ABSTRAK

Irnawati, Yunita. 2025. Implementasi Dan Analisis *Chatbot Telegram* Pada Pelayanan Akademik Program Studi Teknik Elektro Menggunakan Metode *Technology Acceptance Model* (TAM). Skripsi. Tanjungpinang : Program Studi Teknik Elektro. Fakultas Teknik Dan Teknologi Kemaritiman. Pembimbing I : Hollanda Arief Kusuma, S.IK., M.Si., Pembimbing II : Novrizal Fattah Fahmitra, S.Kom., M.Kom.

Pada pelayanan akademik di lingkungan perguruan tinggi, keterlambatan informasi dan keterbatasan akses menjadi tantangan utama, khususnya dalam interaksi antara mahasiswa dan pihak program studi. Penelitian ini mengembangkan *Chatbot* berbasis *Telegram* dengan teknologi *Large Language Model* (LLM) untuk meningkatkan efisiensi dan kualitas layanan akademik di Program Studi Teknik Elektro Universitas Maritim Raja Ali Haji. Sistem dikembangkan menggunakan bahasa pemrograman Python, didukung pencatatan *log* percakapan dan waktu respons secara otomatis. Evaluasi sistem dilakukan melalui *Blackbox Testing* yang menunjukkan *Chatbot* mampu merespons dalam waktu rata-rata 1,33 detik dengan tingkat akurasi 100%. Analisis penerimaan pengguna menggunakan metode *Technology Acceptance Model* (TAM), menunjukkan bahwa *Perceived Usefulness* (PU) dan *Perceived Ease of Use* (PEOU) berpengaruh signifikan terhadap Kepuasan Pengguna ($p < 0{,}001$ dan $p = 0{,}020$), dengan nilai determinasi R^2 sebesar 0,866. Data diperoleh dari kuesioner yang disebarkan kepada mahasiswa angkatan 2019–2024, dan dianalisis menggunakan perangkat lunak JASP. Hasil penelitian menunjukkan bahwa *Chatbot* yang dikembangkan memberikan kemudahan dan manfaat nyata bagi mahasiswa dalam mengakses layanan akademik, dengan tingkat penerimaan yang tinggi. Hasil ini mendukung penerapan *Chatbot* berbasis LLM sebagai solusi inovatif dalam peningkatan pelayanan akademik di lingkungan perguruan tinggi.

Kata Kunci: *Chatbot Telegram*, Layanan Akademik, *Large Language Model* (LLM), *Technology Acceptance Model* (TAM), PEOU, PU, Kepuasan Pengguna.

ABSTRACT

Irnawati, Yunita. 2025. Implementation and Analysis of Telegram Chatbot in Academic Services of Electrical Engineering Study Program Using Technology Acceptance Model (TAM) Method. Thesis. Tanjungpinang : Study Program of Electrical Engineering, Faculty of Engineering and Maritime Technology. Supervisor I : Hollanda Arief Kusuma, S.IK., M.Si., Supervisor II : Novrizal Fattah Fahmitra, S.Kom., M.Kom.

In academic services within higher education institutions, delayed information and limited accessibility remain key challenges, particularly in interactions between students and academic departments. This study developed a Telegram-based Chatbot powered by a Large Language Model (LLM) to improve the efficiency and quality of academic services in the Electrical Engineering Study Program at Universitas Maritim Raja Ali Haji. The system was built using the Python programming language, with automated logging of conversations and response times. Functional testing through Blackbox Testing showed that the Chatbot was able to respond with an average time of 1.33 seconds and achieved 100% accuracy. User acceptance analysis using the Technology Acceptance Model (TAM) revealed that both Perceived Usefulness (PU) and Perceived Ease of Use (PEOU) significantly influenced User Satisfaction ($p < 0.001$ and $p = 0.020$, respectively), with a determination coefficient (R^2) of 0.866. Data were collected through questionnaires distributed to students from the 2019–2024 academic years and analyzed using JASP software. The findings indicate that the developed Chatbot provides tangible benefits and ease of access to academic information, with a high level of user acceptance. These results support the adoption of LLM-based Chatbots as an innovative solution to enhance academic services in higher education environments.

Keywords: *Telegram Chatbot, Academic Services, Large Language Model (LLM), Technology Acceptance Model (TAM), PEOU, PU, User Satisfaction.*