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CONTRIBUTIONS AND IMPEDIMENTS OF INTEGRATING ARTIFICIAL INTELLIGENCE TOOLS INTO PROJECT WRITING: A STUDY OF BUSINESS EDUCATION STUDENTS IN COLLEGES OF EDUCATION IN ANAMBRA STATE, NIGERIA

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Abstract
*This study examined the **contributions and impediments** of integrating Artificial Intelligence (AI) tools into project writing among business education students in colleges of education of Anambra State, Nigeria. The study was guided by two objectives and two corresponding research questions. The study adopted a descriptive survey design. The population consisted of 500 final-year business education students in selected colleges of education in Anambra State, Nigeria. Using stratified random sampling, 120 students were selected as the sample size. A structured questionnaire was used for data collection, and its reliability was established using Cronbach's Alpha, yielding a coefficient of 0.81. Data were analyzed using descriptive statistics (mean and standard deviation). Findings revealed that students perceived AI tools as beneficial in enhancing the quality, speed, quality and structure of students' project writing. However, impediments such as lack of technical know-how, over-dependence on AI, concerns about originality, and ethical implications were reported. The study recommends among others that institutions should incorporate AI literacy into the curriculum, train students on responsible AI use, and establish clear ethical guidelines for AI-assisted project writing for better academic performance. Further research should explore the long-term implications of AI integration on research culture and academic integrity.*

Keywords: Artificial Intelligence, Academic Performance, AI Tools, Business Education, Project Writing

Introduction

In recent years, the rise of Artificial Intelligence (AI) has significantly transformed the landscape of education, particularly in the domain of research and academic writing. AI-powered tools such as ChatGPT, Grammarly, Quillbot, and others are now frequently used by students to assist in planning, organizing, and writing their academic projects. In the context of Business Education (BE), where emphasis is placed on practical communication, analytical thinking, and problem-solving, the integration of AI into project writing has introduced both promising benefits and noteworthy challenges (Adigun et al., 2023). Project writing is a critical component of BE, designed to assess students' ability to conduct independent research, apply theoretical knowledge, and communicate findings effectively. The integration of AI into this process has made information more accessible, improved language clarity, and reduced the time needed for drafting and revising written work (Olatunji & Okon, 2022). However, alongside these advantages, students and educators have raised concerns about originality, ethical use, plagiarism, and over-reliance on AI-generated content, which may hinder critical thinking and independent academic growth (Adebayo & Ugochukwu, 2023). Moreover, the use of AI tools in project writing raises questions about the digital divide and equitable access to technological resources. Students with limited access to the internet or low digital literacy may struggle to use AI tools effectively, thereby exacerbating existing academic disparities. In addition, the blurred line between assistance and authorship poses a significant challenge for academic institutions seeking to uphold integrity and discourage academic dishonesty (UNESCO, 2023).

Despite the growing prevalence of AI in academic settings, limited empirical studies have focused specifically on how BE students use AI in project writing, the benefits they derive, and the challenges

they face. This study seeks to fill that gap by examining the perceived advantages, difficulties, and implications of integrating AI into project writing among BE students.

Literature Review

Artificial Intelligence (AI) refers to the simulation of human intelligence in machines programmed to think, reason, and perform tasks that typically require human cognition. These include learning, problem-solving, language understanding, and pattern recognition (Russell & Norvig, 2021). In the context of education, AI is increasingly used to assist students and educators in areas such as automated feedback, intelligent tutoring systems, and content generation.*AI, when integrated into educational activities, enhances learning flexibility, supports personalized learning, and improves productivity in academic tasks* (Luckin et al., 2022).*These AI tools are helpful in automating and improving writing tasks but require careful usage to maintain academic integrity* (Dwivedi et al., 2023).

Business Education is a discipline that combines theoretical and practical instruction in business-related skills such as accounting, marketing, management, and entrepreneurship. It equips students with competencies for the business world and academic advancement (Nwaham & Ohiwerei, 2020). BE *aims to prepare students with functional skills for employment and self-reliance in a dynamic business environment* (Ugwoke, 2021).

Academic performance refers to the measurable achievements of a student in their learning process, often evaluated through grades, GPA, assessments, and project completion. It reflects how well students have met educational goals (Alimi, Ogunyemi, & Akinwande, 2022). *It serves as a key indicator of student progress and institutional effectiveness* (Adeyemo, 2021).

Project writing is a structured academic exercise that involves identifying a problem, reviewing literature, collecting data, and presenting findings in a systematic format. It is a critical requirement for final-year students in BE and other fields. *Project writing fosters independent research, critical thinking, and problem-solving skills crucial for future professionals* (Okoro & Ezeani, 2023).

Steps in project writing

1. Choosing a researchable topic.
2. Writing the proposal (Introduction, Statement of Problem, Objectives).
3. Choosing a researchable topic.
4 Writing the proposal (Introduction, Statement of Problem, Objectives).
5 Reviewing relevant literature.
6 Designing methodology.
7 Data collection and analysis
8 Presenting findings and conclusions

Example: A student investigating "The Role of AI in enhancing entrepreneurial skills among business education students."

According to Smutny & Schreiberová (2020) and (Dwivedi, Hughes, Ismagilova, Ahuja & Williams (2021) types of AI uses, functions, and challenges include:

1. AI tools for writing and content generation: These tools help in drafting essays, summaries, project **Jasper AI: Jasper AI is used to w**rites coherent paragraphs, blog posts, and research drafts.AI-powered content creator for essays, articles, and reports and requires clearly defined prompts to produce relevant content.

- **Copy.ai: It c**reates marketing copy, essays, and academic outlines. Generates ideas, outlines, and academic content. May lack depth for academic rigor.
- **Writesonic: It** generates text, rewrites content, and summarizes information. Helps draft introductions, conclusions, and summaries. But needs fact-checking for academic use.
- **Tome: Used to** create academic presentations and summaries. But auto-generated visuals may require editing.

2. AI Tools for Grammar and Style Editor/Improvement These tools assist in correcting grammar, enhancing clarity, and improving sentence structure.

- **Grammarly: Grammarly: The full meaning** of **Grammarly is** Grammar + AI. It is **used for** proofreading, spelling and grammar correction, clarity suggestions. It is used **at** final editing phase. While its major **challenges** are limited context understanding and premium version

required for advanced features. It is used for grammar correction, clarity improvement, tone detection and its free version is limited and may misinterpret complex academic phrasing.

- **ProWritingAid: ProWriting Aid is used for** deep grammar analysis, style, readability enhancement and may overwhelm new users with suggestions.
- **Hemingway Editor: It** highlights readability issues, passive voice, complex sentences and improves clarity, sentence structure, and readability. One of the major challenges is that *it d*oes not check grammar thoroughly.
- **Ginger Software**: It corrects grammar, punctuation, and spelling.

3. AI Tools for Paraphrasing and Rewriting These tools help reword or simplify content to avoid plagiarism or enhance clarity.

- **QuillBot: QuillBot is use** for paraphrasing, summarizing, and checking tone. Its major function is to be used as NLP-powered rewriting tool. And has a major risk of altering intended meaning; misuse may lead to unintentional plagiarism. It is used for paraphrasing, summarization, grammar checking. But can distort the meaning in technical writing.
- **Paraphraser.io: This is used for sentence restructuring and synonym suggestions and rewriting sentences in a new way while keeping meaning. Its output may require editing for coherence.**
- **Resoomer: AI-based summarizer for articles, essays, and documents.**

4. AI Tools for Referencing and Citation Management These tools generate and organize citations automatically, saving time and improving accuracy.

- **Zotero: it is used to c**ollects, manages, and cites sources and is very ideal for students and researchers managing large numbers of sources and can sync across devices and store files in the cloud. Sometimes it imports incomplete metadata, requires browser extensions for full functionality and may need manual corrections for incomplete metadata.
- **EndNote: It** imports and stores references from online databases and library catalogs, formats in-text citations and bibliographies in multiple styles and Integrates with MS Word through "Cite While You Write." It is Preferred by academics working on large-scale projects and very useful for creating reference libraries for group collaboration. It is use to manages large libraries of academic references. And requires subscription and training, the subscription-based is not free and is slightly complex interface for beginners

5. AI tools for plagiarism detection These detect copied content and ensure originality in academic submissions.

- **Turnitin/Scribbr: Turnitin is a type of AI used to** detect plagiarism. **Use** before submission of a research project. Major **challenge** is high similarity index due to common phrases; requires human interpretation. Leading plagiarism detection tool (academic institutions). Is used to identify plagiarism and checks citations. But institutional access required.
- **PlagScan:** Checks originality of academic content. It is used to detect text matches in academic databases. But service is paid for.
- **Unicheck:** Cloud-based tool for real-time plagiarism detection. It is used for real-time plagiarism scanning. It may require LMS integration.

6. AI Tools for Research & Literature Discovery and Mapping These tools help users explore academic papers, build research networks, and visualize citations.

- **Semantic Scholar:** AI-based research database with smart filtering. It is used for academic search engine using AI to recommend papers. But has limited journal coverage.
- **Connected Papers:** Visual tool for exploring related academic papers. It is used to visualize citation networks of related papers but does not provide full paper access.

- **Research Rabbit:** AI-powered tool for literature mapping and tracking. It is used to tracks citations and research trends but not all academic databases integrated.

7. AI Tools for Presentation and Visual Content Creation These tools turn academic content into presentations and visual summaries.

- **Beautiful.ai:** AI tool for designing clean and smart presentations. It is automatically designs academic slides. May lack deep customization for academic standards.
- **Canva (Magic Write) (with AI assistant)** – Smart design with text-to-graphic assistance. It creates visuals, posters, and presentations. It requires design skills for best output.
- **Tome** : Generates slide decks from text prompts using AI.

8. AI Tools for Summarization and Reading Support These tools help extract main ideas from long texts and make reading easier.

- **Resoomer**: it is used to summarize lengthy academic documents and may not work well on informal texts.

9. Google bard and AI Meta tools: They are used for web-based real-time information and meta-analytic content generation. It combines AI search with creative content synthesis. Currently less widely adopted because information may be unverified.

Comparative analysis of some AI tools used in project writing

Advantages of ChatGPT	**Advantages of Grammarly**	**Advantages of QuillBot**
Generates detailed content based on prompts	Excellent for grammar and clarity improvement	Effective paraphrasing and summarizing tool
Useful for brainstorming and drafting	Real-time suggestions	Preserves meaning while rewording
Versatile across many academic topic	Enhances sentence flow and structure	Useful for simplifying AI-generated content. Includes citation assistant
Can simulate scholarly tone	Includes plagiarism checker (premium)	
Disadvantages of ChatGPT	**Disadvantages of Grammarly**	**Disadvantages of QuillBot**
May produce inaccurate or made-up content	Does not generate content	May dilute academic tone
Needs human editing for accuracy	Limited understanding of context	Can distort intended meaning if overused
Risk of plagiarism if not paraphrased or cited	Some features are paid	Premium version needed for full features
Does not automatically include valid references	Can misinterpret complex academic sentences	Cannot create new content like ChatGPT
Turnitin (AI-based Plagiarism Detection) of Advantages	**Advantages of AI Citation Generators (e.g., Scribbr, Cite This ForMe)**	
Industry-standard plagiarism checker	Automatically formats references in APA, MLA, etc	
Accurately detects similarities in writing	Time-saving for citation work	
Encourages originality	Helps reduce citation errors	
Generates detailed similarity reports	Easy to use with many source types	
Disadvantages of Turnitin (AI-based Plagiarism Detection)	**Disadvantages: AI Citation Generators (e.g., Scribbr, Cite This For Me)**	
Does not create or edit content	Can generate incorrect citations	

May not be accessible without institutional login	Does not verify source credibility
Can flag properly cited work	Requires manual accuracy checks
Expensive for individual users	
	Limited to referencing function only

The integration of Artificial Intelligence (AI) tools such as ChatGPT, Grammarly, QuillBot, and others into project writing has made a lot of contributions and significant challenges, especially among BE students in higher institutions. According to Dwivedi, Hughes, Ismagilova, Ahuja & Williams (2021) **Holmes, Bialik & Fadel (2019), Zawacki, Marín, Bond, & Gouverneur, (2019).**Smith & Johnson, (2021) and Russell & Norvig, (2021). **include:**

- **Risk of Academic Dishonesty and Plagiarism:** One of the key challenges is the **potential for academic dishonesty**. AI tools like ChatGPT and QuillBot can generate large volumes of content quickly, but often without clear sourcing or citations. This leads to plagiarism concerns, especially when students fail to properly paraphrase or reference the output
- **Overdependence on AI Tools:** Students may become overly reliant on AI tools to perform tasks such as writing, editing, or even brainstorming. This **diminishes critical thinking, originality, and research skills**, leading to surface learning
- **Inaccurate or Biased Information:** AI tools sometimes generate **misleading or factually incorrect information**, particularly when trained on outdated data or without real-time access to scholarly sources. For instance, ChatGPT does not always provide references unless prompted, and even then, the references may not be real.
- **Lack of Emotional and Contextual Understanding:** AI lacks the ability to understand **context, tone, or emotional nuance**, which are important in academic writing. This may result in content that is technically correct but academically or ethically misaligned with the expected tone of scholarly work.
- **Technical and Accessibility Barriers:** Some students, especially in under-resourced institutions, face **limited access to the internet or advanced digital devices**, preventing them from fully utilizing AI tools.
- **Cost of Premium Features:** Many effective AI tools offer only limited free versions. Tools like Grammarly and Turnitin require paid subscriptions to access **advanced features**, making it difficult for economically disadvantaged students to benefit equally.
- **Ethical and copyright issues:** Some AI tools reuse content from the web in a way that may breach copyright laws. There are **growing concerns about intellectual property violations**, particularly when AI-generated content is submitted as original work.

Despite these challenges, several strategies can be employed to ensure responsible and effective use of AI in project writing, especially for BE students as suggested by Alimi et al., (2022), Luckin et al., (2022), Okoro & Ezeani (2023), Zawacki-Richter et al (2019) Ugwoke (2021). Smith & Johnson (2021) & Adeyemo (2021).

- **AI Literacy and digital ethics training:** Institutions should incorporate **AI literacy and academic integrity modules** into their curriculum to educate students on how to responsibly use AI tools. Understanding how to cite AI-generated content properly is also crucial.
- **Combining AI tools with human insight:** AI tools should be seen as **assistants, not replacements**. Students must be encouraged to critically assess and revise AI outputs, integrating their own analysis, judgment, and scholarly voice.
- **Use of verified academic databases:** Students should be trained to validate AI-generated content using **verified academic sources** such as Google Scholar, JSTOR, or institutional libraries to confirm accuracy and credibility.

- **Establishment of usage policies:** Universities should develop clear **AI usage policies** that define acceptable and unacceptable use of AI tools in academic work. This provides boundaries and supports academic standards.
- **Encourage collaboration and peer review:** Students can work in **groups or consult peers and supervisors** to refine their use of AI tools, promoting collaboration, feedback, and ethical practice.
- **Financial support or institutional licenses: Institutions may consider providing premium access to essential tools like Grammarly or Turnitin through departmental funding or university-wide licenses to ensure equal access.**
- **Promoting reflective and metacognitive practices: Students should be encouraged to reflect on their writing process; including how and why they use AI. This helps in fostering deeper learning and conscious decision-making in project writing.**

Despite the promising contributions of AI integration in teaching and learning, Business Education students face several notable challenges when using AI tools for academic purposes: Nwokike & Onwuka, (2022). Okoye & Ofoegbu, (2022). Dwivedi et al., (2023). Adeyemi & Ojo(2021), Zawacki-Richter et al., (2019) and Russell & Norvig, (2021) suggested **challenges of AI tool usage in** BE **by** BE **students**

- **Limited Technical Skills and Digital Literacy:** Many BE students lack the **technical knowledge and skills** required to use AI tools effectively. This includes difficulties in navigating platforms like ChatGPT, Grammarly, or AI data analysis software, leading to poor utilization.
- **Misuse and Over dependence:** Instead of using AI tools as aids, students often **rely completely** on these tools to generate assignments, term papers, or project content. This fosters intellectual laziness and stifles critical thinking and creativity
- **Poor Internet and Infrastructure:** Students in many developing regions, including parts of Africa, experience **unreliable internet access, lack of electricity, and insufficient digital infrastructure**, limiting consistent use of AI platforms
- **Lack of Institutional Policies:** Many schools and departments have **no clear guidelines** or policies regulating the ethical use of AI tools in research or writing. This causes confusion and fear of punishment among students, or unrestricted misuse by others.
- **Ethical and Legal Concerns:** AI tools often generate content without sourcing. Students may unknowingly **violate copyright laws** or commit plagiarism. Additionally, the lack of transparency in AI-generated responses raises concerns about academic honesty.
- **Gender and Socioeconomic Gaps:** Female students and those from low-income backgrounds may face **greater challenges** in accessing digital devices or receiving training, resulting in unequal benefits from AI tools

Statement of the problem

The integration of Artificial Intelligence (AI) tools into education has generated global discourse, particularly regarding its potential to enhance or undermine academic practices. In project writing, AI tools such as ChatGPT, Grammarly, Quillbot, and others are increasingly being used by students to improve content generation, language quality, referencing, and editing (Dwivedi et al., 2023). While these tools provide numerous benefits including time-saving and improved writing efficiency there are rising concerns about their influence on students' critical thinking, originality, and academic integrity. In the context of business education, where students are trained not only in content mastery but also in analytical and problem-solving skills, the heavy reliance on AI tools raises important questions. Do these tools serve as enablers or crutches? Are students fully aware of how to use them ethically and effectively? More importantly, are there variations in how students from different backgrounds (e.g., gender) experience these tools, and how well are they equipped to overcome the challenges AI introduces?

Despite the increasing use of AI in the colleges of education in Anambra state and Nigerian higher institutions, limited empirical research has been conducted to examine the specific **contributions and challenges** students face in project writing, especially within the field of BE. Without clear data on students' patterns of use, perceived usefulness, and challenges including issues related to plagiarism, overdependence, and tool accuracy educators and institutions may struggle to create appropriate guidelines and support systems. This study, therefore, seeks to investigate the benefits and challenges of integrating AI into project writing, using BE students in the colleges of education in Anambra State as a case study. It also aims to identify the different types of AI tools used by the students in project writing and the strategies of controlling its challenges for better academic performance and originality of work

Research Questions

The following research questions were designed to guide the study.

1. What are the different types of AI tools used by the business education students in project writing?
2. What are the benefits the students drive from using AI in project writing?
3. What are the challenges business education students faces in using AI tools for project writing?
4. What are the strategies of controlling the challenges of use of AI for better academic performance and originality of work by business education students?

Methodology

The study adopts a descriptive survey design to collect data from a representative sample of Business Education students on their experiences with AI in project writing. The total population of the study is five hundred (500) respondents. Comprises of the final-year BE students in selected colleges of education in Anambra State, Nigeria. A sample of 120 students was selected using stratified random sampling to ensure representation based on gender and institution type. A structured questionnaire titled the benefits and challenges of integrating Artificial Intelligence (AI) into project writing among Business Education students in colleges of education of Anambra State, Nigeria was designed, consisting of four sections: benefits, challenges, different types of AI tools and the strategies of controlling its challenges for better academic performance and originality of work. The instrument was validated by experts in Educational Measurement and BE, and reliability was confirmed using Cronbach's Alpha 0.81**.** Data were collected via Google forms and printed questionnaires administered to the respondents with the cooperation of academic staff. Descriptive statistics such as mean, frequency, and standard deviation were used to answer research questions.

Table 1

The different types of AI tools used by the students in project writings N = 120

S/N	Items	∑FX	Mean	Std. Dev.	Decision
1	Uses ChatGPT and other AI chatbots for project writing.	516.0	4.30	0.63	Agree
2	Uses Grammarly and other AI-based grammar tools in project writing.	504.0	4.20	0.65	Agree
3	I rely on AI-based research tools like **turnitin to** detect plagiarism	486.0	4.05	0.70	Agree
4	Uses QuillBotfor paraphrasing and summarizing	477.6	3.98	0.72	Agree
5	**Uses Google bard and AI Meta tools for** web-based real-time information	468.0	3.90	0.74	Agree

6	I explore multiple AI tools depending on the task during project writing.	498.0	4.15	0.68	Agree
	Total Average	484.0	4.096	o.68	Agree

Sources: Researchers' field survey (2025)

Table 1, showed that students utilizes a wide array of AI tools such as Chatbots , ChatGPT, grammar-enhancing software, Grammarly paraphrasing tools, AI-powered research assistants and **Google bard and AI Meta tools for** web-based real-time information.

Table 2

The benefits the students drive from using AI in project writing AI N = 120

S/N	Items	∑FX	Mean	Std. dev.	Decision
1	AI helps generate relevant content during project writing	510.0	4.25	0.65	Agree
2	AI saves time and improves research efficiency.	515.4	4.32	0.58	Agree
3	AI enhances understanding of complex topics through simplified summaries.	492.0	4.10	0.71	Agree
4	AI improves the speed, quality and structure of project writing.	504.0	4. 20	0.66	Agree
5	AI corrects grammatical and spelling errors.	513.6	4. 28	0.60	Agree
6	AI boosts confident in project writing.	494.4	4. 12	0.69	Agree
	Total average	504.9	4.21	0.64	Agree

Sources: Researchers' field survey (2025)

This reveals that respondents strongly agree on the numerous benefits AI tools bring to project writing. These include enhanced content generation, improved efficiency, simplified understanding of complex topics, and better grammar and structural quality. The overall consensus indicates that AI tools significantly enrich students' academic writing processes and foster confidence in their scholarly output.

Table 3

*The challenges business education students face in using AI tools for project writing AI tool*s

N=120

S/N	Items	∑FX	Mean	Std. Dev.	Decision
1	AI accuracy and reliability generated content may not be totally reliable	432.0	3.60	0.80	Agree
2	Difficulties in understanding and using AI tools properly.	414.0	3.45	0.84	Agree
3	Fear of being accused of plagiarism when using AI.	420.0	3.50	0.89	Agree
4	AI tools sometimes provide irrelevant and outdated information.	408.0	3.40	0.87	Agree
5	Limited internet access affects the use AI effectively.	422.4	3.52	0.83	Agree
6	Over-reliance on AI reduces students' creativity and writing skills.	417.6	3.48	0.85	Agree
	Total Average	419.3	3.49	0.85	Agree

Sources: Researchers' field survey (2025)

Table 3 highlights major challenges encountered by students when using AI tools in project writing. Respondents agreed that technical limitations, fear of plagiarism, unreliable internet access, and potential dependency on AI all pose significant barriers. These concerns suggest the need for balanced, guided, and ethical integration of AI in academic environments.

Table 4

The strategies of controlling the challenges of use of AI for better academic performance and originality of work business education students **N = 120**

S/N	Items	∑FX	Mean	Std. Dev.	Decision/ Remark
1	Cross-checking AI-generated content with credible academic sources to ensure accuracy and scholarly relevance	506.4	4.22	0.66	Agree
2	Regular attendance at seminars and training sections enhance students' awareness of responsible AI use.	480.0	4.00	0.71	Agree
3	Collaborate with peers foster shared learning and technical competence.	486.0	4.05	0.68	Agree
4	Avoid over-relying on AI and use it only as a writing aid.	465.6	3.88	0.75	Agree
5	Seek guidance from lecturers when unsure about AI use.	474.0	3.95	0.72	Agree
6	Use AI ethically by citing sources and avoiding plagiarism.	492.0	4.10	0.64	Agree
	Total Average	484.0	4.03	o.69	Agree

Sources: Researchers' field survey (2025)

Table 4 reveals that students employ various proactive strategies to manage the limitations of AI tools in project writing. Key among these is cross-checking AI-generated content with credible academic sources to ensure accuracy and scholarly relevance. Regular attendance at seminars and training sessions enhances students' awareness of responsible AI use, while collaboration with peers fosters shared learning and technical competence.etc

Discussion

From the findings it is evident that students utilize a wide array of AI tools, including generative chatbots (e.g., ChatGPT), grammar-enhancing software (e.g., Grammarly), paraphrasing tools (e.g., QuillBot), and AI-powered research assistants. Additionally, the variety of tools cited suggests that students are not passive consumers but are actively experimenting with technologies that best suit their academic needs. This trend reflects a paradigm shift in academic writing practices. Educators and curriculum developers should harness this technological engagement by embedding AI tool usage into instructional frameworks, while ensuring that students are trained to use them judiciously. The analysis clearly reveals that Business Education students overwhelmingly acknowledge the beneficial impact of AI tools in project writing. Key areas of impact include AI's ability to generate relevant content, enhance research efficiency, simplify complex academic concepts, and improve grammatical accuracy. The high level of agreement among respondents suggests a transformative shift in how students approach project writing, signaling the growing normalization of AI as an academic aid. These findings imply that AI integration, when used responsibly, can significantly elevate the academic performance of students by improving their writing speed, structure, and confidence. Educational stakeholders should therefore consider incorporating AI literacy into business education curricula. It also revealed that the major concerns associated with using AI tools in academic work. Prominent among them are issues of inaccuracy, fear of plagiarism, lack of understanding, and infrastructural barriers such as poor internet access. The findings suggest the urgent need for digital ethics education and structured institutional policies to guide AI use. Without proper oversight, students risk substituting authentic learning with algorithmic shortcuts, thereby compromising academic standards. Finally, the result analyses shows that students are not only aware of the challenges but are also employing deliberate strategies to mitigate them. These include verifying AI-generated content with credible sources, attending training sessions, collaborating with peers, and consulting lecturers. Ethical use through citation and plagiarism avoidance was also emphasized. This suggests a growing digital maturity among Business Education students, who are gradually internalizing the principles of ethical academic conduct. These strategies reflect students' readiness

for self-regulated learning and responsible AI adoption. Institutions should therefore support this by offering regular digital literacy programs, strengthening academic integrity policies, and incentivizing ethical research practices.

Conclusion

This empirical investigation has provided critical insights into the integration of AI in project writing among BE students anchored on clearly defined objectives. The study established that students increasingly adopt AI tools such as chatbots, Grammarly, QuillBot, and AI-driven research assistants to enhance their writing processes. The findings affirm that these tools assist in generating relevant content, improving grammatical correctness, enhancing clarity and coherence, simplifying complex concepts, and ultimately building students' confidence and motivation towards academic writing. No single AI tool does everything perfectly. The most effective approach for Business Education students is to **combine these tools strategically**. Use **ChatGPT** to draft and explain, **Grammarly** to polish the grammar and clarity, **QuillBot** to paraphrase when needed,, **Turnitin** to check for plagiarism, and **Citation tools** to correctly reference sources. ChatGPT is better for content generation, while Grammarly is stronger for correcting and refining grammar and structure.: QuillBot focuses on rephrasing and simplifying content, unlike ChatGPT which creates new content but may be more verbose or technical. Turnitin stands out in **plagiarism detection**, a feature not native to ChatGPT or QuillBot, making it ideal for final originality checks. Grammarly excels in mechanics and grammar checks, while QuillBot is better for rewriting and simplifying difficult or AI-generated passages for effective project writing

Recommendations

1. Tertiary institutions should incorporate AI literacy and ethical usage modules into the Business Education curriculum to equip students with the knowledge and skills needed to effectively utilize AI tools without compromising academic standards.
2. Institutions and academic departments should organize regular training sessions and sensitization workshops to enlighten students on the responsible use of AI in research and writing. This will reduce misuse and improve the quality of academic outputs and as such that the students should be guided on how to use AI as a supportive tool rather than a replacement for critical thinking and creativity. Lecturers should emphasize the importance of originality and intellectual effort in project writing.

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