

Impacts of AI-Based Writing Tools in Academic Productivity for MBA Students at the American International University—Bangladesh

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The rapid use of artificial intelligence (AI)-driven writing tools has transformed academic practices in higher education country-wise. However empirical evaluations of specific tools in emerging economies are limited. This study advances to investigate the impact of AI-based chatbots, such as ChatGPT and Claude, on the academic productivity of MBA students at the American International University—Bangladesh (AIUB). This study is grounded in the Technology Acceptance Model (TAM). A quantitative cross-sectional survey was conducted including 93 MBA students at the AIUB. Pearson correlation, simple linear regression, and independent-samples t-tests were utilized to examine the relationships between the intensity of AI usage, academic output, dependence on, and understanding of the ethical ramifications of AI. The findings indicate a robust positive correlation between ChatGPT usage intensity and perceived academic productivity ($r(91) = 0.42$, $p < 0.05$), with usage intensity accounting for 23.2% of the variance in productivity ($\beta = 0.35$, $R^2 = 0.23$). Overall, ChatGPT had broader adoption and was perceived as more user-friendly, but users of Claude AI noted enhanced time efficiency, superior writing quality, and less reliance. No statistically significant differences were seen among the key user groups, primarily due to the imbalance among the subgroups. Research indicates that AI technologies augment academic productivity; yet excessive use and ambiguous institutional AI regulations may impede critical engagement. This study enhances the TAM literature by including AI reliance and ethical awareness into postgraduate business education within a non-Western context. The research possesses practical ramifications for the administration of AI and the advancement of literacy in higher education.

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Introduction

The swift progress of artificial intelligence (AI) has caused a paradigmatic shift in the domain of higher education. Over the last decade, AI technologies have advanced from simple grammar checkers to powerful large language models (LLMs) capable of generating, revising, summarizing and structuring whole academic writings (Bahroun, Anane, Ahmed, & Zacca, 2023). ChatGPT is an LLM-based writing helper from OpenAI that has been widely adopted in university settings worldwide. Claude AI is another LLM-based writing assistant by Anthropic (Lund & Wang, 2023).

ChatGPT has rapidly become one of the most researched AI technologies in academic settings after its public launch in November 2022 (Bai, Liu, & Li, 2024). This method has been proved effective in a range of writing activities including brainstorming, drafting, paraphrasing and editing and in aiding non-native English-speaking students to improve the fluency, grammatical accuracy and overall writing coherence (Tlili et al., 2023; Lund & Wang, 2023). Meanwhile, Claude AI has emerged as a strong alternative with an enlarged context window, refined instruction-following capacity, and a safety-oriented design philosophy (Anthropic, 2023). Anthropic also put some analysis in their own education report and showed that students mostly used Claude for writing, idea generation, and research help (Anthropic, 2023).

The use of AI tools can take away some of the cognitive load of academic writing, cut the time taken to complete tasks, and assist students to produce outputs that are both structurally and linguistically refined (Zhang, 2023; Kasneci et al., 2023). However, such productivity potential is associated with major issues (e.g., AI dependency, decreased critical thinking, and risks to academic integrity) that require careful scholastic examination (Bai et al., 2024; Rahman & Karim, 2023).

Bangladesh is an important and under-explored context for examining AI-based writing tools in higher education. Recent studies have shown a growing level of awareness and adoption of AI writing assistants among Bangladeshi university students, primarily due to the need for English academic writing support and increasing efficiency pressures (Miah & Ahmed, 2024; User Hub, 2023). However, there has been little empirical research on AI tools in Bangladeshi postgraduate programs, and research on Claude AI in Bangladesh is almost non-existent (User Hub, 2023). The MBA programme at American International University—Bangladesh (AIUB) is particularly relevant for this investigation. AIUB's MBA cohort primarily consists of working and semi-working professionals who manage academic writing demands alongside professional commitments. For these students, the perceived usefulness and ease of use of AI tools—constructs central to the Technology Acceptance Model (TAM) as formulated by Davis (1989)—are likely strong predictors of adoption and reliance. At the institutional level, universities and business schools across Bangladesh are struggling with the lack of clear, evidence-based policies on AI use in academic work (Rahman & Karim, 2023). The absence of empirical data comparing specific tools and the failure to examine them from both a productivity and academic integrity perspective leaves administrators without the evidence base necessary to develop informed guidelines (Bai et al., 2024; Bahroun et al., 2023).

Although there is a growing literature on AI in education, three important gaps exist. First, a disciplinary gap: Most studies have focused on undergraduates or general EFL (English as a Foreign Language) learners and not MBA-level postgraduate business students (Miah & Ahmed, 2024; Lund & Wang, 2023; Kasneci et al., 2023). Second, a contextual gap: There is a dearth of empirical information from Bangladeshi postgraduate programs, and no study has explored the comparative use of ChatGPT and Claude AI among MBA students in Bangladesh (Miah & Ahmed, 2024; User Hub, 2023). Thirdly, an analytical gap. No published study has directly compared ChatGPT and Claude AI with primary survey data, employing a structured SWOT (Strength, Weakness, Opportunity and Threat) framework from a student-centred perspective (Yomu, 2024).

Based on the TAM framework (Davis, 1989; Venkatesh & Davis, 2000), this study advances with following objectives:

- To measure the frequency and purpose of use of ChatGPT and Claude AI among MBA students at the AIUB.
- To assess the impact of each tool on perceived academic productivity.
- To examine whether use of either tool is associated with increased AI dependency (Bai et al., 2024).
- To identify students' ethical concerns about using AI tools in academic writing (Rahman & Karim, 2023).
- To directly compare ChatGPT and Claude AI based on usage data, productivity scores, and dependency levels.
- To conduct a data-driven SWOT analysis of both tools as academic writing instruments.

This study examines the application of ChatGPT and Claude AI in academic writing activities, including assignment production, report writing, literature review construction, and presentation script writing. A descriptive cross-sectional research design was used, and data were obtained using a self-administered online questionnaire throughout one academic term. Statistical analysis was performed using Microsoft Excel and Data Analysis Tool Pak.

Literature Review

Since 2022, the incorporation of AI-enabled tools into academic writing has accelerated, facilitated by the public release of LLMs that generate human-like text (Bahroun et al., 2023). Bahroun et al. (2023) showed that LLM-based tools are increasingly used for content writing, summarising concepts, generating ideas, and language correction—shifting from the margins to the core of student academic practice. Kasneci et al. (2023) argued that these tools provide opportunities to increase academic support but require new pedagogical and institutional frameworks to avoid misuse.

Lund and Wang (2023) systematically addressed the academic implications of ChatGPT, positioning AI writing tools as transformative agents whose impact on academic culture must be carefully studied and regulated. Tlili et al. (2023) found that students who take a passive copy-and-submit approach benefit less—and may suffer more—in terms of skill development than those who engage interactively and critically with the tool.

Bai et al. (2024) revealed that students who interact with AI as a collaborative partner—reviewing, editing, and questioning its output—perform significantly better academically than those who treat AI as a one-shot solution. Despite a growing user base, Claude AI has received far less empirical attention than ChatGPT. Yomu (2024) noted that its longer context window and nuanced contextual understanding make it suitable for extended academic writing tasks, though more empirical research is needed. Zhang (2023) found that moderate, deliberate

use of AI tools was associated with measurable improvements in task completion time and output quality, but excessive reliance produced diminishing returns. Rahman and Karim (2023) showed that students who apply AI tools with awareness of institutional policy constraints are more likely to achieve better productivity outcomes without sacrificing academic integrity.

Research Gaps

This study is driven by three discrete but linked gaps. Gap 1 (Disciplinary): Much of the published research has focused on undergraduate or general EFL learners, with little attention paid to MBA-level postgraduate business students (Miah & Ahmed, 2024; Lund & Wang, 2023; Kasneci et al., 2023). Gap 2 (Contextual): There is very little empirical research on AI application in post-graduate degrees in Bangladesh and no study exists on the adoption of Claude AI in Bangladesh (Miah & Ahmed, 2024; User Hub, 2023). Gap 3 (Analytical): There has not been any previous research that has made a direct comparison of the performance of the two tools (ChatGPT and Claude AI) by utilizing primary survey data from a single well-defined student population nor has there been an application of a SWOT framework to empirically assess both tools (Lund & Wang, 2023; Yomu, 2024).

Conceptual and Theoretical Framework

The Technology Acceptance Model (TAM). This study is based on the Technology Acceptance Model (TAM) created by Fred D. Davis to explain the reasons for the adoption of new information technologies by users (Davis, 1989). TAM assumes that the intention to use a technology is determined by two major beliefs: Perceived Usefulness (PU), the degree to which a person believes that using a technology will enhance her performance in a task (Davis, 1989) and Perceived Ease of Use (PEOU), the degree to which a technology is perceived as easy to use (Davis, 1989). PEOU usually influences PU and these two factors in turn affect Behavioural Intention which is a predictor of Actual Use and subsequently performance outcomes (Davis, 1989; Venkatesh & Davis, 2000).

Extended TAM constructs for this study. This study also adds two more variables that are related to AI writing tools, beside the core TAM constructs. AI Dependency refers to the degree of students' reliance on AI-generated content rather than independent analytical thinking (Bai et al., 2024; Tlili et al., 2023). Ethical Concerns refer to the awareness and attitudes that students have towards academic integrity, plagiarism, authorship, and institutional AI policies (Rahman & Karim, 2023; Kasneci et al., 2023). In the long run, PEOU and PU influence AI Tool Usage Intensity which in turn influences Academic Productivity with AI Dependency and Ethical Concerns as possible moderators (Venkatesh & Davis, 2000). To confirm that the discrepancies are due to real user experiences and not due to methodological errors, the same structural framework is used to analyse both ChatGPT and Claude AI (Davis, 1989; Venkatesh & Davis, 2000).

In this study, demographic and academic factors (Gender, Semester Level, Work Status, English Background, Prior AI Experience) serve as control variables. PEOU and PU predict AI Tool Usage Intensity, which then affects Academic Productivity, measured via task speed, writing clarity, and workload reduction. AI Dependency and Ethical Concerns act as moderators. Both ChatGPT and Claude AI are analysed in parallel, allowing a consistent comparison and ensuring differences reflect actual student experiences, not methodological inconsistencies (Davis, 1989; Venkatesh & Davis, 2000).

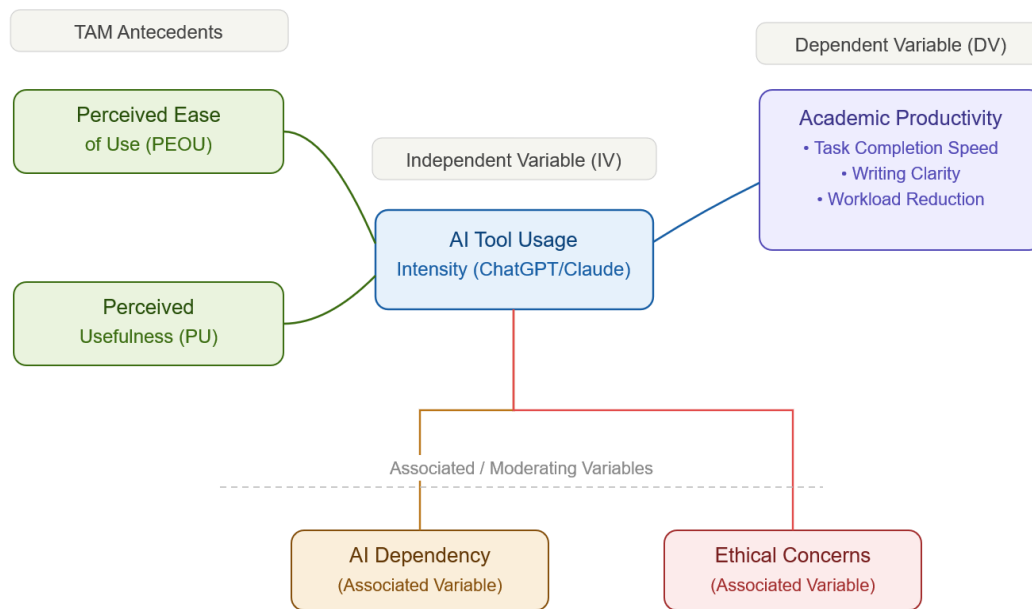


Figure 1. TAM-based conceptual framework.

Research Methodology

Research Design

A deductive method using TAM was adopted in a quantitative cross-sectional survey. The purpose of this study was to explore trends in the usage of AI tools, perceived effects on academic productivity, issues of dependency, and ethical concerns among MBA students. Analysis was performed using Microsoft Excel and the Data Analysis Tool Pak. The research was carried out in three phases (see Table 1).

Table 1

Three-Phase Research Design

Phase	Title	Purpose
Phase 1	Data Acquisition and Descriptive Analysis	Assess the utilization patterns of AI tools, productivity levels, dependency issues, and ethical considerations.
Phase 2	Comparative Statistical	Analyse ChatGPT and Claude AI through correlation, regression analysis, and t-tests.
Phase 3	SWOT Analysis	Consolidate findings into pragmatic strengths, weaknesses, opportunities, and threats.

Data Sources

Primary data were collected by means of a standardized self-administered online questionnaire that was shared with current AIUB MBA students through Google Forms. The study was based on 93 verified responses. The secondary data were extracted from peer-reviewed publications, institutional reports, and scholarly literature such as Bahroun et al. (2023), Tlili et al. (2023), Bai et al. (2024) and the Anthropic Education Report (2023).

Sample and Sampling

The population was all MBA students of AIUB who were engaged in writing intensive courses during the period of data collection. We used a stratified random sampling method, stratifying by semester level (Semesters 1-2 vs. Semester 3+) and enrolment status (full-time vs. part-time/employed). The required sample size was 150-

250. 93 full valid responses were collected, which was sufficient for the intended correlation and regression studies (minimum $n = 84$). The achieved sample profile is shown in Table 2.

Table 2

Achieved Sample Profile (N = 93)

Characteristic	Category	n	%
Gender	Female	50	53.8%
	Male	43	46.2%
Semester level	5th semester or above	45	48.4%
	Below 5th semester	48	51.6%
Work status	Full-time student	54	58.1%
	Part-time working	33	35.5%
	Fully employed	6	6.5%
AI tool usage	ChatGPT only	42	45.2%
	Claude AI only	5	5.4%
	Both tools	46	49.5%
Tool preference	ChatGPT	46	49.5%
	Claude AI	11	11.8%
	Both equally useful	35	37.6%
	Neither	1	1.1%

Data Collection Instrument

The questionnaire has six parts: (A) demographic profile, (B) ChatGPT usage pattern, (C) Claude AI usage pattern, (D) academic productivity scale, (E) AI dependency scale, and (F) ethical concerns and institutional policy awareness. Sections B and C were identical in construction to allow for a proper side-by-side comparison. All attitudinal indicators were measured on a five-point Likert scale, ranging from 1 = Strongly Disagree/Never to 5 = Strongly Agree/Daily. The instrument was pilot tested on 15-20 MBA students to test the face validity and internal consistency.

Variables

Study variables were defined and applied uniformly for both tools (Table 3).

Table 3

Study Variables

Variable type	Variable	Operationalization
Independent	AI tool usage intensity	Composite of usage frequency and scope of academic assignments executed.
Dependent	Academic productivity	Composite: velocity of task execution + calibre of writing + alleviation of workload
Associated	AI dependency	Score on the 6-Item Dependency Scale (Section E)
Associated	Ethical concerns	Score on the 6-Item Ethical Concerns Scale (Section F)
Control	Gender/semester/work status/English background/prior AI experience	Demographic and educational background characteristics

Statistical Analysis

Three types of analysis were employed. A linear correlation between the intensity of AI tool usage and academic output was assessed using Pearson Correlation Analysis ($r = 0.416$ for ChatGPT). Simple Linear Regression predicted academic productivity as a function of usage intensity ($\beta = 0.352$, $R^2 = 0.232$, $p < 0.05$ in

the case of ChatGPT). Independent samples t-Test comparing primary users of ChatGPT ($n = 46$) with Claude AI ($n = 11$); all comparisons non-significant ($p > 0.05$), mainly due to the small Claude AI sub-group. The results of Phase 1 and Phase 2 were combined, and a SWOT analysis was performed.

Ethics and Validity

Participation was voluntary and fully anonymous and no personally identifiable information was collected. Data were saved in password protected files, only accessible to the research team. The survey tool and protocol were approved by the AIUB Research Ethics Committee before data collection. All items were adapted from validated instruments and were derived from TAM constructs to assure content and construct validity.

Data Analysis and Interpretation

Survey Participant Summary

The sample was balanced by gender (53.8% female, 46.2% male). A considerable number (48.4%) were in the fifth semester or above. Employment 58.1% full-time students, 35.5% part-time working students, 6.5% fully employed professionals. The 42% working student share is remarkable given time pressure is a known motivator for AI tool adoption under TAM (Davis, 1989; Venkatesh & Davis, 2000).

ChatGPT was the most used tool; 45.2% used it entirely, 39.8% used it daily, and 49.5% preferred it. Claude AI got far less traction: 11.8% favoured it, 10.8% used it every day, and only 5.4% used it exclusively.

Table 4

AI Tools Adoption and Preference (N = 93)

Metric	ChatGPT	Claude AI	Both/neither
Exclusive users	45.2%	5.4%	—
Student preference	49.5%	11.8%	Both: 37.6%
Daily users	39.8%	10.8%	—
Never used	—	10.8%	Neither: 1.1%
Used both tools	49.5%	49.5%	Both: 49.5%

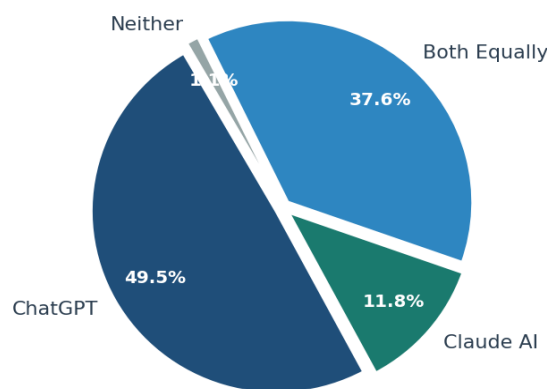


Figure 2. Preferred AI tool (N = 93).

Regarding AI tool usage: 45.2% used only ChatGPT, 5.4% used only Claude AI, and 49.5% used both tools at different times. Among the preferred tools, 49.5% selected ChatGPT, 11.8% selected Claude AI, 37.6% found both equally useful, and just 1.1% preferred neither.

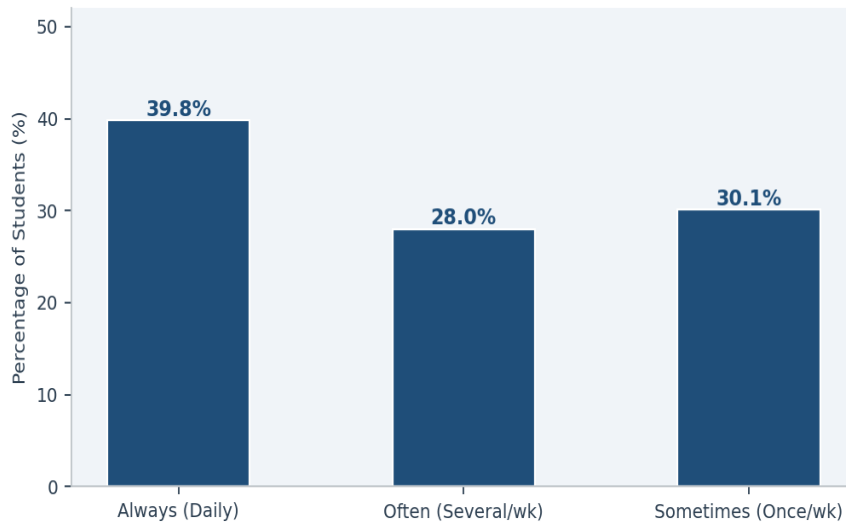


Figure 3. ChatGPT usage frequency.

ChatGPT appears to be the more preferred instrument. The observed disparity in adoption can be ascribed to the earlier availability of ChatGPT, its enhanced brand recognition, and a more expansive user community in Bangladesh (Miah & Ahmed, 2024; User Hub, 2023). Students engaging with Claude AI express positive feedback, particularly in terms of its quality and efficiency, as evidenced by the ensuing productivity analysis.

Effect on Academic Productivity

The mean productivity scores for both tools surpassed the midpoint of the Likert scale, which is 3.0, thereby affirming their beneficial impacts. The assessment of time efficiency reveals that users of Claude AI assigned a higher rating for timesaving ($M = 4.36$) compared to those utilizing ChatGPT ($M = 4.11$). This discrepancy can likely be attributed to Claude AI's more extensive context window, which facilitates the incorporation of longer and more intricate prompts within a single session (Anthropic, 2023; Yomu, 2024).

The assessment of writing quality reveals that Claude AI achieved a superior score in quality improvement ($M = 4.09$, $SD = 0.83$) compared to ChatGPT ($M = 3.96$, $SD = 0.94$). The reduced standard deviation for Claude AI indicates a more reliable quality-improvement experience (Anthropic, 2023).

In terms of overall productivity, users of ChatGPT indicated a higher level ($M = 4.35$) compared to users of Claude AI ($M = 4.00$). This observation aligns with the Technology Acceptance Model's assertion that Perceived Ease of Use directly influences Perceived Usefulness (Davis, 1989).

Table 5

Descriptive Statistics—ChatGPT Against Claude AI (Likert Scale 1-5, $N = 93$)

Variable	ChatGPT mean	ChatGPT SD	Claude AI mean	Claude AI SD	Advantage
Productivity	4.35	0.74	4.00	1.10	ChatGPT
Ease of use	4.30	0.92	4.09	1.04	ChatGPT
Time saving	4.11	0.92	4.36	0.81	Claude AI
Quality improvement	3.96	0.94	4.09	0.83	Claude AI
Dependency	3.89	1.10	3.27	1.27	Claude AI (lower)
Plagiarism concern	3.09	1.01	3.55	0.93	Claude AI (aware)
Policy clarity	2.78	1.17	3.36	1.36	Claude AI

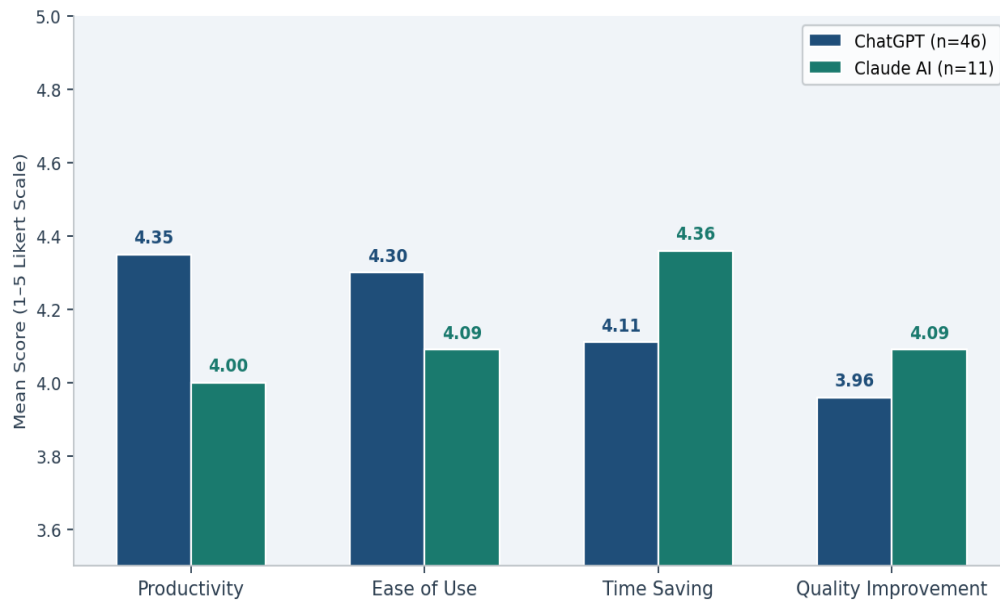


Figure 4. Productivity & quality—ChatGPT vs. Claude AI (mean scores).

Statistical Analysis: Correlation and Regression

Two statistical analyses were performed to examine the relationship between the frequency of tool utilization by students and their subjective assessment of productivity.

Pearson Correlation

The Pearson correlation between frequency of ChatGPT use and academic production was $r(91) = 0.42$, $p < 0.05$, showing a moderate-to-strong favourable association. This confirms the central TAM proposition that good views lead to more tool usage and higher productivity (Davis, 1989). A distinct correlation for Claude AI was not possible because of the tiny sub-group size ($n = 11$).

Linear Regression

The frequency of use of the chatbot was a statistically significant predictor of academic productivity ($\beta = 0.35$, $R^2 = 0.232$, $p < 0.05$). For every one unit increase in the frequency of use of the chatbot, the academic output increased by 0.352 units on the Likert scale. Usage intensity explained 23.2% of productivity variance and the rest 76.8% was explained by other factors like English proficiency, prior acquaintance with AI, and assignment complexity (Zhang, 2023; Rahman & Karim, 2023).

Table 6

Linear Regression Analysis

Statistical test	Tool	Result	Significance
Pearson correlation (r)	ChatGPT	0.416	Moderate-to-strong positive
Pearson correlation (r)	Claude AI	—	Underpowered ($n = 11$)
Regression coefficient (beta)	ChatGPT	0.352	$p < 0.05$ ✓ Significant
R-squared (variance explained)	ChatGPT	0.232	23.2% of productivity variance

AI Dependency

ChatGPT users had a higher overall reliance ($M = 3.89$) compared to Claude AI users ($M = 3.27$). Both scores are above the scale midpoint of 3.0 showing that reliance is evident in both groups. Users of the chatbot

were more inclined to contribute AI-generated work with little to no editing (unmodified submission rate: $M = 3.43$ for the chatbot; $M = 2.91$ for Claude AI). This pattern of passive submission is consistent with Bai et al. (2024) who found that passive involvement of AI negatively impacts the quality of independent academic reasoning.

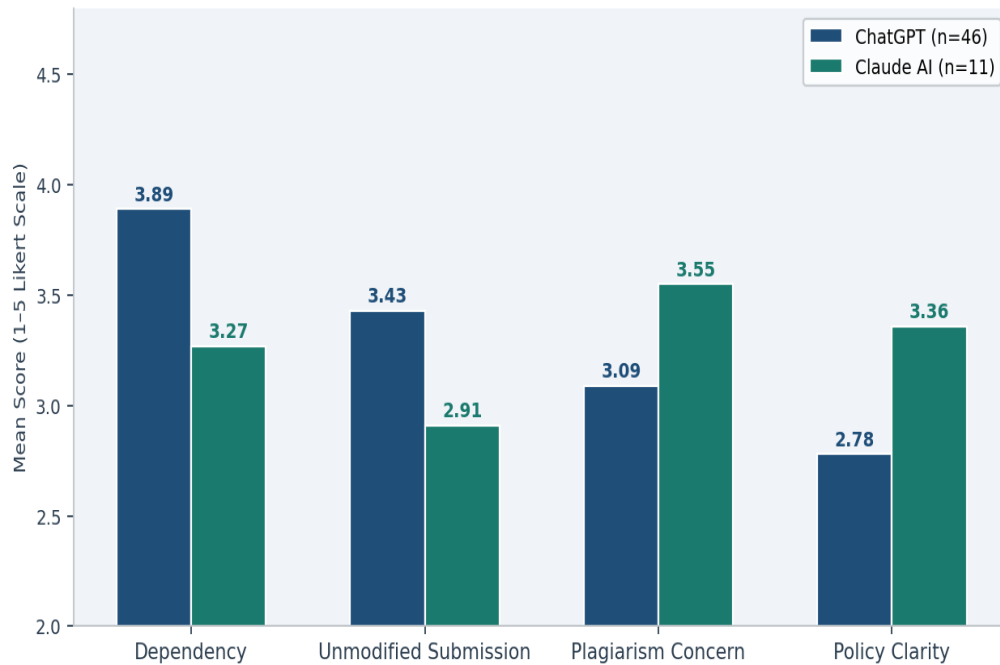


Figure 5. Dependency & ethical concerns—ChatGPT vs. Claude AI.

Ethical Considerations

Awareness of plagiarism. Users of Claude AI were more concerned about plagiarism ($M = 3.55$) than users of ChatGPT ($M = 3.09$). This could suggest that users of Claude AI are more selective and careful in their use of AI. However, both groups have a large understanding about plagiarism as a problem which shows that the issue is universal (Tlili et al., 2023; Kasneci et al., 2023).

Table 7

AI Dependency Comparison—ChatGPT vs. Claude AI

Dependency indicator	ChatGPT mean	Claude AI mean	Difference (delta)
Overall dependency score	3.89	3.27	0.62—ChatGPT higher
Unmodified submission rate	3.43	2.91	0.52—ChatGPT higher

Institutional Policy Clarity

AIUB's AI policy was judged as clear by $M = 2.78$ (below midway of 3.0) by ChatGPT users, and $M = 3.36$ (just over midpoint) by Claude AI users. The low ratings indicate the students' perception of the absence of institutional guidelines for acceptable AI usage, in line with reports of AI policy uncertainty in universities throughout Bangladesh (User Hub, 2023; Rahman & Karim, 2023).

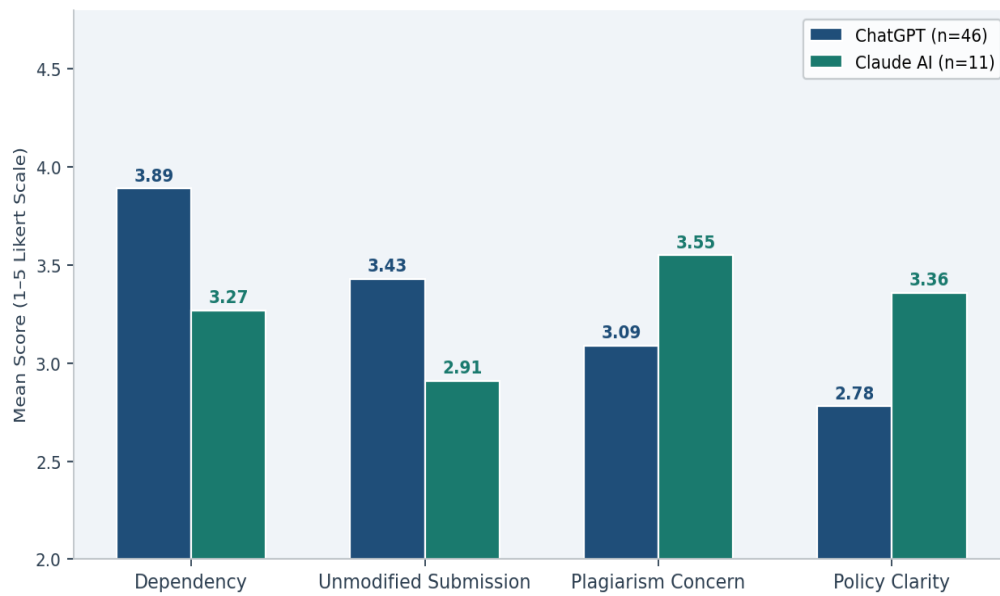


Figure 6. Mean ethical concern scores for ChatGPT (n = 46) and Claude AI (n = 11) users.

Table 8

Ethical Concern Scores = Below Scale Midpoint—The Most Critical Institutional Finding of This Study

Ethical concern	ChatGPT mean	Claude AI mean	Scale midpoint	Status
Plagiarism concern	3.09	3.55	3.0	Both above midpoint
Institutional policy clarity	2.78	3.36	3.0	ChatGPT below midpoint!

Comparison: ChatGPT Versus Claude AI

Independent samples t-tests were used to compare all seven key variables. All comparisons were $p > 0.05$, suggesting no significant difference at $\alpha = 0.05$. This finding is mostly driven by the underpowered Claude AI subgroup (n = 11) as opposed to actual tool equivalence. Mean scores differ in practically meaningful ways: ChatGPT scores higher in overall productivity, convenience of use, daily usage, and student choice; Claude AI scores higher in time saving, writing quality, lower reliance, lower unaltered submissions, plagiarism awareness, and policy clarity perception. Claude AI beat ChatGPT in 6 out of 10 practical dimensions looked at.

Table 9

Head-to-Head Comparison—ChatGPT vs. Claude AI

Dimension	ChatGPT	Claude AI	Practical leader
Overall productivity	4.35	4.00	ChatGPT
Ease of use	4.30	4.09	ChatGPT
Time saving	4.11	4.36	Claude AI
Quality improvement	3.96	4.09	Claude AI
Dependency (lower = better)	3.89	3.27	Claude AI
Unmodified sub. (lower = better)	3.43	2.91	Claude AI
Plagiarism awareness	3.09	3.55	Claude AI
Policy clarity	2.78	3.36	Claude AI
Daily usage rate	39.8%	10.8%	ChatGPT
Student preference	49.5%	11.8%	ChatGPT
Dimensions led	4/10	6/10	—

Findings of the Study

The best AI authoring tool was ChatGPT. It was preferred by 49.5% of pupils, daily utilized by 39.8%, and used solely by 45.2%. A further 49.5% said they were utilizing both. The adoption of Claude AI was minimal (11.8% chose it, 10.8% used it regularly, 5.4% used it entirely). This agrees with earlier studies that demonstrate the low understanding and use of Claude AI among university students in Bangladesh (User Hub, 2023).

AI Tool Adoption and Usage Patterns

ChatGPT was the top AI authoring tool. It was liked by 49.5% of students, utilized regularly by 39.8%, and used exclusively by 45.2%. A further 49.5% said they were utilizing both. Claude AI saw minimal acceptance, with only 11.8% preferring it, 10.8% using it regularly, and a mere 5.4% using it entirely. This is in line with other studies that showed that Bangladeshi university students are not very aware of and do not use Claude AI very frequently (User Hub, 2023).

Table 10

AI Tool Adoption Summary (N = 93)

Metric	ChatGPT	Claude AI
Exclusive users	45.2%	5.4%
Student preference	49.5%	11.8%
Daily users	39.8%	10.8%
Never used	—	10.8%
Used both tools	49.5%	49.5%

Impact on Academic Productivity

Both AI technologies had a good influence on academic productivity, with all the measured variables above the midpoint of 3.0. Overall productivity ($\mu = 4.35$) and convenience of use ($\mu = 4.30$) were higher for the chat-based model. Claude AI received superior scores for saving time ($\mu = 4.36$) and improving writing quality ($\mu = 4.09$). The higher standard deviation for Claude AI on overall productivity ($SD = 1.10$) shows a greater diversity in user answers.

Table 11

Productivity Findings—ChatGPT vs. Claude AI

Dimension	ChatGPT (μ)	Claude AI (μ)	Leader
Overall productivity	4.35	4.00	ChatGPT
Ease of use	4.30	4.09	ChatGPT
Time saving	4.11	4.36	Claude AI
Writing quality improvement	3.96	4.09	Claude AI

Correlation Between Utilization and Productivity

The TAM prediction that higher perceived usefulness and ease of use improve productivity outcomes is supported by a moderately favourable association ($r = 0.416$) between ChatGPT usage intensity and academic output (Davis, 1989; Venkatesh & Davis, 2000). Academic productivity was statistically substantially predicted by ChatGPT usage intensity, according to linear regression ($\beta = 0.352$, $R^2 = 0.232$, $p < 0.05$). Because the analysis lacked statistical power due to subgroup imbalance ($n = 11$), no comparable regression was possible.

AI dependency. There was dependency related behaviour in both user groups. ChatGPT users had significantly higher overall dependency scores ($\mu = 3.89$, $\sigma = 1.10$) than Claude AI users ($\mu = 3.27$, $\sigma = 1.27$), and were more likely to submit work unaltered ($\Delta\mu = \text{values} > 3.0$ threshold, proving AI across both user groups (Bai et al., 2024)).

Ethical considerations and institutional policy transparency. Both groups scored above the mid-point of the scale on reported concerns about plagiarism, especially the users of Claude AI. Importantly, clarity of institutional AI policy was assessed below midpoint by ChatGPT users ($\mu = 2.78$), suggesting a large governance vacuum, in line with findings from studies on policy ambiguity in Bangladeshi institutions (User Hub, 2023; Rahman & Karim, 2023).

Comparative statistical examination. Independent-sample t-tests all gave $p > 0.05$; no significant differences were identified. This result is mostly due to the small size of the Claude AI cohort, which results in a lack of statistical power and not to tool equivalence (Zhang, 2023). Despite non-significance, Claude AI outperformed the other models on 6 of the 10 examined practical dimensions.

Comparative practical implications (SWOT analysis). The survey results were reviewed and showed that ChatGPT and Claude AI had different profiles in the SWOT analysis.

Table 12

SWOT Analysis—ChatGPT

Strengths • Productivity M = 4.35, ease of use M = 4.30 • Daily use: 39.8%; preferred by 49.5% • Reproductivity r = 0.416	Weaknesses • High dependency M = 3.89; low editing (M = 3.43) • Policy clarity M = 2.78 (lowest)
Opportunities • AI literacy programs & prompt engineering • Integrate into MBA curriculum	Threats • Plagiarism risk; over-dependence • Inconsistent policy enforcement

Table 13

SWOT Analysis—Claude AI

Strengths • Time-saving M = 4.36, quality M = 4.09 • Lower dependency M = 3.27; less unedited AI (M = 2.91)	Weaknesses • Only 11.8% prefer it; small user base (n = 11) • Productivity M = 4.00, below ChatGPT
Opportunities • Ethical AI alternative for advanced students • Faculty-led adoption to diversify AI skills	Threats • ChatGPT dominance; higher plagiarism concern M = 3.55 • Policy ambiguity disadvantages newer tools

Findings

The research aims of the study provide critical information. ChatGPT is the preferred tool among respondents, with numerous individuals having employed both it and Claude AI. Both technologies augment scholarly productivity. ChatGPT demonstrates superior productivity and user-friendliness, while Claude AI excels in time efficiency and writing quality.

Reliance on AI: Both technologies were deployed extensively. ChatGPT users demonstrated increased reliance and provided unmodified content. Both user groups have ethical dilemmas, particularly with plagiarism; however they exhibit minimal comprehension of institutional norms. The restricted quantity of Claude AI users led to an absence of statistical distinctions between the two systems; still, the user experience differed. ChatGPT

succeeded in adoption and accessibility, whereas Claude AI surpassed it in output quality and ethical application in the SWOT analysis.

Discussion

Interpretation of Results

The productivity and user-friendliness of ChatGPT seem to stem more from its early market launch, robust brand recognition, and extensive user base in Bangladesh than from its technological superiority (Lund & Wang, 2023). Within the Technology Acceptance Model (TAM), Perceived Ease of Use (PEOU) positively impacts Perceived Usefulness (PU), which then affects perceived productivity (Davis, 1989). Findings indicate that although ChatGPT offers a more fluid user experience, Claude AI may deliver more substantial support for specific writing-intensive activities.

Claude AI and Academic Engagement: Users of Claude AI seem more discerning, having purposefully developed competencies to navigate a less-familiar platform. This behaviour elucidates their diminished reliance ratings, reduced inclination to present unaltered AI output, and heightened awareness of plagiarism. This pattern aligns with the collaborative AI utilization framework articulated by Bai et al. (2024), wherein students regard AI as a collaborator rather than a substitute.

The architecture of ChatGPT cannot solely be attributed to the increased dependency on AI. The frequency of usage, the minimum effort needed to produce responses, and the lack of institutional guidelines all contribute to dependency (Tlili et al., 2023; Rahman & Karim, 2023). The regression results demonstrate that extensive usage concurrently enhances production and fosters dependence—a dichotomy with ramifications for long-term critical thinking abilities.

Absence of Institutional AI Policy: The uncertainty regarding AIUB's position on AI utilization is one of the most notable findings. Students unsure of permissible AI usage may excessively depend on AI without repercussions, whereas diligent users continue to question academic legitimacy. Both outcomes present ethical and academic risks for students and institutions.

Comparative Analysis With Previous Studies

The positive productivity impacts of both technologies are consistent with Zhang (2023), who demonstrated that restricted, intentional usage of AI enhances work efficiency and writing quality. The dependency patterns of ChatGPT users confirm the worries of Tlili et al. (2023) on passive use. The finding of imprecise institutional policy aligns with User Hub's (2023) observation of missing or confusing AI policies at Bangladeshi institutions and supports Rahman and Karim's (2023) claim that unpredictability in regulation hinders academic integrity. This work presents the first measurable evidence that Claude AI can save time in postgraduate academic writing (Anthropic, 2023), shifting from practitioner conjecture to actual data. Claude AI beat ChatGPT in 6 of the 10 areas tested, revealing a more detailed picture than simple statistical significance testing can show.

Implications for Practice

Institutional governance necessitates a well-defined, student-focused AI usage policy that clarifies what is acceptable at each academic level, establishes appropriate procedures for recognising AI-assisted work, and

communicates these at the beginning of each semester (Rahman & Karim, 2023; Kasneci et al., 2023). Formal AI literacy training should be integrated into the MBA program, with emphasis on fast engineering, evaluation of AI-generated solutions, and ethical application (Bai et al., 2024; Tlili et al., 2023). Faculty may try actively incorporating Claude AI into upper-level, research-intensive courses where quality and time efficiency are valued (Anthropic, 2023; Yomu, 2024). ChatGPT users should be reminded to see AI output as a draft that requires critical modification rather than a finished result.

Conclusion

This study used primary quantitative data from 93 MBA students to assess the impact of ChatGPT and Claude AI on academic productivity at AIUB utilizing a TAM-based approach. ChatGPT is the most popular tool, because of its usability, familiarity, and easy UI. A smaller, more discerning group prefers Claude AI due to its superior writing quality, time efficiency, and lower dependence induction. Both tools boost academic productivity, but dependency is an increasing problem, especially among frequent ChatGPT users who submit AI-generated papers without thorough assessment. Both groups are ethically conscious of plagiarism, but institutional policy clarity is severely lacking, particularly among ChatGPT users.

The tools should not be considered as direct competitors, but rather as complimentary devices for satisfying various academic demands. Dependency risk is more closely related to user behaviour and institutional governance than tool design. As AI technologies become more widely used in higher education, universities must adopt clear, practical AI policies backed up by AI literacy training and staff assistance to maximize efficiency while maintaining academic integrity and learning quality (Bahroun et al., 2023; Kasneci et al., 2023).

Limitations of the Study

The primary constraint is the imbalance in sub-group sizes. The total sample size of $N = 93$ was adequate for single-group and descriptive analysis; however, the Claude AI primary user sub-group ($n = 11$) was significantly underpowered for inferential comparison, hence constraining causal inferences from comparative analyses (Zhang, 2023; Rahman & Karim, 2023). The cross-sectional survey approach provides a snapshot at a particular time point; it is incapable of evaluating longitudinal impacts, such as whether reliance increases with ongoing usage or if productivity advantages diminish over time (Bahroun et al., 2023).

Third, all metrics are self-reported. Likert-scale comments regarding productivity, reliance, and ethical concerns represent student perceptions rather than objectively evaluated results. Social desirability bias may have resulted in cautious estimates of unaltered submission rates and plagiarism apprehensions (Bai et al., 2024; Kasneci et al., 2023).

The findings pertain specifically to AIUB's MBA program and are primarily applicable to postgraduate business students in comparable Bangladeshi institutions; generalization necessitates independent replication (Miah & Ahmed, 2024; User Hub, 2023).

Ultimately, limitations in resources and time restricted data collection to a single academic term and hindered the implementation of mixed-methods follow-up (e.g., interviews or focus groups) that might have yielded more profound qualitative insights into student motivation and ethical reasoning (Tlili et al., 2023).

References

- Anthropic. (2023). Anthropic education report: How university students use Claude. Retrieved from <https://www.anthropic.com/news/anthropic-education-report-how-university-students-use-claude>
- Bahrour, Z., Anane, C., Ahmed, V., & Zacca, A. (2023). Transforming education: A comprehensive review of generative AI integration in education. *Sustainability*, 15(17), 12983. Retrieved from <https://doi.org/10.3390/educsci13100998>
- Bai, Y., Liu, J., & Li, H. (2024). Human-AI collaboration patterns in AI-assisted academic writing. *Studies in Higher Education*. Retrieved from <https://doi.org/10.1080/03075079.2024.2323593>
- Davis, F. D. (Sep. 1989). Perceived usefulness, perceived ease of use, and user acceptance of information technology. *MIS Quarterly*, 13(3), 319-340.
- Kasneci, E., Sessler, K., Küchemann, S., Bannert, M., Dementieva, D., Fischer, F., ... Kasneci, G. (2023). ChatGPT for good? On opportunities and challenges of large language models for education. *Learning and Individual Differences*, 103, 1-9. Retrieved from <https://doi.org/10.1016/j.lindif.2023.102274>
- Lund, B. D., & Wang, T. (2023). Chatting about ChatGPT: How may AI and GPT impact academia and libraries? *Library Hi Tech News*, 40(3), 26-29. Retrieved from <https://doi.org/10.1108/LHTN-01-2023-0009>
- Miah, M. M., & Ahmed, T. (2024). Artificial intelligence tools in developing English writing skills: Bangladeshi university EFL students' perceptions. *English Education Research and Practice*, 17(2), 345-371.
- Rahman, A., & Karim, S. (2023). AI-enhanced productivity and academic integrity in higher education. *IEEE Access*, 11, 1-15. Retrieved from <https://ieeexplore.ieee.org/iel7/6287639/10005208/10327720.pdf>
- Tlili, A., Shehata, B., Adarkwah, M. A., Bozkurt, A., Hickey, D. T., Huang, R. H., & Agyemang, B. (2023). What if the devil is my guardian angel: ChatGPT as a case study of using chatbots in education. *Smart Learning Environments*, 10(1), Article 15. Retrieved from <https://doi.org/10.1186/s40561-023-00237-x>
- User Hub. (2023). LLM-chatbots in academic writing: Usability and ethical concerns among Bangladeshi university students. Retrieved from <https://userhub.com.bd>
- Venkatesh, V., & Davis, F. D. (2000). A theoretical extension of the technology acceptance model: Four longitudinal field studies. *Management Science*, 46(2), 186-204.
- Yomu. (2024). Customizing academic writing with Claude AI: The future of research composition. Retrieved from <https://www.yomu.ai/blog/customizing-academic-writing-with-claude-ai>
- Zhang, W., & Noy, S. (Jul. 2023). Experimental evidence on the productivity effects of generative artificial intelligence. *Science*, 381(6654), 187-192. doi:10.1126/science.adh2586 Retrieved from <https://www.science.org/doi/10.1126/science.adh2586>