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APPLICATION OF CHATGPT A.I ENHANCES LEARNING MOTIVATION OF STUDENTS AT PRIVATE UNIVERSITIES IN HO CHI MINH CITY, VIETNAM

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Abstract

This study aims to define the impact of ChatGPT on the learning motivation of students at private universities in Ho Chi Minh City. Based on the Technology Acceptance Model (TAM), the research constructs a model with hypotheses about the influence of perceived usefulness and perceived ease of use on the acceptance of ChatGPT, which subsequently affects students' learning motivation. The study employs a quantitative research method, surveying 227 students from four major private universities in Ho Chi Minh City. Data is analyzed using SmartPLS software to validate the model and research hypotheses. The findings indicate that perceived usefulness and perceived ease of use of ChatGPT are key factors driving students' acceptance of this tool. Acceptance of ChatGPT usage enhances students' learning motivation through benefits such as interactive support and personalized learning experiences. The study suggests managerial implications to optimize ChatGPT's effectiveness, improve student motivation, and enhance learning quality at private universities in Ho Chi Minh City.

Keywords: ChatGPT, Learning motivation, Ease of use, Perceived usefulness, A.I.

1. INTRODUCTION

In the context of rapid advancements in artificial intelligence (AI), generative AI and ChatGPT have emerged as breakthrough tools in global education. AI platforms like ChatGPT have been widely adopted to support teaching, learning, and research, personalizing the learning experience and improving educational efficiency. In Vietnam, the introduction of ChatGPT has had significant effects, particularly in supporting self-learning and language skill development. Indeed, studies have shown ChatGPT's great

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potential in assisting learning, especially in enhancing students' language skills and study motivation. For instance, Trang & Nguyen (2024) found that 97.4% of surveyed students use AI tools to boost self-motivation in English learning, with 57.9% using them frequently. Popular AI tools among students include ChatGPT, Google Translate, Texti, ELSA Speak, Duolingo, and Grammarly. In contrast, studies in fields such as Law and Economics, such as that of Truc & Long (2024), have identified four factors influencing the use of ChatGPT to enhance learning motivation. Overall, these findings highlight the undeniable benefits of ChatGPT in education. This tool not only provides quick and accurate information but also helps learners develop critical thinking and creativity through continuous interaction. More importantly, ChatGPT can personalize the learning experience, enabling learners to access knowledge more effectively.

However, there is still a lack of in-depth research on the impact of ChatGPT on students' learning motivation, especially in the context of private universities in Ho Chi Minh City. Therefore, this study with the title "*Application of CHATGPT A.I enhances learning motivation of students at private universities in Ho Chi Minh city"* aims to explore influencing factors and assess the extent of ChatGPT's application in fostering student motivation. The study will also propose suitable solutions to optimize learning efficiency and enhance self-motivation in modern education.

2. THEORETICAL BACKGROUND

2.1. ChatGPT

ChatGPT (Chat Generative Pre-trained Transformer), developed by OpenAI, is a sophisticated artificial intelligence model capable of processing natural language and generating automated text based on extensive pre-trained datasets (Nguyen Thi Phuoc, 2023). The system is engineered to interact through human-like dialogue, effectively understanding context to provide precise and relevant responses (Wei et al., 2022). Beyond basic information retrieval, ChatGPT functions as a personalized learning companion that generates diverse educational content to meet individual teaching and learning needs (Nguyen Phuc Quan, 2023). Recent scholarly insights highlight its transformative impact on student motivation and participation. Specifically, research indicates that ChatGPT can significantly enhance student engagement by providing immediate, constructive feedback and personalized support (Bai, Lui & Khiatani, 2025). Furthermore, it serves as a catalyst for deeper inquiry, as it empowers learners to explore complex concepts through interactive dialogue and tailored explanations (Su & Yang, 2024). By bridging the gap between vast data processing and natural communication, ChatGPT has become a powerful tool for optimizing academic productivity and fostering a more autonomous research environment.

2.2. Learning Motivation

Learning motivation acts as the essential internal engine that directs a student's energy toward achieving academic goals (Borah, 2021). This force is categorized into intrinsic motivation, which stems from personal curiosity, and extrinsic motivation, triggered by

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external rewards like high grades (Cerasoli et al., 2014). Intrinsic motivation is especially critical for developing a resilient research mindset and persistent academic behavior (Taylor et al., 2014).

The integration of AI tools further optimizes these motivational pathways. Recent research highlights that "*ChatGPT functions as a cognitive partner that increases student self-efficacy and motivation by offering immediate scaffolded support*" (Adiguzel et al., 2024). Moreover, the use of generative AI in classrooms can foster a personalized learning experience that strengthens student engagement and intrinsic interest (Bai, Lui & Khiatani, 2025). Consequently, students using these tools tend to demonstrate higher autonomy and a greater capacity to overcome obstacles, leading to long-term academic success.

2.3. Technology Acceptance Model (TAM)

The Technology Acceptance Model (TAM), originally proposed by Davis (1989), identifies two primary drivers for technology adoption: Perceived Usefulness (PU) and Perceived Ease of Use (PEU). This framework is highly effective for analyzing student motivation toward ChatGPT. When learners perceive ChatGPT as an efficient tool for academic success (PU) and find its interface intuitive (PEU), their behavioral intention to use it increases. Recent research underscores that the students' intentions to use ChatGPT in their studies are most influenced by their perceived usefulness (Ng et al., 2024). Furthermore, the conversational nature of AI lowers barriers, as students could experience a significant boost in academic confidence and engagement with technology if the seamless usability of artificial intelligence could better facilitate this process (Salloum et al., 2024). Consequently, a user-friendly experience combined with high-quality information retrieval directly strengthens the motivation to integrate AI into learning environments.

2.4. Related Research Models

Shaengchart’s (2023) study explains the relationship between the Technology Acceptance Model (TAM) and the use of ChatGPT. By utilizing the TAM framework, researchers predicted the level of technology adoption among users based on their perceptions. They investigated the intention to accept and use technology, providing a comprehensive assessment of the relationship between perceived usefulness, perceived ease of use, and ChatGPT adoption among university students.

Abdaljaleel et al. (2023) found that the majority of students have a positive attitude toward ChatGPT and technology in general, reflecting a readiness to embrace new technologies and tools. Specifically, students believe that adopting modern technologies will contribute to their academic success, and ChatGPT is one of the useful and convenient tools that can effectively support their learning process.

According to Haady et al. (2023), AI has a positive impact on students' motivation and academic performance in Iraq. AI tools, in particular, cater to the diverse needs of individual learners by providing timely support and feedback, thereby enhancing their

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motivation. High motivation, in turn, leads to active participation in learning, ultimately improving academic outcomes.

Finally, in Duong's (2023) study, ChatGPT is regarded as a virtual tutor, capable of answering students' questions and explaining a wide range of topics. This is particularly beneficial for students who encounter difficulties in their studies and require assistance. ChatGPT can generate customized scenarios that enable students to collaborate in problem-solving. As a result, students can learn from one another and strengthen their teamwork skills to achieve shared goals. Thus, ChatGPT holds significant potential to support and advance the work of educators, students, and researchers.

3. RESEARCH METHODOLOGY

3.1. Proposed Model and Hypotheses

Based on prior studies on factors influencing ChatGPT's role in enhancing university students' learning motivation (Shaengchart, 2023; Abdaljaleel et al., 2023; Haady et al., 2023; Duong, 2023), the proposed research model includes:

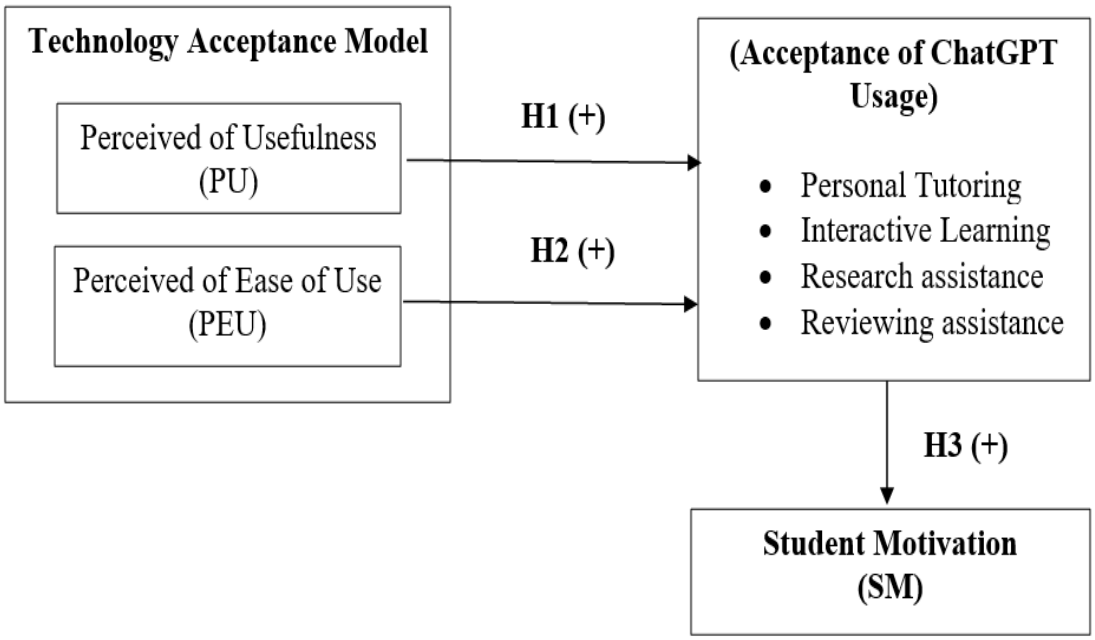

Figure 1: Research Model of the Authors

Source: Compiled by the authors

- H1: Perceived usefulness (TAM) affects the acceptance of ChatGPT.
- H2: Perceived ease of use (TAM) affects the acceptance of ChatGPT.
- H3: Acceptance of ChatGPT enhances students' learning motivation.

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3.2 Qualitative Research

This study utilized a qualitative approach involving in-depth interviews with experts across education, marketing, and information technology. These participants were selected for their profound professional experience with ChatGPT. The primary objective was to validate the theoretical model, hypotheses, and measurement scales, ensuring a robust scientific foundation. Qualitative inquiry is fundamental because it allows researchers to uncover the nuanced contextual factors of AI adoption that numerical data alone cannot capture (Silverman, 2024).

Furthermore, expert consultation is vital as the inclusion of expert validation ensures that theoretical constructs remain aligned with rapidly evolving professional practices (Miller & Birks, 2024). By integrating these diverse perspectives, the research ensures that its framework is both theoretically sound and practically relevant to the current digital landscape.

3.3 Quantitative Research

This study employs a quantitative research design, surveying 260 students from four private universities in Ho Chi Minh City, resulting in 227 valid responses. A stratified sampling technique was utilized to ensure a balanced representation across institutions. Quantitative methods are vital in this context as they provide a structured framework for identifying measurable patterns and generalizing findings across diverse student populations (Mertens, 2024).

Furthermore, this approach ensures statistical objectivity, allowing for the precise validation of complex theoretical models (Scherer & Siddiq, 2024). Data analysis was conducted using SmartPLS 4, focusing on descriptive statistics and reliability metrics, including Cronbach’s Alpha and Composite Reliability. Confirmatory Factor Analysis (CFA) verified the scale's validity, while hypothesis testing utilized the F^2 coefficient to determine the strength of the structural relationships.

3.4 Sampling Method

To ensure the highest level of representativeness and statistical validity, the research team utilized a probability sampling approach, specifically focusing on the stratified sampling method. This technique was chosen to ensure that the survey participants were not just a random group, but a balanced reflection of the diverse student population across private universities in Ho Chi Minh City.

The study was strategically concentrated on four prominent private universities, each representing a significant pillar of higher education in the region. These institutions include the Ho Chi Minh City University of Technology (HUTECH), known for its strong technical focus; the University of Economics and Finance (UEF), which attracts students with business-oriented mindsets; Hong Bang International University (HIU), with its diverse multidisciplinary programs; and the Ho Chi Minh City University of Foreign Languages and Information Technology (HUFLIT), where students are naturally inclined toward digital communication and language tools.

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3.5 Data Analysis Method

To ensure the highest level of empirical rigor, the study utilized SmartPLS 4 software to execute a systematic, four-stage analytical framework. The process began with descriptive statistics, providing a granular overview of the sample's demographic characteristics and establishing a baseline for the subsequent inferential analysis.The second stage involved reliability testing. By calculating Cronbach's Alpha and Composite Reliability (CR), the research team identified and removed any unreliable observed variables, ensuring that each measurement scale possessed high internal consistency. Following this, Confirmatory Factor Analysis (CFA) was employed to evaluate the measurement model's integrity. This step was crucial for verifying both convergent validity—ensuring indicators effectively represent their intended constructs—and discriminant validity, confirming that each construct is statistically distinct from others.

For the structural evaluation, the F^2 coefficient analysis was applied to test the proposed hypotheses and determine the effect size of each relationship within the model. Finally, a bootstrap analysis was conducted. This non-parametric procedure was essential to assess the stability and significance of the estimates within the Structural Equation Modeling (SEM) framework, providing the statistical confidence necessary to validate the final research conclusions.

4. RESEARCH RESULTS AND DISCUSSION

4.1 Descriptive Statistics

The descriptive statistical results provide a clear overview of the current sentiment toward AI integration in higher education. A substantial majority of the surveyed students perceive ChatGPT as a highly utilitarian and accessible tool, expressing a strong behavioral intention to adopt it for academic support.

From a demographic perspective, the study reveals a specific profile of the early adopters of this technology. Female students represent the dominant group, accounting for a significant 61.7% of the total sample. Furthermore, the data highlights that academic seniority influences technology uptake, with second-year students forming the largest cohort at 44.9%. This suggests that students in the middle of their degree programs are particularly motivated to seek innovative tools for efficiency. Institutionally, the research prioritized HUTECH students, who constitute 40.5% of the participants, ensuring the findings reflect the perspectives of a leading technology-oriented private university.

4.2 Model Evaluation

The structural model analysis provides a comprehensive understanding of how specific variables drive the adoption of AI and influence student engagement. The findings confirm that both Perceived Usefulness (PU) and Perceived Ease of Use (PEU) serve as critical determinants in the acceptance of ChatGPT. Notably, Perceived Usefulness exerts a substantially more significant influence on acceptance (ACU) compared to Ease of Use, as evidenced by the squared F^2 values of 0.403 and 0.184, respectively. This suggests

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that while a user-friendly interface is beneficial, the practical value and academic utility of the tool are the primary drivers for student adoption. Furthermore, the model demonstrates a powerful correlation between ChatGPT Acceptance (ACU) and Student Learning Motivation (SM) within the private university context. With a robust path coefficient of 0.561, the data indicates that as students successfully integrate this technology into their educational routines, their internal drive to achieve academic goals increases significantly. Ultimately, the empirical results confirm that hypotheses H1, H2, and H3 are all statistically significant, supported at a 95% confidence level, reinforcing the theory that AI acceptance acts as a vital catalyst for modern academic motivation.

4.3 Research Discussion

The results of the structural model analysis provide significant evidence regarding the mechanisms that drive technology adoption and its subsequent psychological outcomes. The data confirms that both Perceived Usefulness (PU) and Perceived Ease of Use (PEU) are foundational pillars that determine the acceptance of ChatGPT among the student population. Quantitative evaluation reveals a hierarchy in these influences. Specifically, the Perceived Usefulness (PU) factor demonstrates a notably stronger effect on ChatGPT Acceptance (ACU) compared to the Perceived Ease of Use (PEU), supported by squared F $F^{2)}$ values of 0.183 and 0.038, respectively. This disparity suggests that while students value a user-friendly interface, their primary motivation to adopt AI stems from its practical utility in enhancing their academic performance and efficiency.

Furthermore, the model highlights the transformative power of technology on the student experience. ChatGPT Acceptance (ACU) exerts a substantial impact on Student Learning Motivation (SM) at private universities, as evidenced by a high F^2 value of 0.459. Consequently, hypotheses H1, H2, and H3 are all statistically supported at a 95% confidence level. These findings reinforce the Technology Acceptance Model (TAM), illustrating that when students find AI to be a high-value tool, they do not just use it, they integrate it.

5. CONCLUSION AND RECOMMENDATIONS

5.1 Conclusion

Based on the rigorous analysis of the structural model, this study confirms that Perceived Usefulness (PU) and Perceived Ease of Use (PEU), as defined by the Technology Acceptance Model (TAM), are fundamental drivers of student engagement. These factors do not merely facilitate a positive attitude toward ChatGPT; they serve as critical catalysts that encourage students to participate more actively and autonomously in their academic pursuits. By recognizing the tool’s ability to simplify complex knowledge acquisition, students are more likely to transition from passive recipients of information to proactive researchers.

However, an observation from the data is that the impact of Perceived Ease of Use remains significantly lower than that of Perceived Usefulness. This discrepancy suggests a current gap in the student experience: while the majority of learners recognize the

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immense academic value and utility of ChatGPT, many have not yet achieved the high level of technical fluency required to find the tool effortless. This lack of deep, daily engagement with advanced AI features leads to a lower perception of its simplicity. When students eventually bridge this gap—mastering both the utility and the operational ease of the platform—their adoption becomes much more integrated and consistent. Such frequent interaction allows for the seamless exploration of diverse knowledge sources, effectively expanding their professional expertise and critical thinking skills.

In conclusion, the integration of generative AI into education and research is no longer an option but an inevitable global trend. The benefits of ChatGPT extend beyond the individual student, offering transformative potential for academic institutions and society at large. Once this potential is fully acknowledged, stakeholders—including educators, administrators, and policymakers—will be better positioned to embrace this technological shift. By fostering a modern mindset and actively improving AI literacy, we can collectively advance toward a more sophisticated, accessible, and high-performance educational ecosystem.

5.2 Recommendations

To fully use the potential of generative AI, universities must take a proactive role in fostering an ecosystem where students can use ChatGPT effectively. This begins with increasing institutional awareness regarding the tool's multifaceted benefits and providing formal, structured guidance on its practical application. It is no longer enough to allow passive use; institutions must establish clear ethical regulations and operational guidelines to ensure that AI is used responsibly, maintaining academic integrity while directing students toward high-value research purposes.

From an instructional perspective, integrating ChatGPT into the educational framework offers a transformative opportunity to optimize the academic workload. Educators can leverage AI to automate administrative tasks, such as initial grading or the generation of foundational learning materials, thereby freeing up time for high-impact teaching. By using ChatGPT to design interactive lessons, simulate hypothetical professional scenarios, or facilitate data-driven discussions, lecturers can bridge the gap between abstract theory and practical application. This sophisticated approach not only elevates the overall quality of instruction but also cultivates a learning environment that prioritizes creativity, critical inquiry, and complex problem-solving.

On a broader scale, governments and relevant authorities must recognize that AI adoption is a matter of national educational competitiveness. The study suggests the implementation of specific policies and financial support measures to accelerate the integration of AI technology. This includes significant investment in modern technological infrastructure and the development of nationwide training programs designed to equip both educators and students with essential AI literacy skills. Finally, while this study provides a strong foundation, it is not without limitations. A primary constraint is that it does not deeply investigate the psychological and technical factors that influence the long-term persistence of ChatGPT usage beyond the initial adoption phase.

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About orientating for the future researches, the next studies may expand the sample size across diverse geographic regions and focus on longitudinal data. This will allow the research team to refine the current model and provide more comprehensive, reliable insights into the evolving relationship between artificial intelligence and sustainable learning motivation.

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