of information and answers provided.	8	13	7	3	0
Ability to resolve queries fully without human intervention.	9	9	7	3	3
Availability of the chatbot service around the clock (24/7).	12	10	5	4	0
Sense of security and privacy of personal information.	9	10	7	4	1
Availability of an option to transfer to a human agent when needed.	11	9	8	3	0
Consistency of chatbot performance across interactions.	10	13	4	3	1
Attractiveness and organisation of the conversation interface.	11	11	6	3	0

Table 7 presents respondents' perceptions of the chatbot's effect on Gulf University's institutional image and reputation. The findings demonstrate a strong positive impact across all measured dimensions. An overwhelming majority (77.4%) agreed or strongly agreed that the Maryam chatbot reinforces the university's image as an innovative institution, while all respondents who expressed an opinion (100%) indicated that its deployment reflects the university's commitment to providing the best possible stakeholder experience. The chatbot also contributed to enhanced trust in the

university's administrative competence (67.7% agreement), increased institutional attractiveness for study and employment, and stronger sense of pride and belonging among respondents (93.5%). Furthermore, a substantial proportion indicated willingness to recommend the university to others based on their positive impression of its smart services, and the majority reported an overall positive and strengthening institutional reputation attributable to the chatbot.

Table 7. Respondents' assessment of chatbot impact on institutional reputation SA = Strongly Agree; A = Agree; N = Neutral; D = Disagree; SD = Strongly Disagree

Statement	SA	A	N	D	SD
The chatbot reinforces the university's image as a leader in technological innovation.	15	9	6	1	0
The chatbot demonstrates the university's commitment to the best stakeholder experience.	17	8	6	0	0
My chatbot experience increases my trust in the university's administrative competence.	12	10	9	0	0
I now view Gulf University as a more attractive institution for study or employment.	12	12	6	1	0
I am proud to be affiliated with an institution that uses advanced technologies.	11	15	5	0	0

I would recommend Gulf University based on my positive impression of its smart services.	11	13	6	1	0
Overall, my perception of Gulf University's reputation is positive and strengthened by its smart services.	13	11	7	0	0

Table 8 presents respondents' likelihood of using the Maryam chatbot in the future. The results indicate a predominantly positive behavioral intention, with 64.6% of participants indicating that they would very likely or certainly use the chatbot again. A neutral stance was adopted by 16.1%, while 19.4% expressed unlikely or definite non-use. These findings are consistent with the generally favorable usability and service quality evaluations reported in preceding sections yet also suggest that approximately one-fifth of the user base remains resistant, necessitating targeted efforts in user engagement and experience enhancement.

Table 8. Distribution of respondents by future chatbot usage intention

Usage Intention	Frequency	Percentage (%)
Will definitely use it	6	19.4
Very likely to use it	14	45.2
Neutral	5	16.1
Unlikely to use it	4	12.9
Will definitely not use it	2	6.5
Total	31	100.0

Table 9 illustrates participants' preferences regarding the functional domains they wish the chatbot to cover. A substantial majority (74.2%) expressed a desire for the chatbot to comprehensively address all service areas; academic, financial, administrative, and technical; reflecting an expectation for a fully integrated, one-stop smart service portal. Among individual domains, academic enquiries (schedules and grades) attracted the highest standalone preference (12.9%), confirming the primacy of academic support needs among the student population. These findings signal that users do not wish to limit the chatbot's role to a narrow function but rather envision it as a comprehensive digital gateway facilitating all aspects of their interactions with the university.

Table 9. Distribution of respondents by preferred chatbot service coverage areas

Preferred Coverage Area	Frequency	Percentage (%)
Academic enquiries (schedules, grades)	4	12.9
Financial services (fees, scholarships)	1	3.2
Administrative services (documentation)	2	6.5
Technical support	1	3.2
All the above	23	74.2
Total	31	100.0

Table 10 presents the obstacles encountered by respondents during their interactions with the Maryam chatbot. Many participants (67.7%) reported no barriers during use, indicating a generally smooth and acceptable user experience. Among those who did report difficulties, the most prevalent issue was the chatbot's inability to understand their queries (12.9%), followed in equal proportion by inaccurate responses (9.7%) and difficulty navigating between interface options (9.7%). These barriers point to limitations in the system's natural language understanding, content accuracy, and interface design; areas requiring attention in future development cycles to achieve a more robust and inclusive chatbot experience.

Table 10. Distribution of respondents by reported usage barriers

Barrier Encountered	Frequency	Percentage (%)
No barriers encountered	21	67.7
Chatbot did not understand my query	4	12.9
Inaccurate responses	3	9.7
Difficulty navigating between options	3	9.7
Total	31	100.0

The following key findings emerged from the field study:

The sample was predominantly composed of students (80.6%), followed by academic faculty (12.9%) and administrative staff (6.5%). The College of Media represented the largest college-level proportion (48.1%), with undergraduate students accounting for 92.6% of the student sub-sample. No daily usage of the Maryam chatbot was recorded. Usage was predominantly rare (48.4%), with 29.0% reporting first-time use and 19.4% reporting weekly use. Participants expressed positive attitudes towards the chatbot's capacity to provide information, save time, and ease of use. Trust-related dimensions; including data security and privacy, performance consistency, and interface quality; emerged as areas of notable user dissatisfaction. Response speed and 24/7 availability received the highest positive ratings among service quality dimensions. The chatbot significantly enhanced the university's institutional image as an innovative institution, with 77.4% of respondents agreeing or strongly agreeing. Pride and sense of institutional belonging attributable to the university's use of advanced technology was expressed by 93.5% of respondents. A strong future usage intention was observed, with 64.6% indicating likely or certain future use. Most respondents (74.2%) expressed a desire for comprehensive multi-domain chatbot coverage

encompassing academic, financial, administrative, and technical services. 67.7% of respondents reported encountering no usage barriers; the most cited difficulties were the chatbot's failure to understand queries (12.9%) and provision of inaccurate responses (9.7%).

Future Research Recommendations

- 1) Enhance natural language processing capabilities, with particular emphasis on Arabic dialect recognition and contextual comprehension, to improve the accuracy and relevance of chatbot responses across academic and administrative domains.
- 2) Strengthen digital trust and data security by implementing robust user authentication mechanisms and transparent privacy protocols. The introduction of a text-based interaction channel; in addition to the existing voice-only interface; is also recommended.
- 3) Redesign the conversational interface to be more visually engaging and multi-modal, incorporating support for images, hyperlinks, and document attachments. A short introductory or tutorial video should be made available to guide new users.
- 4) Expand service integration by connecting the chatbot to the university's core institutional systems; including the Learning Management System, financial services, and student registration portal; to enable real-time, accurate service delivery across all domains.
- 5) Launch targeted awareness campaigns to promote the Maryam chatbot among all stakeholder groups, including workshops,

instructional videos, and digital communications distributed across university channels.

- 6) Establish a framework for periodic performance evaluation, incorporating user satisfaction metrics and systematic analysis of unresolved queries, to identify gaps and guide continuous improvement.

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