



The assessment on the use of artificial intelligence writing tools as a confidant of business administration student-researchers using technology acceptance model

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Abstract

Artificial Intelligence (AI) has steadily made its way into the academic world; its capabilities have expanded, enabling it to play a more integral role in academic research and writing in various fields like business administration. This research aims to assess the use of Artificial Intelligence writing tools by Business Administration Student-Researchers from Region III in terms of perceived usefulness, ease of use of the Technology Acceptance Model (TAM), perceived attitude towards technology, subjective norms, and facilitating conditions. Additionally, it aims to categorize the students in terms of sex, form of AI writing tools used, and frequency of exposure to AI to determine its relation to their perception of using AI writing tools. This study employed a quantitative descriptive methodology, involving a statistical analysis of frequency and percentage, weighted mean, and Pearson r. In gathering data, the instrument used by the researchers was a questionnaire that underwent expert validation and a series of trial testing. As a result, it was found that most of the Business Administration student-researchers were female, who mostly used grammar and style checkers as a form of writing tool, and tended to use it depending on the situation. It was also found that perceptions of usefulness, ease of use, attitude towards technology, and facilitating conditions are major factors affecting the comfort and acceptance of the students in using Artificial Intelligence in research writing. It was also reported that using AI writing tools presented challenges such as inaccurate responses, difficulty of use, fear of potential dependency, lack of institutional support, and limited access to technology. Finally, it is recommended that institutions take action regarding the growing number of AI tools to better integrate their capabilities for the research writing of students. By conducting seminars, webinars, and training, and tailoring the functions of AI, this could help students use AI more effectively.

Keywords: Artificial intelligence, Business administration students, Perceived attitude towards technology, Perceived ease of use, Perceived facilitating conditions, Perceived subjective norms, Perceived usefulness, Technology acceptance model.

DOI: 10.53894/ijirss.v8i1.4669

Funding: This study received no specific financial support.

History: Received: 19 December 2024/Revised: 30 January 2025/Accepted: 7 February 2025/Published: 14 February 2025

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Competing Interests: The authors declare that they have no competing interests.

Authors' Contributions: All authors contributed equally to the conception and design of the study. All authors have read and agreed to the published version of the manuscript.

Transparency: The authors confirm that the manuscript is an honest, accurate, and transparent account of the study; that no vital features of the study have been omitted; and that any discrepancies from the study as planned have been explained. This study followed all ethical practices during writing.

Institutional Review Board Statement: The Ethical Committee of the Nueva Ecija University of Science and Technology Nueva Ecija University of Science and Technology, Philippines has granted approval for this study.

Publisher: Innovative Research Publishing

1. Introduction

Technology is now a part of life that touches nearly every sphere of living and has altered the mode of interaction between humans and the world at large. Throughout human history, people have always strived for innovations that bring about development and advancement. Recent technological progress includes the development of AI. AI is undoubtedly a revolutionary technology that has modified various activities undertaken by humans, including learning, decision-making processes, and task management—activities previously perceived to require only human intellect [1].

The invention of AI has been termed a disruption in many sectors, and education has had its share of the list. AI tools have proliferated and spread very quickly to aid students in the entire process of learning. Instant and automated, such tools resonate well with today's generation of students. AI is gaining acceptance in academies, and consequently, 40% of students worldwide report using AI to complete their assignments [2]. Therefore, it has led to better performance on both papers and practical work [3]. Still, however, although AI is perhaps much more precise and efficient in its uses, no one can ever really replace the creativity and vast potential that a human student can create.

It has even reached out to research conducted in universities and colleges. Around the world, students are increasingly utilizing AI technology when composing their research papers [4]. AI tools assist researchers by providing optimal methodologies for processing large datasets and streamlining their research processes [5]. Additionally, tools such as ChatGPT are used for grammar checks, structural organization, citation management, and adherence to disciplinary standards [6]. This widespread use of AI in research demonstrates its impact and the added value in enhancing productivity and efficiency around the globe.

In the Philippines, there is a significant uptake of AI tools. The use of AI tools in writing academic papers in the Philippines has been very high, ranking fourth globally. This is a significant effort to lighten the workload in meeting academic demands [7]. The increasing reliance of Filipino students on college-level academic writing pressures these students to outsource to AI-powered tools to manage these activities [8]. Among the most helpful activities these tools assist with are proofreading, paraphrasing, and improving the clarity and quality of outputs for research, according to Santiago Jr, et al. [8]. While the obvious advantages are reaped in areas of using AI, it also poses potential risks in developing students' skills in writing as well as social development [9].

In Central Luzon, AI is highly integrated into academic work. Most college students use GENAI tools to accomplish their assignments, although at times they do not have a deeper understanding of the impact it holds [10]. In response, the universities and colleges in the region have conducted webinars and training to raise students' awareness of the risks as well as the benefits brought forth by AI.

Consequently, the academic application of AI is still a topic of debate, as it has been increasingly implemented. This debate has been fueled by concerns regarding overdependence, ethical considerations, and the influence on the competencies of students. The increasing reliance of students on AI raises concerns regarding the erosion of ethical standards and the loss of writing abilities [10]. Using such AI tools puts both the writing abilities of the students and their social development at stake [11].

To overcome these fears, there must be a clear understanding of how students perceive AI technology. The Technology Acceptance Model, developed by Davis, posits that the level of user acceptance of technology depends on two primary variables: perceived usefulness and perceived ease of use. With this model, AI may thus be better positioned as a supplementary tool for brainstorming and research, and even for providing feedback, rather than as a replacement for basic writing skills. In this manner, through the application of TAM, the authors aim to streamline systems and address unethical issues such as plagiarism and misinformation [12].

In line with the above context, this study aims to assess the use of Artificial Intelligence (AI) writing tools as confidants of Business Administration student-researchers using the Technology Acceptance Model (TAM).

Particularly, this study sought to answer the following questions:

1. How can the profile of the respondents be described in terms of?

2. How can the use of BSBA student researchers of AI writing tools be assessed using the Technology Acceptance Model (TAM)?

3. Is there a significant relationship between the socio-demographic profiles of the respondents and the assessment of the use of AI writing tools by BSBA student researchers, using the Technology Acceptance Model (TAM)?

Lastly, this paper establishes a rationale for AI writing tool applications in academic writing, which is a critical factor for informing knowledge. This study, therefore, applies TAM to evaluate the perceptions of student researchers on the use of AI tools in academic writing, especially concerning perceived usefulness and ease of use. This research aims to provide insightful information to educators, researchers, and policymakers, as it enhances their understanding of AI's involvement in academic writing.

2. Materials and Methods

2.1. Research Design

This study used a quantitative approach to research. It identified whether Artificial Intelligence writing tools supported student researchers as they wrote their research papers. The appropriateness of using a quantitative approach for this study was due to the fact that it allowed for the determination of more precise data-based insights using mathematical, statistical, and computational techniques. A descriptive research design was adopted as a means to ensure an effective understanding of the data collected from respondents. This method involved gathering information in an orderly and systematic process toward creating a lucid and detailed representation of the phenomenon [13]. Descriptive research was pertinent for this study because, through the technique, the researchers were able to capture and present perceptions from the student respondents regarding the usefulness and ease of use of AI writing tools.

2.2. Locale of the Study

The research study was conducted throughout Central Luzon in the Philippines. It consisted of seven provinces: Aurora, Bataan, Bulacan, Nueva Ecija, Pampanga, Tarlac, and Zambales. In view of its high significance, both geographically and culturally, Central Luzon is considered to be the largest contiguous lowland region in the Philippines.

Central Luzon became a focal area for this study, and the opportunity to conduct a broader investigation with a diversified range helped uncover insights through student researchers from a wide array of different provinces. The geographic diversity ensured that the results would provide a holistic understanding of AI writing tool usage in academic research across various contexts, enhancing the depth and relevance of the study.

2.3. Respondents of the Study

The data collection was conducted in Region III, Philippines, which encompassed seven provinces. The respondents were chosen based on the criteria imposed by the researchers. Specifically, respondents should have been both students and researchers who were enrolled in their 4th year in college for the academic year 2024-2025 under the course of Business Administration and should have completed their research subject. The respondents of this study were drawn from various state universities and colleges located throughout Region III. Using the online tool Raosoft calculator, the respondents of the study were determined with a total sample size of 385 respondents. The designated sample size per province was determined by multiplying the population of each area by 385, as suggested by the Raosoft sampling calculator, and then dividing the result by the total number of populations in Central Luzon, 1,150,568.

The respondents were chosen through a purposive sampling technique. Purposive sampling entailed the deliberate selection of individuals based on specific criteria, including their qualifications, expertise, experiences, or other pertinent factors [14].

2.4. Research Instrument

The primary instrument for data collection in this study was the survey questionnaire formulated by the researchers. The questionnaire was used to gather comprehensive information regarding students' assessment of the AI research writing aid, with the Technology Acceptance Model (TAM) serving as the framework. This instrument provided an understanding of student researchers' profiles and perspectives regarding the AI tool, with an emphasis on perceived usefulness, perceived ease of use, perceived attitudes toward technology, perceived subjective norms, and perceived facilitating conditions. The self-made survey questionnaire was composed of three sections:

Part I presented the demographic profile of respondents. This section consisted of questions pertaining to sociodemographics such as sex, the type of AI writing tools used, and the frequency of AI tool usage on a monthly basis. The questions were presented in a checklist format.

Part II was the assessment of the use of AI writing tools by Business Administration student-researchers. It has five subcategories following the Technology Acceptance Model and the other three variables: perceived usefulness, perceived ease of use, perceived attitudes toward technology, perceived subjective norms, and perceived facilitating conditions. This section utilized a 4-point Likert scale featuring verbal descriptions such as 4, which means Strongly Agree; 3, which means Agree; 2, which means Disagree; and 1, which means Strongly Disagree. This part of the questionnaire was researcher-made and formulated based on information obtained from the review of literature and related studies about the utilization of Artificial Intelligence (AI).

The survey was administered both in-person and online, thereby guaranteeing the attainment of precise insights from the intended sample. The researchers used Google Forms, a widely used tool for survey creation and data collection, to facilitate a diverse range of respondents. The accessibility, simplicity of use, and efficient response analysis capabilities of Google Forms made it a popular choice among researchers, educators, and businesses [15]. The link for the online survey was distributed to the respondents using various platforms like Facebook and Messenger.

2.5. Data Gathering Procedures.

Upon the proposal and approval of the research paper titled "The Assessment of the Use of Artificial Intelligence (AI) Writing Tools as a Confidant of Business Administration Student-Researchers Using Technology Acceptance Model (TAM)," the researchers gathered data and information from relevant studies and online articles to formulate the research instrument. The research adviser initially evaluated the questionnaire, making corrections, offering suggestions, and providing information to improve the instrument. The researchers then sought permission from the university, as the survey was conducted both online and in person.

In order to guarantee the relevance of the instrument, the researchers sought an evaluation from five different experts related to the study. The validity of the research instrument was verified with a score of 3.92, interpreted as Very Good, which indicated it was ready to be distributed for reliability testing.

The researcher conducted a pilot test to verify the accuracy, reliability, and efficacy of the research instruments after the questionnaires had been validated. The reliability test was conducted using two different formats of the data gathering tool drawn from the original questionnaire. Cronbach's alpha was used to determine the results for the reliability of each variable. In this regard, the perceived usefulness scored 0.8356, perceived ease of use scored 0.8968, attitude towards technology scored 0.9317, subjective norms scored 0.8328, and facilitating conditions scored 0.9495, indicating that the instrument used has strong internal consistency.

The researchers then submitted the necessary papers and subsequently obtained approval from their adviser before distributing the questionnaires. Prior to the administration of the questionnaire, the researchers further developed and enhanced the instrument to ensure compliance with the requirements of the respondents. The instrument included a consent section that specified and clarified the voluntary nature of the study's participation, underscoring that respondents were permitted to withdraw at any time. A notification was prepared for the respondents in the survey questionnaire to guarantee that all information was handled with the utmost confidentiality.

Finally, the Likert scale was employed to evaluate the factors that the researchers were considering in the center of this investigation. The researchers conducted a comprehensive analysis of the data to identify patterns using a variety of statistical methods, which resulted in the determination of results, recommendations, and conclusions.

2.6. Data Analysis Technique

The researchers encoded, summarized, and analyzed the data collected from the respondents. The analysis utilized descriptive statistics, such as frequency distribution, percentage, weighted mean, and Pearson's R. The scale illustrated in two distinct tables was employed to interpret the results.

Table 1.

Scale	Mean range	Interpretation	Description
4	3.26 - 4.00	Strongly Agree	Significantly necessary for achieving better outcomes.
3	2.51 - 3.25	Agree	Necessary for achieving a better outcome.
2	1.76 - 2.50	Disagree	Unnecessary for achieving a better outcome.
1	1.00 - 1.75	Strongly Disagree	Significantly unnecessary for achieving a better outcome.

Scale for data interpretation of perception.

Table 1 presents the interpretation and description of data in the assessment of the use of student researchers in Artificial Intelligence (AI) writing tools.

Table 2.

Scale for the Interpretation of Pearson r.	
r value (size of correlation)	Interpretation
0.90 to 1.00 or -0.90 to -1.00	Very high positive (or negative) correlation.
0.70 to 0.89 or -0.70 to -0.89	High positive (or negative) correlation.
0.50 to 0.69 or -0.50 to -0.69	Moderate positive or negative correlation
0.30 to 0.49 or -0.30 to 0.49	Low positive (or negative) correlation
0.10 to 0.29 to -0.10 to -0.29	Very low positive (or negative) correlation.
0.01 to 0.09 or -0.01 to -0.01	Weak positive or negative correlation
0.00	No correlation.

The Table 2 was employed to comprehend the correlated data, verify the hypotheses, and establish a substantial correlation between the profile of respondents and the perception of student researchers regarding the use of AI writing tools based on the Technology Acceptance Model (TAM).

This research implemented an additional methodology to illustrate and analyze the data derived from the respondents: to describe the socio-demographic data of the BSBA student researchers, the frequency and percentage distribution was used; to assess the use of AI writing tools by the BSBA student researchers using the Technology Acceptance Model, this study employed the weighted mean; and to correlate the selected profile with the assessment of the use of AI writing tools by the BSBA student researchers used Pearson r.

3. Results and Discussion

3.1. Description of the Demographic Profile of the Business Administration Student Researchers

This section presents the data regarding the demographic profile of Business Administration student-researchers in terms of sex, the form of AI writing tools used, and the frequency of AI writing tools usage on a monthly basis.

3.2. Sex

The majority of the respondents belong to the female category, accounting for 61% or 234 individuals. In contrast, male respondents comprised 39%, with a total of 151 respondents.

These results indicate that most student-researchers from the Business Administration field who use AI are female. This means that female students in the field of Business Administration have a higher level of interaction with AI as they apply it to their research more than male students. This can be understood as a considerably large percentage being female, establishing the majority of contributors in this academic and technological context.

Females use AI writing tools and often experience specific challenges when interacting with technology [16]. Despite these gender-based differences in the level of usage, experience, and access to technology, both male and female learners achieve comparable gains in writing proficiency. AI, such as automated writing evaluation systems and AI-driven feedback platforms, provides learners with tailored, actionable insights that facilitate the development of advanced writing skills.

3.3. Form of AI Writing Tools

The majority of the respondents, accounting for 158 or 41% of the total, were integrating grammar and style checkers into their research writing process. In contrast, only 55 respondents, or 13% of the total, used plagiarism checkers.

The data signifies the considerable level of importance of several tools, specifically those designed to improve both clarity and coherence of student research output. This means that grammar and style checker tools were used by most students since these tools provide some form of support in ensuring that the content is not only accurate but also well-structured, which is important in academic contexts where context plays an essential role. This trend stands as a testament to the growing awareness people have about the need for polished and refined writing skills in the pursuit of success both in school and at work.

Students are using grammar and style checkers, which are AI-driven writing tools, because of their significant impact on enhancing academic writing proficiency [17]. Moreover, students are expected to produce high-quality written outputs, such as research papers, essays, and theses. Grammar and style checkers meet these expectations by improving grammar accuracy and overall writing quality. Ultimately, students are positive toward grammar checkers in that they perceive them as tools that provide instant feedback and error correction. These tools are helpful in the improvement of grammar skills and academic writing. This positive perception of grammar checkers highly predicts their intention to use AI writing tools in students' writing tasks.

3.4. Frequency of using AI Writing Tools

The majority of the respondents, with a percentage of 38% and a total number of 147 respondents, labeled their frequency level in using AI writing tools as "needed." On the other hand, only 10%, accounting for 38 of the respondents, always used AI writing tools.

This indicates that Business Administration tends to rely only on AI tools selectively, which is solely based on specific writing tasks or challenges that they face, wherein more support and help are required. Such patterns clearly display a pragmatic approach where people use AI tools mainly to solve their situational needs in research writing rather than making them part of their usual habits. This particular selective behavior displayed by the respondents can be defined by many factors, such as their adequacy with existing writing skills. In the views of the respondents, AI tools were perceived mainly as supporting tools that supplement their efforts rather than as indispensable resources necessary for their writing process. They only apply these AI tools when faced with a definite problem that should be solved through technology to make their research writing a better process.

Most students tend to use AI tools only when they need them because they are not familiar with or confident in using these technologies. Many students do not know what ethical implications and data security concerns are related to generative AI tools, so they do not use them frequently [18]. Additionally, without proper technical education and practical exposure, students feel ill-equipped to implement such tools into their learning practices more effectively. They are also unaware of the full potential of generative AI to enhance creativity, facilitate personalized learning, and promote collaboration. Addressing these barriers with improved AI literacy, ethical guidelines, and technical support from institutions may encourage more consistent and confident use of generative AI in education.

4. Assessment on the Use of AI Writing Tools of Business Administration Student-Researchers

This section presents the data regarding the perception of Business Administration student-researchers in terms of perceived usefulness, perceived ease of use, perceived attitudes toward technology, perceived subjective norms, and perceived facilitating conditions of using Artificial Intelligence (AI) writing tools.

Table 3.			
Perceived Usefulness.			
Perceived usefulness			
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Perceived usefulness	Weighted Mean
Using AI writing tools is useful for finding new ideas and additional viewpoints for my research topic.	3.52
I find using AI writing tools useful for summarizing complex research information.	3.42
Using AI writing tools allows me to scan and check for all grammatical and technical errors in my research paper.	3.42
Using AI writing tools is useful for arranging and structuring the contents of my research study.	3.39
AI writing tools assist me in formatting proper citations and avoiding unintentional plagiarism.	3.33
Average Weighted Mean	3.42

Note: 3.26-4.00 Strongly Agree; 2.51-3.25 Agree; 1.76-2.50 Disagree; 1.00-1.75 Strongly Disagree.

4.1. Perceived Usefulness

Table 3 presents the assessment of the use of Artificial Intelligence writing tools by Business Administration studentresearchers in terms of perceived usefulness. The majority of the respondents strongly agree with the statement, "Using AI writing tools is useful for finding new ideas and additional viewpoints for my research topic," which has a weighted mean of 3.52. Meanwhile, the statement, "AI writing tools assist me in formatting proper citations and avoiding unintentional plagiarism," received the lowest score of 3.33, interpreted as strongly agree.

This strong agreement indicates that Business Administration students consider AI writing tools as instrumental in enhancing creativity and broadening their understanding of various research subjects. The ability to access a wealth of information and viewpoints from AI can significantly complement the research process. Artificial Intelligence writing tools have served a valuable function in enhancing the research process for many students [19]. These tools are considered an important asset that helps researchers analyze vast amounts of data, leading to the emergence of new patterns and trends that are inconceivable to the human mind. AI-powered writing assistants not only provide students with new research ideas, questions, and hypotheses but also offer valuable feedback on their writing, suggesting improvements in grammar, style, and clarity. This collaborative approach between students and AI absolutely increases the quality of students' output.

It highlights that the degree of acceptance and adoption of Artificial Intelligence within the educational context significantly depends on its perceived usefulness. Student acceptance of any technology, such as generative AI, depends on its usefulness to the student [20]. When a student feels that AI systems assist them in improving their academic performance, the rate of usage of the system by students increases. This positive perception not only encourages students to use AI more frequently but also supports the process of its integration into educational activities. Thus, the perception of the usefulness of AI is a critical factor.

Table 4.

Perceived ease of use	Weighted Mean
AI writing tools are easy to use for editing and revisions, providing features such as grammar	
and spelling checks, as well as suggestions for improving sentence structure and clarity.	3.38
AI writing tools are more convenient for finding related literature and studies, which allows me	
to quickly search for relevant articles and research papers.	3.36
The straightforwardness and simplicity of the interface of AI tools is what makes it easy to use.	3.34
AI writing tools are easy to use because they have intuitive interfaces and clear instructions.	3.34
AI writing tools require minimal effort to learn and navigate, allowing users to quickly begin	3.33
generating content.	
Average Weighted Mean	3.35

Note: 3.26-4.00 Strongly Agree; 2.51-3.25 Agree; 1.76-2.50 Disagree; 1.00-1.75 Strongly Disagree.

4.2. Perceived Ease of Use

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Table 4 presents the assessment of the use of Artificial Intelligence writing tools by Business Administration studentresearchers in terms of Perceived Ease of Use. The majority of the respondents displayed strong agreement with the statement, "AI writing tools are easy to use for editing and revisions, providing features like grammar and spelling checks, as well as suggestions for improving sentence structure and clarity," scoring a weighted mean of 3.38, which is interpreted as Strongly Agree. On the other hand, the statement, "AI writing tools require minimal effort to learn and navigate, allowing users to quickly start generating content," received the lowest score of 3.33, also interpreted as Strongly Agree.

This indicates that Business Administration students were engaged in using Artificial Intelligence to conveniently improve the quality of their research work. Automated grammar checks, spelling corrections, and suggestions for better sentence flow proved particularly valuable because of their convenient nature, which saves time and reduces the cognitive load associated with revising drafts. The Artificial Intelligence-powered tool has made research editing much easier and more efficient [21]. With the variety of user-friendly AI tools readily available online, providing effortless checks for grammatical errors, punctuation mistakes, and syntax issues makes it easy for students to use for research. With the help of these tools, streamlining the whole process of writing research—starting with idea generation and organization, through drafting, to final editing—greatly decreases the load for researchers. Additionally, the intuitive interfaces and the fact that they cover all aspects bring these AI assistants invaluable advantages to scholars of all ranks.

The perceived ease of use of an AI platform is a critical determinant of user satisfaction and engagement. The underlying AI algorithms might be highly advanced or sophisticated; however, the user experience can be severely impacted if the platform is difficult to navigate or operate [22]. Thus, a user-friendly interface and intuitive design can greatly enhance the learning curve, encouraging more frequent use and a positive relationship between users and the technology. This simplifies the process of using AI tools, ensuring that users can focus on how to leverage the capabilities of the technology without getting bogged down by technical hurdles. It is essential to emphasize that ease of use is not a luxury but a vital component for the effective adoption and integration of AI platforms into applications.

Table 5.

Perceived attitude towards technology.

Perceived attitudes toward technology.	Weighted mean
Having access to writing tools makes me feel more motivated to conduct a research study.	3.28
I consider AI writing tools to be valuable resources for enhancing my overall research writing skills.	3.25
The assistance of AI writing tools helps me feel more confident that I will generate a purposeful business concept.	3.23
I am comfortable using AI writing tools to assist with my research.	3.21
I trust AI writing tools to provide accurate and reliable information to support my studies.	3.1
Average Weighted Mean	3.21

Note: 3.26-4.00 Strongly Agree; 2.51-3.25 Agree; 1.76-2.50 Disagree; 1.00-1.75 Strongly Disagree.

4.3. Perceived Attitude Towards Technology

Table 5 presents the assessment of the use of Artificial Intelligence writing tools by Business Administration studentresearchers in terms of their perceived attitude towards technology. Most of the respondents strongly agree with the statement, "Having access to writing tools makes me feel more motivated to conduct research studies," which has a weighted mean of 3.28. In contrast, the statement, "I trust AI writing tools to provide accurate and reliable information to support my study," received the lowest score of 3.1, interpreted as agree.

This suggests that AI writing tools make the process of conducting research significantly more motivating, which underscores their crucial role in the academic writing process of Business Administration students. This outcome indicates that the availability of a variety of writing tools gives a positive attitude towards researchers because it makes the process less intimidating and alleviates the challenges caused by limited time and the complexity of the writing process. The integration of artificial intelligence with creative human intelligence further transforms the nature of the educational experience for every student [23]. AI tools, such as generative AI (GenAI), empower students by providing customized support and making complicated tasks easier and simpler. These tools serve as a great motivator for students, helping them cope with heavy academic burdens like research, writing, and problem-solving. The adaptability of these tools enables students to respond to multi-directional academic needs, bringing a sense of empowerment and motivation.

Perceived attitudes toward artificial intelligence shape how students interact with and adjust to technological advancements. Determining the level of acceptance and adoption of new technologies is crucial. Factors such as exposure to AI, awareness, and knowledge of AI positively influence students' attitudes. When students learn more about AI and are exposed to it, they see how useful this technology is for them as well as for their working and learning environments. In addition, positive attitudes ensure that there are good learning outcomes, greater adoption of AI in education, and the effective use of technology in different fields. It is, therefore, necessary for educational institutions to encourage such positive attitudes to ensure students are adequately prepared for the future [24].

Table 6. Perceived Subjective Norms.	
Perceived subjective norms	Weighted Mean
The acceptance from the educational community drives me to use AI in writing my research	3.19
paper.	
I used AI writing tools because my peer suggested that they can lighten the job and minimize time	3.19
consumption.	
Content from social media influencers convinced me to incorporate the power of AI writing tools	3.12
into my research writing.	
I feel pressure from my fellow classmates to use AI writing tools to stay ahead in my research.	3.09
My professors acknowledge and recommend the use of AI writing tools in research.	3.01
Average Weighted Mean	3.12

Note: 3.26 - 4.00: Strongly Agree; 2.51 - 3.25: Agree; 1.76 - 2.50: Disagree; 1.00 - 1.75: Strongly Disagree.

4.4. Perceived Subjective Norms

Table 6 presents the assessment of the use of Artificial Intelligence writing tools by Business Administration studentresearchers in terms of Perceived Subjective Norms. Most of the respondents agree with the statements, "The acceptance from my educational community drives me to use AI for writing a research paper" and "I use AI writing tools because my peers suggest that they can lighten the workload and minimize time consumption," with a weighted mean of 3.19. Meanwhile, the statement "My professors acknowledge and recommend the use of AI writing tools in research" received the lowest score of 3.01, which is interpreted as Agree.

The findings suggest that the willingness to adopt the use of AI writing tools among Business Administration students in research writing depends on the influence of peer groups and institutional support. This means that recommendations from peers and institutions underline the advantages of adopting AI writing tools, along with collective validation, which creates a supportive environment in which students find the idea of incorporating new technologies much more comfortable to contemplate. Peer pressure plays a significant role in the acceptance of the use of AI technology in academic settings [25]. When there are success stories of AI's potential found academically and socially, students feel a compelling urge to use the technologies to keep up with other members in an increasingly AI-dominated world. Especially, information flowing between members circulates simultaneously, which accelerates adoption among peers and reinforces the perceived benefits and necessity of AI integration among students. Comfort with AI writing tools often comes from exposure to the community [26]. The acceptance of these tools by learning institutions encourages ethical implementation, which creates an environment in which students can comfortably and confidently use these tools to maximize their potential for academic success. Acceptance by institutions means more than approval; it means the activation of guiding principles for the ethical and responsible application of these technologies in any efforts to address several concerns regarding fairness, accessibility, and the protection of user data.

Subjective norms are among the critical factors considered for the adoption and effective usage of AI technologies, such as Generative AI (GAI). The significance of social influences in shaping university students' attitudes towards AI relates to the support and encouragement from their peers and teachers. Subjective norms play a crucial role in strengthening students' perceptions of control over and proper use of such technologies. This highlights the dual function of social validation and self-efficacy, as subjective norms promote positive attitudes while also reinforcing students' trust in their abilities [27].

Table 7.	
Perceived facilitating conditions.	
Perceived facilitating conditions	Weighted mean
The accessibility of AI writing tools makes it relatively easier for me to undertake research tasks.	3.22
AI writing tools have sufficient technical support that addresses any issues arising from their use.	3.18
Various seminars and webinars conducted by the university enhance my knowledge of using AI	3.16
writing tools in research.	
The facilities provided by the university allow me to utilize AI writing tools effectively.	3.12
The guidance provided by faculty and research advisors enables me to use AI writing tools	3.02
correctly.	
Average weighted mean	3.18

Note: 3.26-4.00 Strongly Agree; 2.51-3.25 Agree; 1.76-2.50 Disagree; 1.00-1.75 Strongly Disagree.

4.5. Perceived Facilitating Conditions

Table 7 presents the assessment of the use of Artificial Intelligence writing tools by Business Administration studentresearchers in terms of Perceived Facilitating Conditions. Most of the respondents strongly agree with the statement, "The accessibility of AI writing tools makes it relatively easier for me to undertake research tasks," which received a weighted mean of 3.22. In contrast, the statement, "The guidance provided by faculty and research advisors enables me to use AI writing tools correctly," received the lowest score of 3.02, interpreted as agree.

This implies that Business Administration students have greatly improved their overall experience and significantly gained ease and productivity in academic writing because of the widespread accessibility of AI writing tools on the internet. This means that the extensive availability of AI writing tools makes research writing comfortable for every student, relatively providing equal opportunities for people from diverse backgrounds. Researchers who lack sufficient academic resources or experience in scholarly writing can also access and maneuver these tools, producing quality research work. The versatility of Artificial Intelligence (AI) enables it to change all aspects of the writing approach that every user has, including non-English native speakers [28]. Unlike other tools, AI adjusts its responses to suit the individual user's needs. AI responds according to the specific requirements of any task, whether it is a scientific paper, an email, or other creative compositions. This adjustment of responses allows it to support a number of proficiency levels. In this manner, the customization of AI ensures that every person, regardless of their level of proficiency in English, can easily use AI tools, making learning less intimidating and more effective.

Understanding the perception of the facilitative conditions of AI among students is important to ensure their overall comfort while using AI. The perceived facilitating conditions significantly affect factors related to the ease of use of the technology when used appropriately and with all available resources of an AI tool [29]. When students feel supported and have adequate infrastructure and resources, their comfort increases, which boosts their willingness to integrate AI into research. This supportive environment helps students overcome possible barriers and promotes a better attitude toward using AI, enhancing their learning experiences and involvement with technology.

4.6. Correlation Between the Demographic Profile of the Respondents and Their Assessment of AI Writing Tools Based on TAM Variables

This section presents the correlation of the demographic profile of Business Administration student-researchers, including sex group, types of AI writing tools used, and the frequency of using AI writing tools on a monthly basis. It also

assesses the use of AI writing tools by Business Administration student-researchers in terms of perceived usefulness, perceived ease of use, perceived attitudes toward technology, perceived subjective norms, and perceived facilitating conditions.

Sex	Assessment	r value	P value	Remarks	Decision
Female				Very low	Accept
and	Perceived usefulness	0.153	0.003	positive	alternatives
Male				correlation	hypothesis
	Perceived ease of use			Very low	Accept
		0.108	0.034	positive	alternatives
				correlation	hypothesis
	Perceived Attitude				Accept
	Toward Technology	0.827	0.00	No correlation	alternatives
					hypothesis
	Perceived subjective				Accept
	norms	0.920	0.00	No correlation	alternatives
					hypothesis
	Perceived facilitating			No correlation	Accept
	conditions	0.985	0.00		alternatives
					hypothesis

Table 8.

Correlation between sex and the assessment of the use of AI writing tools among business administration student-researchers.

4.7. Correlation Between the Demographic Profile and the Assessment of the Use of AI Writing Tools by Business Administration Student-Researchers in Terms of Sex Group and TAM Variables

Table 8 presents that a very low positive correlation was observed between sex and perceived usefulness (r = 0.153, p < 0.003) as well as between sex and perceived ease of use, both of which were statistically significant. On the other hand, no correlation was found for the other three TAM variables: perceived attitude towards technology (r = 0.827, p < 0.00), subjective norms, and facilitating conditions, all of which were statistically significant.

The findings indicate that there is a significant relationship between sex and the way Business Administration studentresearchers assess AI writing tools, which supports the hypothesis. This means that sex plays a crucial role in shaping how students perceive and interact with these tools. More specifically, this shows that male and female students can have different attitudes toward technology. This attitude may be crucial in the overall assessment that could impact whether such a tool is useful and easy to use. Sex also seems to have some influence on the subjective norms surrounding AI tools—namely, social expectations, peer influences, and cultural perceptions—leading to different degrees of engagement and acceptance from students.

The comfort level of students with technology and their past experiences with similar tools may vary along gender lines and, therefore, may influence the way they evaluate AI writing tools, thus affecting their willingness to include those tools in their academic work. Consequently, gender not only affects attitudes and norms among students but also has a broader effect on their overall engagement and experience with AI writing tools, underscoring the importance of including gender as a factor in explaining the adoption and use of emerging technologies in educational contexts.

Table 9.

Correlation between the form of AI with	iting tools used and the asses	sment of the use	of AI writing tools by l	ousiness administration	n student-researchers.

Form of AI writing tools	Assessment	r value	P value	Remarks	Decision
used					
				Weak	Reject
Grammar and style	Perceived	0.024	0.637	positive	alternatives
checkers, content generation	usefulness			correlation	hypothesis
tools, paraphrasing tools,				Weak	Reject
and plagiarism checkers.	Perceived ease of	-0.021	0.681	negative	alternatives
	use			correlation	hypothesis
	Perceived Attitude			No	Accept
	Towards	0.947	0.00	correlation	alternatives
	Technology				hypothesis
	Perceived			No	Accept
	Subjective Norms	0.980	0.00	correlation	alternatives
					hypothesis
	Perceived			No	Accept
	Facilitating	0.997	0.00	correlation	alternatives
	Conditions				hypothesis

4.8. Correlation Between the Demographic Profile and the Assessment of the Use of AI Writing Tools by Business Administration Student-Researchers in Terms of the Form of AI Writing Tools Used and TAM Variables.

The Table 9 presents that a weak positive correlation was observed between the form of AI writing tools used and perceived usefulness (r = 0.024, p = 0.637). Meanwhile, a weak negative correlation was identified between the form of AI writing tools used and ease of use (r = -0.021, p = 0.681), both of which were statistically insignificant. In contrast, no correlation was identified between the form of AI writing tools used and three other TAM variables: perceived attitude towards technology (r = 0.947, p < 0.00), subjective norms, and facilitating conditions, which were statistically significant.

The findings suggest that there is a weak relationship of form or design between Business Administration studentresearchers' perceptions of usefulness and ease of use regarding AI writing tools, indicating that the characteristics or features of the AI tools did not make an essential difference in how students assessed the tools. This weak relationship does not support the preliminary hypothesis that had been framed with an expectation of a greater association between the form of the tool and users' perceptions. Instead, research indicates that other factors have a far more significant impact on students' experiences. Specifically, students' attitudes toward technology, subjective norms, social influence, and facilitating conditions emerged as determinants that are strong drivers of students' engagement with AI tools.

A positive attitude towards technology will undoubtedly stimulate students' desire to employ the tools better, regardless of their designs. Subjective norms—those based on suggestions from other students or faculty and trends that are becoming popular in society as a whole—also contribute significantly to changing their decision on whether or not to utilize these tools. Finally, the facilitating conditions, such as user support, good training, and ease of access, determine the extent to which students make significant strides regarding overall improvement. All of these factors together have resulted in a more meaningful interaction with AI writing tools, suggesting that the general context in which students engage with technology is much more important than the specifics of the tools themselves in determining students' perceptions and use.

Table 10.

Frequency of using AI	Assessment	r value	P value	Remarks	Decision
writing tools					
As needed, Sometimes,	D			Weak positive	Reject alternatives
Often, and Always.	Perceived userulness	0.017	0.738	correlation	hypothesis
	Demonitred appendix			Weak negative	Reject alternatives
	Perceived ease of use	-0.027	0.597	correlation	hypothesis
	Perceived Attitude			Weak negative	Reject alternatives
	Toward Technology	-0.006	0.907	correlation	hypothesis
	Perceived subjective			Weak negative	Reject alternatives
	norms	-0.012	0.814	correlation	hypothesis
	Perceived facilitating			Weak negative	Reject alternatives
	conditions	-0.007	0.907	correlation	hypothesis

Correlation between the frequency of using AI writing tools and the assessment of these tools by business administration student-researchers.

4.9. Correlation Between the Demographic Profile and the Assessment of the Use of AI Writing Tools by Business Administration Student-Researchers in Terms of Frequency of Using AI Writing Tools on a Monthly Basis and TAM Variables Table 10 presents that a weak positive correlation was observed between the frequency of use and perceived usefulness (r = 0.017, p = 0.738), which was statistically insignificant. Meanwhile, weak negative correlations were found for perceived

ease of use (r = -0.027, p = 0.597), perceived attitude towards technology, perceived subjective norms, and facilitating conditions, all of which were statistically insignificant. The findings of this study indicate that the frequency with which Business Administration student-researchers use AI

writing tools does not have a significant correlation with any of the key variables identified in the TAM, such as perceived usefulness, ease of use, attitudes, subjective norms, or facilitating conditions. This suggests that the number of times a student uses an AI writing tool does not have a strong effect on their perceptions of the tool's effectiveness or ease of use, nor does it affect their attitude toward the technology, the social expectations they face, or the support systems available to them. In other words, although students may use the tool constantly, these factors do not seem to be meaningfully affected by such frequent usage. Thus, the hypothesis that frequent use would result in stronger or more positive perceptions of the tool is not supported by this data. This implies that factors outside the number of uses of AI writing tools by a student are the major influences on the perception of assessment and utilization of AI writing tools by the students.

5. Conclusion

The majority of Business Administration students are female, indicating a higher prevalence of female students utilizing AI writing tools for research. Among these students, grammar and style checkers are the most commonly integrated tools in their research writing process. However, these tools are typically used on a monthly basis, often only when necessary or when specific situations demand their use. This limited engagement suggests that while AI tools are recognized for their utility, there is a lack of regular and proactive use of AI among Business Administration students.

In terms of perceived usefulness, the majority of Business Administration students strongly agree with the statement, "Using AI writing tools is useful for finding new ideas and additional viewpoints for my research topic." On the other hand, in terms of perceived ease of use, the majority of Business Administration students display strong agreement with the statement, "AI writing tools are easy to use for editing and revisions, providing features like grammar and spelling checks, as well as suggestions for improving sentence structure and clarity." Meanwhile, in terms of perceived attitude towards technology, most Business Administration students strongly agree with the statement, "Having access to writing tools makes me feel more motivated to conduct research." In terms of perceived subjective norms, most Business Administration students agree with the statement, "The acceptance from my educational community drives me to use AI writing tools for writing a research paper." Lastly, in terms of facilitating conditions, most Business Administration student-researchers strongly agree with the statement, "The accessibility of AI writing tools makes it relatively easier for me to undertake research tasks."

In terms of the correlation between the demographic profile of the Business Administration student-researchers, the majority of results were $p \ge \alpha$, leading to a failure to reject the alternative hypothesis; therefore, the researchers considered accepting the alternative hypothesis. However, seven results were rejected, supporting the acceptance of Ho1, indicating a significant relationship between the socio-demographic profile of the respondents and their use of AI writing tools.

Based on the findings of this study, the following recommendations are presented to address the various challenges encountered in the use of AI writing tools by Business Administration student-researchers:

Universities should organize dedicated and tailored workshops or webinars to improve the mastery of AI writing tools for students of both sexes and across all forms of AI writing tools. These sessions could focus on the advanced features of different AI tools, thereby enhancing the use of these tools for research writing among students. They should incorporate hands-on sessions where students practice using AI tools in real-time, followed by feedback on their output.

Colleges and state universities should create a technical support hub where students can report issues and receive immediate assistance in navigating AI tools. This hub must include access to trained technicians and student support staff through multiple channels to help resolve technological barriers. Additionally, partnerships between technology companies and universities should be pursued to help address these technological challenges.

Deans of the College of Management and Business Administration should integrate the results of this study for the business research subject to encourage the integration and adoption of AI technology in the research writing process of the students. This recommendation could enhance and leverage the research output of the students and other scholars in the context of business and feasibility studies while ensuring the established ethical standards.

Future researchers should conduct studies that examine the long-term effects of AI writing tools on critical thinking and originality. It is also recommended to investigate other socio-demographic factors influencing the adoption and use of AI tools for business administration students, such as specializations, and to identify challenges and strengths of using AI tools across various academic disciplines.

References

- [1] N. Duggal, "What is artificial intelligence and why it matters in 2024," Retrieved: https://www.simplilearn.com/tutorials/artificial-intelligence-tutorial/what-is-artificial-intelligence, 2024.
- [2] L. Coffey, "U.S. Lags in AI use among students, surveys find students across the globe weighed in on their AI usage, with the U.S. lagging behind," Retrieved: https://www.insidehighered.com/news/tech-innovation/artificial-intelligence/2023/11/21/usstudents-among-lowest-world-ai-

usage#:~:text=While%2040%20percent%20of%20students,it%20comes%20to%20STEM%20subjects, 2023.

- [3] V. Salido, "Impact of AI-powered learning tools on student understanding and academic performance," Retrieved: https://www.researchgate.net/publication/376260972_Impact_of_AI-
- Powered_Learning_Tools_on_Student_Understanding_and_Academic_Performance, 2023.
- [4] S. P. T. Utami and R. Winarni, "Utilization of Artificial Intelligence Technology in an Academic Writing Class: How do Indonesian Students Perceive?," *Contemporary Educational Technology*, vol. 15, no. 4, p. ep450, 2023. https://doi.org/10.30935/cedtech/13419
- [5] M. Khalifa and M. Albadawy, "Using artificial intelligence in academic writing and research: An essential productivity tool," *Computer Methods and Programs in Biomedicine Update*, p. 100145, 2024. https://doi.org/10.1016/j.cmpbup.2024.100145
- [6] R. Baron, "AI editing: Are we there yet?," *Sci Ed*, vol. 47, 2019. https://doi.org/10.36591/SE-4703-18
- [7] N. Cajuday, "Philippines ranks fourth in global AI searches," Retrieved: https://bitpinas.com/ai/philippines-fourth-ai-usage/, 2024.
- [8] C. S. Santiago Jr *et al.*, "Utilization of writing assistance tools in research in selected higher learning institutions in the philippines: A text mining analysis," *International Journal of Learning, Teaching and Educational Research*, vol. 22, no. 11, pp. 259-284, 2023. https://doi.org/10.26803/ijlter.22.11.14
- [9] J. B. Fontanilla, K. H. Bautista, M. Lactao Jr, M. A. Villacorte, and R. Santos, "Educators' perspectives on the impact of artificial intelligence on writing competence," *International Journal of Multidisciplinary Research and Publications*, vol. 6, no. 6, pp. 29-34, 2023.
- [10] C. Eladia, J. J. Legaspi, M. Navarro, T. Tanig, and B. Lampayan, "EYE ON AI: Investigating the intention to use and acceptance of generative artificial intelligence in Bulacan State University," *Theory and Practice*, vol. 30, no. 8, pp. 236-251, 2024. https://doi.org/10.53555/kuey.v30i8.6458
- [11] F. S. De Jesus, L. M. Ibarra, B. J. Pasion, W. Villanueva, and M. Leyesa, "ChatGPT as an artificial intelligence learning tool for business administration students in Nueva Ecija, Philippines," *International Journal of Learning, Teaching and Educational Research*, vol. 23, no. 6, pp. 348-372, 2024. https://doi.org/10.26803/ijlter.23.6.16
- [12] P. Silva, "Davis' technology acceptance model (TAM)(1989)," *Information seeking behavior and technology adoption: Theories and trends*, pp. 205-219, 2015. https://doi.org/10.4018/978-1-4666-8156-9.ch013
- [13] (AECT) Association for Educational Communications and Technology, "The association for educational communications and technology," Retrieved: https://members.aect.org/edtech/ed1/41/41-01.html, 2001.
- [14] NCSC (National Center for State Courts), "Purposive and convince sampling," Retrieved: https://www.ncsc.org/consulting-and-research/areas-of-expertise/communications,-civics-and-disinformation/community-engagement/toolkit/purposive-and-convenience-sampling, 2024.

- [15] N. S. Harinarayana and R. N. Vasantha, "Online survey tools: A case study of Google Forms," in *National Conference on Scientific, Computational & Information Research Trends in Engineering, GSSS-IETW, Mysore*, 2016.
- [16] S. O'Connor and H. Liu, "Gender bias perpetuation and mitigation in AI technologies: Challenges and opportunities," AI & Society, vol. 39, no. 4, pp. 2045-2057, 2024. https://doi.org/10.1007/s00146-023-01675-4
- [17] I. A. Al-Shaboul, R. M. Al Rousan, T. Kalsoom, and N. A-Awawdeh, "A critical examination of how AI-driven writing tools have impacted the content, style, and organization of foreign language undergraduates' writing: A survey of lecturers," *Advanced Humanities*, vol. 4, 2024. https://doi.org/10.58256/pjf6en83
- [18] M. Al-Kfairy, D. Mustafa, N. Kshetri, M. Insiew, and O. Alfandi, "Ethical challenges and solutions of generative AI: An interdisciplinary perspective," *Informatics*, vol. 11, no. 3, p. 58, 2024. https://doi.org/10.3390/informatics11030058
- [19] P. Gururaj and P. K. Dsouza, "Artificial intelligence tools in academic writing assistance: A comprehensive study of emerging tools and techniques," *International Journal of Innovative Research in Technology*, vol. 11, no. 3, pp. 1383–1389, 2024.
- [20] C. K. Y. Chan and W. Hu, "Students' voices on generative AI: Perceptions, benefits, and challenges in higher education," International Journal of Educational Technology in Higher Education, vol. 20, no. 1, p. 43, 2023. https://doi.org/10.1186/s41239-023-00411-8
- [21] Atonal_Flatpage, "Why i'm not afraid that AI will replace academic editors. Flatpage," Retrieved: https://flatpage.com/why-imnot-afraid-that-ai-will-replace-academic-editors/, 2024.
- [22] P. Pratt, "The crucial role of ease of use and human-AI interaction in enhancing user experience and achieving satisfactory results," Retrieved: https://www.linkedin.com/pulse/crucial-role-ease-use-human-ai-interaction-enhancing-user-pratt, 2023.
- [23] A. Holcombe, & Wozniak, S., "Using AI to fuel engagement and active learning. (ASCD," Retrieved: https://ascd.org/el/articles/using-ai-to-fuel-engagement-and-active-learning, 2024.
- [24] S. Bati, N. S. Rokaya, N. C. Sherpa, and R. Gupta, "Factors influencing attitude towards adaptation of ai among business students," *New Perspective: Journal of Business and Economics*, vol. 7, no. 1, pp. 21-32, 2024. https://doi.org/10.3126/npjbe.v7i1.70020
- [25] D. Sridharan, "Peer pressure for AI? Yes, it's a thing!," Retrieved: https://www.linkedin.com/pulse/peer-pressure-ai-yes-itsthing-dharshun-sridharan-51kpc, 2024.
- [26] G. Brandhofer and K. Tengler, "Acceptance of artificial intelligence in education: opportunities, concerns and need for action," *Advances in Mobile Learning Educational Research*, vol. 4, no. 2, pp. 1105-1113, 2024. https://doi.org/10.25082/AMLER.2024.02.005
- [27] C. Wang, H. Wang, Y. Li, J. Dai, X. Gu, and T. Yu, "Factors influencing university students' behavioral intention to use generative artificial intelligence: Integrating the theory of planned behavior and AI literacy," *International Journal of Human–Computer Interaction*, pp. 1-23, 2024. https://doi.org/10.1080/10447318.2024.2383033
- [28] A. D. Giglio and M. U. P. d. Costa, "The use of artificial intelligence to improve the scientific writing of non-native English speakers," *Revista da Associação Médica Brasileira*, vol. 69, no. 9, p. e20230560, 2023. https://doi.org/10.1590/1806-9282.20230560
- [29] S. Ebadi and A. Raygan, "Investigating the facilitating conditions, perceived ease of use and usefulness of mobile-assisted language learning," *Smart Learning Environments*, vol. 10, no. 1, p. 30, 2023. https://doi.org/10.1186/s40561-023-00250-0