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ChatGPT as an Artificial Intelligence Learning Tool for Business Administration Students in Nueva Ecija, Philippines

Fhrizz S. De Jesus*, **Lyka Mae Ibarra**, **Billie Jack Pasion**
Nueva Ecija University of Science and Technology
Nueva Ecija, Philippines

Winnie Villanueva
Central Luzon State University
Nueva Ecija, Philippines

Marlon Leyesa
Bulacan State University
Bulacan, Philippines

Abstract. ChatGPT (Chat Generative Pre-Trained Transformer) has expanded significantly in recent years, bringing fresh changes to various aspects of modern life. This study aimed to evaluate the impact of ChatGPT as an educational tool for business administration students in Nueva Ecija, Philippines, focusing on improving their engagement, motivation, and understanding of educational content, while examining the advantages and disadvantages of artificial intelligence (AI). The intention was to evaluate how ChatGPT impacts the academic performance of business administration students, focusing on performance expectancy, effort expectancy, social influence, and behavioral intention. In addition, the research aimed to categorize the respondents based on age, gender, and academic year to determine if these variables impact the use of ChatGPT as an educational resource for business administration students. A quantitative research methodology was employed to evaluate the subject matter, involving the use of descriptive statistics such as percentages, frequency distribution, weighted mean, and Pearson's *r* to analyze the data. The research instrument was designed by us and underwent validity and reliability tests. Regarding the outcomes, most of the participating students were female. In addition, the majority of the respondents fell within the 18−21-year age range and were typically first-year students. It was found

*Corresponding author: Fhrizz S. De Jesus; fhrizzdejesus01@gmail.com

that social influence plays a significant role in how study habits are shared among peers, potentially leading to the adoption of ChatGPT. Even though there are advantages to utilizing AI tools, the respondents reported issues with the ChatGPT tool, including inaccurate responses, insufficient writing skills, limited peer interaction, and misconduct. Finally, it is recommended that students studying business administration should not rely exclusively on ChatGPT for their academic writing. By utilizing this approach, individuals can enhance and refine their writing abilities with or without extensive support from ChatGPT.

Keywords: artificial intelligence; business administration students; ChatGPT; learning tool

1. Introduction

Technology has become an essential component of daily human routines. According to Fitria (2021), technology aims to improve human activities and boost production. Technology has been developing at a rapid pace and become an essential part of daily life, influencing various aspects of human life. It has revolutionized how individuals communicate, work, and access information, offering numerous benefits and opportunities. Staying current with technological advancements is crucial for individuals, organizations, and governments to stay competitive in today's fast-paced, interconnected world.

Advancements in technology have increased the accessibility and flexibility of education (Haleem et al., 2022). Students have the convenience of accessing course materials, submitting assignments, and taking online quizzes and exams from any location with an Internet connection. Moreover, technology allows students to work together with their classmates and teachers in fresh and creative ways. Utilizing online discussion forums, virtual classrooms, and file-sharing tools enables students to collaborate on group projects, exchange ideas and insights, and get immediate feedback from their instructors. This promotes a feeling of camaraderie and collaboration among students, aiding in the acquisition of essential skills such as communication, critical thinking, and problem-solving.

As per Loubier (2023), society has experienced technological progress over the centuries, leading to increased convenience and interest in daily life. In the 21st century, technology has advanced significantly, with innovations such as augmented reality, blockchain, artificial intelligence (AI), and 3D printing leading the way. While these innovations have a significant impact on society, AI stands out as a highly promising technological advancement.

AI is a captivating advancement in modern technology (Watts, 2023). It stands out as a highly impactful technological advancement in the current era. According to Copeland (2024), digital computers or robots controlled by computers are considered to have AI if they can mimic the behavior of intelligent beings. In common use, this idea denotes the pursuit of programming computers to mimic human intelligence in areas such as reasoning, comprehension, generalization, and learning. Machines, computers, applications, and systems can all exhibit AI. According to Overby (2020), there are five types of AI, with natural learning

processing highlighted as crucial for enabling computers to understand, produce, and handle human language. ChatGPT (Generative Pre-Trained Transformer) is a prominent web-based platform that makes use of natural language processing.

In recent years, AI has become deeply integrated into daily human life in ways that may go unnoticed. It has become so widespread that numerous individuals are still unaware of its impact and how much it is depended on. AI is the intelligence exhibited by machines, contrasting with the natural intelligence shown by animals and humans. AI presents numerous possibilities in the education sector, allowing higher education services to expand rapidly and improve the quality of education provided. As per Ortiz (2024), ChatGPT is an AI-powered chatbot enabling users to engage in human-like conversations and providing extra features. ChatGPT was developed by OpenAI, a company specializing in AI and research, and was released in November 2022. Established in 2015 by a team of visionaries and innovators such as Elon Musk and Sam Altman, ChatGPT has expanded significantly, bringing fresh shapes and changes to various aspects of modern life (Hetler, 2023). Indeed, ChatGPT boasts approximately 180.5 million users worldwide and recorded 1.6 billion visits to its website in December 2023, with 3.49% of its user base hailing from the Philippines (Duarte, 2024). ChatGPT can help students with their writing for school. It can offer students feedback on their work, suggest creative assignment ideas, and assist in acquiring new skills. It is a fantastic tool for improving writing skills, posing pertinent inquiries, and condensing lengthy messages (Student Corner, 2023). Encouraging students to submit more thorough academic work can enhance their performance in their studies.

ChatGPT could potentially transform the learning experience for students, offering a personalized and interactive approach to enhance engagement, motivation, and understanding of different subjects. It also helps develop critical skills such as problem-solving and collaboration, crucial for success in today's fast-paced, tech-driven world. Additionally, it supports teachers by reducing their workload, offering real-time feedback, and enabling customized teaching methods to meet each student's needs, ultimately improving learning outcomes and the educational system.

Learning methods refer to the approaches and tactics employed to gain knowledge and are referred to as study habits (Jereb et al., 2023). It incorporates all the methods that students employ to enhance their learning experience. Some students can navigate their academic journey with ease, while others may face challenges (Sonoma State University, n.d.). Research has shown that thriving students achieve their successes by developing and using effective study methods (Háskólinn á Bifröst, n.d.). Accordingly, the use of AI as an aid to students in developing good study habits can be a key to promote good academic performance. On the other hand, inconsistent studying is usually linked with poorer performance in comparison to students who follow a set plan and schedule. It is imperative for students to integrate study time into their daily schedules, ensuring that their study sessions are both efficient and evenly spread throughout the day. Students must dedicate time for studying every day, and the

integration of an AI tool such as ChatGPT can increase their interest and promote positive academic performance.

Assuming responsibility opens up numerous possibilities for students, as it encourages independence, improves time management skills, and builds confidence (Miller, 2010). Embracing education involves being accountable for homework, making academic decisions, reaching out for help when necessary, maintaining a positive attitude, fostering positive interactions, building confidence, and developing personally. By exerting the effort to learn effectively, the use of ChatGPT by students can transform skills into habits that lead to better grades, knowledge, wisdom, and confidence. The integration of tools such as ChatGPT can enhance different learning styles. For instance, kinesthetic learners can engage with interactive simulations or virtual labs facilitated by ChatGPT. Logical learners can use ChatGPT to solve complex problems, breaking them down into systematic steps. Verbal learners can benefit from language-based interactions with ChatGPT, such as practicing new vocabulary or engaging in discussions to reinforce their learning. Social learners can use ChatGPT in group projects to facilitate collaboration, generate ideas, and ensure that all group members are on the same page. Understanding one's optimal learning style is crucial for achieving academic success. Collaborating in groups is beneficial, as it allows students to complete tasks efficiently and learn from each other (Old_Admin_Content, 2019). ChatGPT can serve as a mediator in these group settings, providing real-time information, answering questions, and ensuring the group stays focused. On the other hand, independent practice also has significant advantages. Challenging oneself to recall information independently can enhance memory retention and understanding (Wallis, 2017). Solitary learners can use ChatGPT for personalized study sessions, receiving instant feedback and explanations tailored to their pace and level of understanding.

According to Ray (2023), although ChatGPT is beneficial for academic writing, it can also limit students' overall knowledge. One of the main issues with ChatGPT is its occasional struggle to fully understand the context of a conversation. Although it is proficient at handling individual inquiries, it might struggle to remember past interactions, resulting in responses that appear unrelated or unsuitable. It can be quite frustrating for individuals when there is a contextual misunderstanding, leading to them having to rephrase their inquiries or offer more context multiple times (Huallpa et al., 2023). Utilizing extensive datasets, such as copyrighted materials, increases the potential for violating intellectual property rights. The output produced by ChatGPT may include content that resembles existing works, which could lead to copyright issues. This risk applies to users also, however, and not just ChatGPT. Considering the pros and cons of utilizing ChatGPT, this study aimed to assess the effectiveness of ChatGPT as a learning tool for business administration students in Nueva Ecija as a tool to enhance their engagement, motivation, and understanding in educational matters. However, the limitations of this study must be acknowledged. The research was restricted to business administration students only within the Nueva Ecija province, which may affect the generalizability of the findings. The specific demographic and local focus of the research means that the results may not be applicable to students in other academic programs or geographic locations. This

study only focused on the assessment of the use of ChatGPT as learning tool and did not cover the comparison of traditional to modern learning tools.

As illustrated in the paradigm in Figure 1, the study assessed the unified theory of acceptance and use of technology (UTAUT) model by Venkatesh et al. (2003) in the assessment of ChatGPT as a learning tool for students enrolled in a Bachelor of Science in Business Administration (BSBA) in Nueva Ecija. Particularly, this study sought to answer the following research questions:

1. How may the profile of the respondents be described in using ChatGPT?
2. How does the effectiveness of ChatGPT as a learning tool influence the academic performance or grades of business administration students?
3. Is there a significant relationship between the profile of the respondents and the effectiveness of ChatGPT as a learning tool?

Furthermore, the null hypothesis formulated for this study is: There is no significant relationship between the profile of the respondents and the effectiveness of ChatGPT as a learning tool.

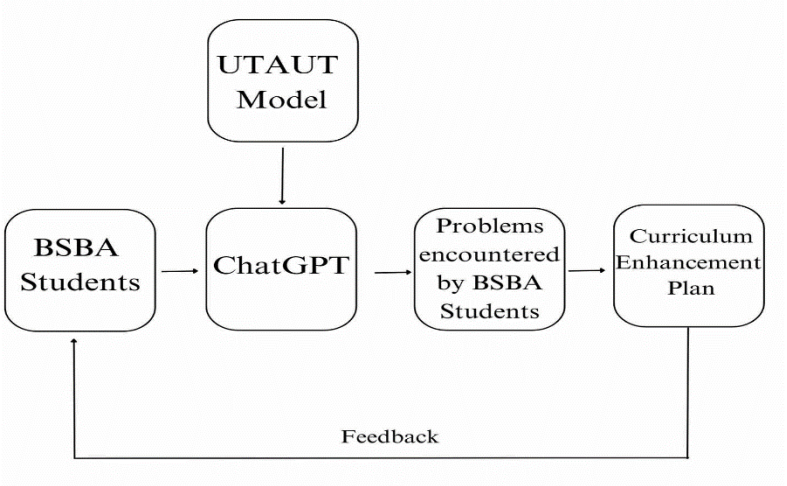

Figure 1: Framework of the study

This self-made paradigm illustrates a dynamic process wherein ChatGPT as a learning tool for business administration students may significantly influence educational learning objectives. It can be used to assist the business administration lecturers with academic tasks such as generating ideas, providing explanations, or answering questions. Through ChatGPT, it is highly utilized by the business administration students as a learning tool for its efficacy that leads to the generation of helpful responses over time. This prompts the development of a structured curriculum enhancement plan which can be used by business administration students.

2. Review of Related Literature

The literature and studies that have been compiled from various sources and to which the current study is related are presented in this section. The background information provided serves for a better grasp of the study. The discussion of related literatures includes the aspects of ChatGPT and its functions, business administration students, and a synthesis of the review of the related literature.

2.1 ChatGPT and its Functions

ChatGPT is a generative language model based on transformer architecture. ChatGPT is an AI chatbot technology capable of understanding human language and providing a response. This model was designed to manage transformations and pay attention to processing sequences of items, such as words in a sentence. Lo (2023) explained how ChatGPT, a conversational chatbot developed by OpenAI, has garnered global recognition for its ability to produce coherent, systematic, and informative responses using natural language processing. This AI tool has multiple applications. ChatGPT's sophisticated AI capabilities enable it to quickly generate articulate, human-like sentences. The chatbot can craft a tailored résumé based on a job description and deliver a nearly finished document (Smith, 2023). Moreover, according to Hider (2023), ChatGPT has been widely utilized in various contexts, such as writing stories, articles, essays, recipes, poems, and code. The chatbot is capable of generating programs in various programming languages, such as G code. ChatGPT is a versatile platform that functions beyond text composition. It is also capable of handling photos. Users now have the ability to make simple adjustments to their photos, such as brightness, contrast, grain, and color grading, as part of the newest beta features (Dwivedi et al., 2023).

In a nutshell, ChatGPT is capable of quickly responding to a wide range of user queries, making it extremely popular among millions of users. According to Ver Meer (2024), ChatGPT reportedly boasts approximately 180 million users and recorded 1.6 billion visits to its website in December 2023. The Philippines accounts for 3.37% of the user base. Because of its features and constraints, ChatGPT is primarily utilized by Filipino students for their writing assignments. Several teachers have observed a rise in the number of students utilizing ChatGPT and other AI tools for their assignments (Antivola, 2023). Students from the Philippines have shared their thoughts on ChatGPT's ability to quickly generate essays and provide answers to questions. They indicated that the AI tool assists in organizing information, drafting content for school assignments, generating ideas, and exploring innovative concepts.

Despite the achievements of ChatGPT, the AI tool may present potential risks to its users, particularly within the realm of education. Using this AI tool significantly impacts students' critical thinking skills. As per Klepec (2023), ChatGPT offers the possibility of automating various writing tasks, enabling students to engage in critical thinking when needed. Moreover, as students step into an academic environment, they are required to apply critical thinking skills to broaden their understanding. Utilizing AI tools such as ChatGPT effectively eliminates this issue for students. Furthermore, instances have been reported where ChatGPT responses were found to be inaccurate or inconsistent. According to Cajuday (2023), ChatGPT has the potential to generate inaccurate or nonsensical responses without proper verification. It might also exhibit verbosity and repetition in its answers, and could face challenges such as overfitting or overgeneralization stemming from biases in the training data or known optimization issues.

This study showcases the versatile nature of technology in corporate operations, highlighting its capacity to handle a variety of tasks, from simple queries to complex problem-solving. As future leaders in the business world, students have the opportunity to consider the implications and strategic benefits of incorporating AI tools into their managerial toolkit, among other things.

2.2 Business Administration Students

According to Mercado et al. (2018), students are crucial assets for universities and colleges, as these institutions would lack value or importance without them. They play a crucial role in shaping the nation with their knowledge and skills. Having a deep understanding of business principles and an entrepreneurial skill set enables individuals to make significant contributions to the social and economic progress of the nation. Students in business administration have the option to specialize, tailoring their education to better match their career goals.

The BSBA is a four-year program focusing on managing a business and its operations (Williams, 2021). The curriculum emphasizes the need for strong decision-making skills to successfully strategize and implement business operations. Studying business administration provides a broad understanding of how to efficiently manage the operations of a business. The BSBA program is designed for students looking to gain expertise in the effective management of the daily operations of a business. According to Feder (2021), throughout their business administration studies, the students will gain a solid foundation in theoretical concepts as well as a wide array of practical skills. These include skills in leadership, communication, analytical thinking, strategic planning, problem-solving, entrepreneurship, accounting, finance, human resources, and marketing. The business administration degree is in high demand due to its flexibility and the opportunities it offers for success in various career fields.

Pursuing a business degree in college provides remarkable flexibility (Bukas Team, 2021). Earning a degree in this field opens up numerous job opportunities, as it can be applied in various industries in business and commerce. The knowledge and expertise gained from a business administration course are highly versatile and can be applied to various career options. In addition, according to Arbuckle (2021), obtaining a business degree continues to be a reliable path to success in the different areas of a company. Upon completion of the program, graduates will be able to effectively apply their skills in their specific professional settings. Obtaining a business administration degree can provide the individual with the necessary skills to succeed in various professional positions such as finance, management, human resources, marketing, and other specialized areas. The competence of an administrator is vital for the success of a company, as they oversee daily operations and ensure they are in line with the company's goals (Lattea, 2023). Students in the field of business administration have the option to specialize, tailoring their education to better match their career goals. Students and graduates of BSBA programs hold considerable influence in various sectors, playing key roles as business leaders, advocates for social change, and promoters of sustainable practices. With their knowledge, skills, and networks, they can deliver positive outcomes for people, groups, and society alike.

Moreover, the integration of AI into business administration programs significantly enhances the curriculum and prepares students for the dynamic commercial landscape (Saaida, 2023). AI technology possesses the capacity to automate monotonous tasks, perform complex data analysis, and offer significant insights to facilitate strategic decision-making. This integration facilitates students' comprehension and utilization of AI tools, which are ever more widespread in corporate operations. Through acquiring the skills to utilize AI, students can enhance operational efficiency, drive innovation in processes, and maintain competitiveness in the employment market. Integrating AI into business school enhances the learning process and provides graduates with crucial state-of-the-art skills necessary for future company leaders.

2.3 Synthesis

This portion summarizes the review of related literature for this study. Integrating AI technologies into educational environments has led to substantial transformations in how students acquire information and engage with course content. An excellent illustration of an innovative tool is ChatGPT, a highly efficient language model created by OpenAI. Moreover, ChatGPT acts as a versatile tool for collaborative learning and knowledge exchange among students. This study emphasizes how business administration students are using ChatGPT as a learning tool, demonstrating the evolving role of technology in corporate activities. It highlights its ability to manage a wide range of tasks, from basic questions to intricate problem-solving situations. With ChatGPT, students in the field of business administration can utilize explanations, get answers to their questions, and acquire knowledge on a wide range of topics. As aspiring leaders in the business world, these students have the opportunity to think about the consequences and advantages of integrating AI tools into their managerial practices, among other factors.

3. Research Methodology

This section details the method of research used, the research site, research population and sampling, instruments used, and data collection and analysis methods employed.

3.1 Research Method

We utilized a quantitative research method to evaluate the subject matter. Considering the need for computational analysis, quantitative research was chosen for this study as it involves using percentages and frequencies to assess the variables being studied. We utilized mathematical, statistical, and computational methodologies to generate results.

According to Bhat (2023), a descriptive method primarily aims to provide a detailed description of the characteristics and attributes of a demographic group, without delving into the underlying causes or reasons for a particular phenomenon. The flexibility of the design supports its ability to gather the necessary information from the chosen participants. We collected the necessary data using questionnaires. The collected data were subjected to the necessary statistical analysis for consolidation, examination, and evaluation.

3.2 Research Site

The research was conducted in the province of Nueva Ecija, Philippines, where a group of respondents was identified. The respondents in this study were all BSBA students in Nueva Ecija. The province of Nueva Ecija was selected as research site due to the fact that the majority of us were working in the province teaching business administration courses.

Nueva Ecija, a province in the Philippines located in the Central Luzon region, covers the central part of Luzon. The City of Palayan serves as its capital. The province covers an area of 5,689.69 km² or 2,196.80 mi². It has a population of 2,310,134, as reported in the 2020 Census (PhilAtlas, 2024). Nueva Ecija is surrounded by Nueva Vizcaya, Aurora, Bulacan, Pampanga, Tarlac, and Pangasinan in a clockwise direction starting from the northeast. The province boasts 27 municipalities and 5 cities. There are a total of 849 barangays in the province. As a result, Nueva Ecija is known for being the largest province and the main producer of rice in Central Luzon, which has led to it being called the "rice granary of the Philippines".

3.3 Research Respondents

The study was carried out in Nueva Ecija, Philippines, where respondents were identified. The study targeted business administration students in Nueva Ecija as respondents. The respondents in the study came from various state universities and colleges throughout the province.

Table 1 presents a breakdown of the respondents in relation to the total population surveyed. A total of 384 BSBA students who were studying in various cities and municipalities in Nueva Ecija were the respondents of the study. The respondents were selected using a purposive sampling technique. By using this technique, we were able to locate BSBA students per city and municipality based on the selection criteria.

Table 1 shows the distribution of the respondents per the cities and municipalities of Nueva Ecija, Philippines.

Table 1: Distribution of the respondents

City/Municipality	Population	Sample size
Municipality		
Aliaga	70,363	7
Bongabon	66,839	15
Cabiao	85,862	5
Carranglan	42,420	8
Cuyapo	68,066	12
Gabaldon	38,958	5
General Mamerto Natividad	44,311	10
General Tinio	55,925	27
Guimba	127,653	13
Jaen	79,189	19
Laur	38,263	5
Licab	29,269	3
Llanera	42,281	2

Lupao	45,917	7
Nampicuan	14,471	3
Pantabangan	31,763	6
Peñaranda	32,269	16
Quezon	41,845	2
Rizal	70,196	11
San Antonio	83,060	9
San Isidro	54,372	13
San Leonardo	68,536	56
Santa Rosa	75,649	26
Santa Domingo	61,092	2
Talavera	132,338	8
Talugtug	25,236	5
Zaragoza	53,090	10
City		
Cabanatuan	327,325	34
Gapan	122,968	21
Muñoz	84,308	6
Palayan	45,383	9
San Jose	150,917	9
Total	2,310,134	384

Table 1 displays the respondent distribution in different cities and municipalities in Nueva Ecija, Philippines. The total sample of 384 BSBA students served as the respondents for this study. We determined the sample size per city or municipality by multiplying the population of each area by 384 (the recommended sample size by Raosoft) and then dividing the result by 2,310,134, the total population of Nueva Ecija.

3.4 Sample and Sampling Procedure

We selected respondents using a method called purposive sampling. According to the NCSC (2024), purposive sampling involves deliberately selecting individuals based on certain criteria, such as their qualities, expertise, experiences, or other relevant factors. This technique is suitable when the researchers wish to choose a sample that is representative of the qualities or traits they are interested in examining and they are clear about those qualities. We used this sampling procedure to recruit the relevant respondents for the study based on the criteria set for the target sample.

The respondents in the study included 384 students majoring in business administration from a total population of 2,310,134. To calculate the sample size, we utilized the Raosoft application with a 95% confidence level and 5% margin of error. The Raosoft application is an online sample calculator that automatically gives the user a sample number based on the input given by the user. In this case, our population size was 2,310,134, with a sample size of 384 computed by the Raosoft application.

3.5 Research Instrument

The research was carried out using a survey questionnaire, utilizing a database for data collection and storage, along with statistical software for analysis of the results. The survey questionnaire used in this study intended to gather specific

information from the target sample. This information needed to be related to opinions, behaviors, experiences, or demographic characteristics. Survey research is considered a fundamental tool for all quantitative outcome research methodologies and studies (Fleetwood, 2024). Survey questionnaires consist of a series of questions designed to achieve the goals of the research. Respondents were prompted to complete the form through in-person interviews and online questionnaires, consisting of a series of inquiries aimed at assisting the research in achieving its objectives.

The survey questionnaire included three sections. Part I comprised the profile of the respondents, constructed by us in a checklist form. Part II consisted of questions regarding the effectiveness of ChatGPT in respondents' academic performance in terms of performance expectancy, effort expectancy, social influence, and behavioral intention. It was formulated as a modified 4-point Likert scale (4 = *always*; 3 = *often*; 2 = *sometimes*; 1 = *never*). This part of the questionnaire was self-made and formulated by us.

3.6 Data Gathering Procedure

Following approval of the research topic titled "ChatGPT as an artificial intelligence learning tool for business administration students in Nueva Ecija, Philippines", we started browsing the Internet and began collecting related data and information that could help in the formulation of the research questionnaire. The questionnaire was initially reviewed by the research adviser, who made corrections, offered suggestions, and provided information to enhance the research instrument. We tested and measured the reliability coefficient of the instrument to ensure internal consistency. The research instrument validity was confirmed by sharing it with experts in business administration, educational management, research, and information technology, who rated it 3.82, indicating a very good interpretation. We used a crafted validity instrument. Following the validation of the questionnaire, we proceeded to conduct a pilot test to confirm the accuracy, reliability, and effectiveness of the research instrument. The reliability test was conducted using two different formats of data gathering tool drawn from the original questionnaire. Cronbach's alpha was employed to determine the results for the reliability of each variable. In this regard, the performance expectancy score was 0.7680, effort expectancy was 0.7326, social influence was 0.7716, and behavioral intention was 0.7192, indicating that the instrument used has excellent internal consistency.

We submitted the necessary documents and were eventually granted approval to carry out the survey. Prior to distributing the questionnaires, we sought approval from our advisers. The survey questionnaire was distributed both in person and online.

We developed the questionnaire to address the factors and concerns outlined in the problem statement. The survey was structured into three sections: demographic information, evaluation of ChatGPT, and open-ended queries for business administration students. The consent section outlined and clarified the voluntary nature of participation in the study, emphasizing that respondents had the freedom to withdraw at any time. Regarding the survey questionnaire section,

a notification was prepared for the respondents assuring them that all information was treated with the highest level of confidentiality. The survey questions addressed the objectives outlined in the problem statement. The Likert scale was utilized to evaluate the effectiveness of ChatGPT based on performance expectancy, effort expectancy, social influence, and behavioral intention. Subsequently, we conducted thorough data collection by distributing the survey questionnaire to the respondents. We thoroughly analyzed the data to determine patterns using various statistical methods, leading to results, recommendations, and conclusions.

3.7 Data Analysis Technique

The data gathered from the respondents were encoded, totaled, and analyzed. The data were analyzed using descriptive statistics such as percentages, frequency distribution, weighted mean, and Pearson's *r*. The findings were interpreted using the scale presented in Table 2.

Table 2: Scale used for data interpretation

Scale	Mean range	Interpretation	Description
4	3.26 – 4.00	Always	Very influential
3	2.51 – 3.25	Often	Influential
2	1.76 – 2.50	Sometimes	Uninfluential
1	1.00 – 1.75	Never	Very uninfluential

Table 2 presents the scales applied in the interpretation and description of data under the variables of performance expectancy, effort expectancy, social influence, and behavioral intention to assess the effectiveness of ChatGPT among business administration students. To determine the results of the data gathered, a 4-point Likert scale was used.

Table 3 shows the scales used in the interpretation of Pearson's *r*.

Table 3: Scale used for the interpretation of Pearson's *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 or -0.10 to -0.29	Very low positive (or negative) correlation
0.01 to 0.09 or -0.01 to -0.09	Weak positive (or negative) correlation
0.00	No correlation

We aimed to determine the significance relationship between the respondent profile and influence of ChatGPT on the respondents. Aside from the said scale, we used the following statistical measurements to classify, tabulate, and analyze the data:

1. In describing the profile of the respondents, we used **frequency** and **percentage**.
2. To assess the influence of ChatGPT on business administration students, we employed **weighted mean** and **ranking**.
3. To describe the significance relationship between the respondent profile and the effectiveness of ChatGPT among business administration students, we used **Pearson's *r* correlation.**

4. Results

This section presents the results of the study in a clear, systematic, and logical manner. This section is crucial as it directly addresses the research questions and hypothesis posed at the beginning of this study.

4.1 Description of Respondent Profile

4.1.1 *Respondent profile in terms of gender*

Table 4 displays the frequencies and percentages of the sample in terms of gender. Based on the data, 258 (67%) of the respondents were female, whereas 126 (33%) were male.

Table 4: Data for respondent profile in terms of gender

Gender	Frequency	Percentage (%)
Male	126	33
Female	258	67
Total	384	100%

4.1.2 *Respondent profile in terms of age*

Table 5 presents the breakdown of the frequencies and percentages of the sample in terms of age group. Based on the data provided, 296 (77%) respondents were between 18 and 21 years old, whereas only 8 (2%) were 30 years old or older. The results suggest that there is a high percentage of young ChatGPT users in college settings.

Table 5: Data for respondent profile in terms of age

Age range	Frequency	Percentage (%)
18–21	296	77
22–25	64	17
26–29	16	4
30 and above	8	2
Total	384	100%

4.1.3 *Respondent profile in terms of year level*

Table 6 illustrates how the sample was distributed according to year level. Based on the data provided, there were 181 freshmen, accounting for 47% of the total sample, and 26 seniors, making up 7%.

Table 6: Data for respondent profile in terms of year level

Year level	Frequency	Percentage (%)
Freshmen	181	47

Sophomore	112	29
Junior	65	17
Senior	26	7
Total	384	100%

4.2 Assessment of ChatGPT's Effectiveness according to Respondents

4.2.1 *Assessment of ChatGPT's effectiveness in terms of performance expectancy*

In relation to performance expectancy, a weighted mean score of 3.20 was found (Table 7), indicating a frequent occurrence and significant impact in the field of business administration. Respondents indicated that ChatGPT has a significant influence on their academic pursuits. They pointed out how ChatGPT can quickly provide them with responses, with this item receiving the highest weighted mean of 3.48 and frequency of "always". However, the item on information provided by ChatGPT being accurate and dependable was rated the lowest, with a weighted mean of 2.93, which corresponded to "often".

Table 7: Data on ChatGPT's effectiveness in terms of performance expectancy

Item	Weighted mean	Verbal interpretation	Rank	Description
1. ChatGPT enables me to access scholarly information relevant to academics	3.21	Often	3	Influential
2. The information provided by ChatGPT is accurate and dependable	2.93	Often	5	Influential
3. Using ChatGPT makes learning much easier	3.06	Often	4	Influential
4. ChatGPT is quick in generating responses	3.48	Always	1	Very influential
5. ChatGPT enables me to accomplish my academic tasks rapidly	3.34	Always	2	Very influential
Average weighted mean	3.20	Often		Influential

4.2.2 *Assessment of ChatGPT's effectiveness in terms of effort expectancy*

Effort expectancy received a weighted mean score of 3.25 (Table 8). This category was frequently perceived as influential, indicating that respondents found it easy to use ChatGPT due to its rapid response generation. This perception was reinforced by the highest weighted mean of 3.57 indicating a consistent sense of ease of use, with a verbal interpretation of "always". In contrast, in relation to becoming proficient in using ChatGPT, this item scored lowest, with a weighted mean of 3.00, implying a frequent occurrence.

Table 8: Data on ChatGPT's effectiveness in terms of effort expectancy

Item	Weighted mean	Verbal interpretation	Rank	Description
1. It is easy to learn how to operate ChatGPT	3.57	Always	1	Very influential
2. I found ChatGPT as an invaluable source of information	3.21	Often	3	Influential
3. The time and effort I put in using ChatGPT for learning is worthwhile	3.34	Always	2	Very influential
4. My interaction with ChatGPT is clear and understandable	3.12	Often	4	Influential
5. It is easy to become knowledgeable at using ChatGPT	3.00	Often	5	Influential
Average weighted mean	3.25	Often		Influential

4.2.3 *Assessment of ChatGPT's effectiveness in terms of social influence*

Social influence received a weighted mean score of 3.32 (Table 9), with most items perceived as very influential. Respondents attributed their knowledge of ChatGPT to their peers, with this item rated highest, with a weighted mean of 3.61 and a verbal interpretation of "always". In contrast, in relation to convincing others to use ChatGPT for academic purposes, this item was rated lowest, with a weighted mean of 3.08 and indication that it occurred frequently.

Table 9: Data on ChatGPT's effectiveness in terms of social influence

Item	Weighted mean	Verbal interpretation	Rank	Description
1. My peer taught me to use ChatGPT as a learning tool	3.61	Always	1	Very influential
2. Social media posts encourage me to use ChatGPT in learning	3.21	Often	4	Influential
3. I influence some students surrounding me to use ChatGPT for their academic tasks	3.08	Often	5	Influential
4. The feature of instant feedback provided by ChatGPT influences other students' learning outcomes and performance	3.39	Always	2	Very influential
5. I will recommend ChatGPT as a reliable source of information	3.31	Always	3	Very influential
Average weighted mean	3.32	Always		Very influential

4.2.4 *Assessment of ChatGPT's effectiveness in terms of behavioral intention*

In terms of behavioral intention, the category was consistently regarded as very influential, with a weighted mean score of 3.30 and interpreted verbally as

"always" (Table 10). Respondents had a strong personal desire to use ChatGPT frequently, as evidenced by the highest weighted mean of 3.68 and verbal interpretation of "always", indicating a consistent intention. However, in regards to relying solely on ChatGPT without additional human validation to ensure accuracy, respondents rated this item lowest, with a weighted mean of 3.01 and indicating that this occurred less frequently.

Table 10: Data on ChatGPT's effectiveness in terms of behavioral intention

Item	Weighted mean	Verbal interpretation	Rank	Description
1. I personally intend to use ChatGPT	3.68	Always	1	Very influential
2. I feel confident with my answers when using ChatGPT	3.13	Often	4	Influential
3. I will use ChatGPT without additional human validation to ensure accuracy	3.01	Often	5	Influential
4. ChatGPT is reliable and fitted to be used by students on their academic writings	3.39	Always	2	Very influential
5. To the furthest extent possible, I would use ChatGPT to do different academic practices	3.33	Always	3	Very influential
Average weighted mean	3.30	Always		Very influential

4.3 Significance Relationship between Respondent Profile and the Influence of ChatGPT

4.3.1 Significance relationship between respondent profile and the influence of ChatGPT in terms of gender

Table 11 presents the data in relation to determining if there is a significant relationship between the respondents' gender and their views on ChatGPT's effectiveness as an educational tool. Application of the Pearson *r* correlation yielded *p* values for the performance expectancy, effort expectancy, social influence, and behavioral intention variables of 0.45, 0.99, 0.27, and 0.81, respectively, all exceeding the significance threshold of 0.05.

Table 11: Data on the significance relationship between respondent profile and the influence of ChatGPT in terms of gender

Variable		*r* value	Correlation	Sig. level at 0.05	Decision to Ho	Interpretation
Performance expectancy	Gender	0.07	Negligible	0.45	Accept	Not significant
Effort expectancy		-0.00	Negligible	0.99	Accept	Not significant
Social influence		0.10	Negligible	0.27	Accept	Not significant
Behavioral intention		-0.02	Negligible	0.81	Accept	Not significant

4.3.2 Significance relationship between respondent profile and the influence of ChatGPT in terms of age

Table 12 presents the data in relation to the relationship between respondents' age and the effectiveness of ChatGPT as a learning aid. Application of the Pearson *r* correlation yielded *p* values for the performance expectancy and effort expectancy variables of 0.02 and 0.00, which were both below the typical significance level of 0.05.

Table 12: Significance relationship between respondent profile and the influence of ChatGPT in terms of age

Variable		*r* value	Correlation	Sig. level at 0.05	Decision to Ho	Interpretation
Performance expectancy	Age	0.22	Weak relationship	0.02	Reject	Significant
Effort expectancy		-0.32	Moderate negative	0.00	Reject	Significant
Social influence		0.17	Negligible	0.06	Accept	Not significant
Behavioral intention		0.02	Negligible	0.82	Accept	Not significant

4.3.3 Significance relationship between respondent profile and the influence of ChatGPT in terms of year level

Table 13 presents the data in relation to the relationship between respondents' academic year level and the effectiveness of ChatGPT as an educational tool. Application of the Pearson *r* correlation yielded a *p* value of 0.00 for both effort expectancy and behavioral intention, which was lower than the set significance level of 0.05.

Table 13. Significance relationship between respondent profile and the influence of ChatGPT in terms of year level

Variable		*r* value	Correlation	Sig. level at 0.05	Decision to Ho	Interpretation
Performance expectancy	Year level	-0.04	Negligible	0.62	Accept	Not significant
Effort expectancy		0.28	Moderate positive	0.00	Reject	Significant
Social influence		-0.05	Negligible	0.58	Accept	Not significant
Behavioral intention		0.29	Moderate positive	0.00	Reject	Significant

5. Discussion

The discussion section plays a pivotal role in contextualizing and interpreting the findings of the study. Its main goal is to fill in the gap between the results presented and the more general consequences they have on the subject of

research. In this section, we delve into the significance of our findings, compare them with existing literature, and explore the theoretical and practical implications.

5.1 Description of Respondent Profile

It was determined that female respondents had a favorable view of the influence of ChatGPT on performance in school. Female respondents viewed AI technology, such as ChatGPT, as a valuable tool for their academic endeavors, helping to improve their learning methods and overall knowledge gain. This highlights the idea that women might be more inclined to adopt AI technology, seeing it as a useful tool for their educational pursuits. Female respondents seemed to be more willing to share information online due to their unique viewpoints and concerns about using AI in decision-making. This analysis suggests that gender-specific factors could influence individuals' views on sharing information in online settings, especially regarding AI-powered platforms such as ChatGPT.

In addition, according to Bouzar et al. (2024), female users of ChatGPT showed greater levels of involvement than male users. The difference suggests that women might use AI-powered chat systems such as ChatGPT more often than men, showing a higher level of comfort and willingness to engage with such technology in different situations. As a result, women may show a stronger preference for using AI technology for communication, learning, and other related activities.

In terms of age, the high percentage of young respondents could be mostly linked to the early exposure of respondents to the Internet. Many respondents indicated being surrounded by electronic devices and using the Internet extensively for educational purposes. Moreover, they mentioned dedicating a substantial amount of their time to online activities, such as engaging with ChatGPT, which they viewed as a valuable resource for gaining knowledge and insights.

Research conducted by Acosta-Enriquez et al. (2024) validates these findings, indicating that a significant proportion of ChatGPT users are from younger age brackets. Younger generations often show a stronger inclination toward adopting new technologies. Since many of these users are probably still in school, they frequently use generative AI tools such as ChatGPT for a range of tasks like research, essay writing, coding, math problem-solving, and more, as mentioned by Ortiz (2023).

Regarding the year level of the respondents, those in their first year used ChatGPT more often than those in their fourth year. This difference could be traced back to the unique educational paths and requirements of every group. The senior student respondents usually applied their academic knowledge in real-world situations, such as internships and apprenticeships, which may not perfectly match the intended use of ChatGPT. On the other hand, first-year student respondents were just starting their academic path. They were signing up for basic classes and delving into different subjects that usually involve tasks such as finishing modules, completing assignments, and writing essays, leading them to turn to resources like ChatGPT for assistance.

Respondents pointed out that new students frequently face difficulties adjusting to university life, moving from the organized settings of secondary school to the varied and socially intricate surroundings of college. The transition phase may hinder their total involvement in their studies as they navigate through unfamiliar social interactions. Using ChatGPT has been crucial in helping students adjust to college life.

In a recent study, Huallpa et al. (2023) discovered that incorporating chatbots such as ChatGPT in the initial year of college has positive impacts on students' involvement in academics and helps them adapt to college life. Engaging with chatbots has been proven to improve students' study habits and encourage social interactions, helping them adjust more easily to the college environment.

5.2 Assessment of ChatGPT's Effectiveness Used by the Respondents

In terms of the performance expectancy of ChatGPT, respondents were pleased with ChatGPT's responses, which they found helpful in efficiently finishing their academic tasks. Respondents emphasized that traditional methods of idea generation and information gathering, such as reading books or researching online, can be time-consuming. ChatGPT, on the other hand, accelerates this process by offering quick responses, typically within a minute.

According to Bhat (2023), ChatGPT enables quick information retrieval. When a question is entered, the AI tool quickly produces thorough and well-informed responses. Being able to offer accurate information promptly, whether in relation to past events, scientific ideas, or current affairs, is extremely beneficial for speeding up the learning process. Through effective information gathering, ChatGPT allows students to dedicate more time to exploring the collected data, ultimately improving the quality and depth of their scholarly pursuits.

Concerning effort expectancy, technological advancements have greatly aided respondents' adaptation to learning how to use ChatGPT, with its user-friendly interface and adaptable technology being particularly popular. Respondents emphasized how ChatGPT's interface reduces the effort required for effective use, and how its versatility allows for a wide range of interactions that cater to different preferences and needs.

According to Diaz (2024), ChatGPT's value is not overstated, because it enables users to generate innovative ideas for a variety of purposes, ranging from seeking entertaining responses to resolving coding issues. Across all applications, ChatGPT's distinguishing feature is not only its innovation but also its exceptional content creation capability and accessibility. ChatGPT ensures broad accessibility by providing a pleasant and user-friendly conversational experience.

In terms of social influence, results show that respondents frequently shared their study habits with their peers, potentially leading to the use of ChatGPT as a shared tool for academic tasks. Respondents frequently advocated for ChatGPT as an alternative method of explaining and facilitating discussions. Respondents indicated that, despite seeing numerous advertisements for ChatGPT online, they

had not previously used the tool. However, after receiving advice from their peers on how to use it effectively, they quickly adopted the AI tool. According to Jowarder (2023), peers or colleagues have a significant influence on ChatGPT adoption. Students who received recommendations from their peers were more likely to use the program, motivated by the positive feedback.

In relation to behavioral intention, results show that respondents recognized the undeniable benefit of ChatGPT in their academic pursuits and expressed a desire to use it on a regular basis. ChatGPT's long-term influence on respondents' behavior is evident, as they continued using it, seeing it as a valuable tool for academic tasks and planning to incorporate it into their routines. Furthermore, respondents prioritized meeting academic project deadlines, emphasizing their dedication to timely submission over the potential consequences.

Students have expressed a willingness to continue using generative AI writing tools despite potential prohibition from their instructors or institutions (Kelly, 2023). Those who have personally used such tools are more likely to be optimistic about their impact on learning. Individuals who have utilized generative AI technologies, including educators, administrators, and students, are more inclined to acknowledge their inherent worth in education and support policies that promote their appropriate utilization in teaching and learning environments.

5.3 Significance Relationship between Respondent Profile and the Influence of ChatGPT

In relation to the aspect of gender, this research did not uncover enough evidence to disprove the null hypothesis. This suggests that there was no significant connection between the respondents' gender and their perceived impact of ChatGPT as an educational tool in terms of performance expectancy, effort expectancy, social influence, and behavioral intention.

In Jo and Bang's study (2023), the findings indicate that there is no clear link between gender and the use of ChatGPT as an educational tool. Users did not see ChatGPT as favoring a particular gender, showing their willingness to use the AI tool regardless of gender distinctions.

In relation to the aspect of age, results show that the research partially refuted its initial assumption, revealing a significant link between respondents' age and how they viewed ChatGPT's effectiveness in terms of performance and effort. These findings are supported by correlation coefficients of 0.22 and -0.32 for performance expectancy and effort expectancy, suggesting a slight positive association and a moderate negative correlation, respectively. On the other hand, the social influence and behavioral intention variables yielded p values of 0.06 and 0.82, respectively, exceeding the significance threshold of 0.05. As a result, the research did not find enough evidence to reject the null hypothesis, indicating that there was no significant link between the age of the respondents and their views on ChatGPT's impact on social influence and behavioral intention.

As per the study by Tian et al. (2024) on Chinese higher education, it was discovered that aspects such as adoption, perception, and impact of chatbots like

ChatGPT are not significantly affected by age. It appears that students of all ages tend to use ChatGPT as a tool for learning.

For the aspect of academic year level, the null hypothesis was partially rejected. There was a significant connection between the respondents' academic year and the impact of ChatGPT as a study tool, specifically in terms of effort expectancy and behavioral intention. This finding is supported by the moderate positive relationship shown by the *r* values of 0.28 and 0.29, respectively. On the other hand, performance expectancy and social influence yielded *p* values of 0.62 and 0.58, respectively, exceeding the significance threshold of 0.05. Consequently, the null hypothesis was upheld, indicating no significant correlation between the age of the respondents and the impact of ChatGPT on performance expectancy and social influence.

Strzlecki (2023) also discovered that there was no notable connection between students' year in school or level of study and how they used ChatGPT. Their choice to use ChatGPT was mainly driven by the usefulness of the tool rather than their educational advancement.

6. Conclusion

The conclusion section serves several critical purposes. It is a synthesis of the findings, a reaffirmation of the research significance, a reflection on the implications of the study, and the basis for recommendations made in pursuit of further study.

This research aimed to determine how ChatGPT impacted the academic performance of business administration students. The focus was on the demographic profile; effectiveness in terms of performance expectancy, effort expectancy, social influence, and behavioral intention; and determining the significance relationship between the respondent profile and the influence of ChatGPT. Analysis revealed the following findings.

In relation to the demographic profile, the majority of the respondents were female. Furthermore, the largest proportion were between 18 and 21 years old, and most of the respondents were freshmen.

In terms of performance expectancy, the respondents found ChatGPT's ability to quickly generate answers very useful, with this item receiving the highest weighted mean of 3.48 and interpretation of "always". In terms of effort expectancy, the respondents were easily able to learn how to operate ChatGPT, with this item receiving the highest weighted mean of 3.57 and the interpretation of "always". Regarding social influence, the respondents indicated that their peers taught them to use ChatGPT as a learning tool, with this item receiving the highest weighted mean of 3.61 and interpretation of "always". In terms of behavioral intention, the respondents intended to personally use ChatGPT, which item received the highest weighted mean of 3.68 and interpretation of "always".

Pearson's *r* correlation was used to determine the significance relationship between the profile of the respondents and the effectiveness of ChatGPT. The analysis yielded *r* values of 0.07, -0.00, 0.10, and -0.02 for gender; 0.22, -0.32, 0.17, and 0.02 for age; and -0.04, 0.28 -0.05, and 0.29 for year level, respectively, indicating a weak, positive, moderate, and mostly negligible correlation.

7. Recommendations

Based on the results and conclusion of the study, the following recommendations have been made. First, students should utilize alternative tools when ChatGPT lacks appropriate expertise. Exploring other sources for obtaining credible information can also assist business administration students in enhancing their academic consciousness. This can be done through a training program by ChatGPT experts.

Second, students should avoid relying exclusively on ChatGPT for academic writing. Most business administration students tend to use ChatGPT as a resource for composing their writing. Students should view ChatGPT merely as a supplementary tool for academic writing. They should work on enhancing and cultivating their own writing abilities and rely minimally or not at all on ChatGPT.

Third, even though ChatGPT is convenient for producing ideas, students should prioritize considering their peers' ideas, especially in collaborative activities. Students might overlook the use of brainstorming as a teaching approach for exchanging diverse ideas. Working together with peers is crucial for enhancing social skills and fostering critical thinking in an academic setting. Collaborating with peers to share ideas can improve communication skills, inspire students to think creatively, and generate excellent ideas.

Furthermore, business administration students should be proficient at utilizing ChatGPT. Training can be conducted on the proper utilization of ChatGPT to preserve academic integrity. Students should utilize ChatGPT, but they must be careful to avoid duplicating content and failing to acknowledge the original author.

Lastly, ChatGPT has the potential to enhance students' academic achievement. The pros and cons of the use of AI or ChatGPT can be integrated into the curriculum of business administration courses. In addition, the curriculum enhancement plan developed by us can be implemented to optimize the benefits and mitigate the drawbacks for students in utilizing ChatGPT.

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