

**ASSESSMENT OF UNDERGRADUATE STUDENTS PERCEPTION OF THE  
USAGE AND CHALLENGES OF AI TOOLS IN EDUCATION PROCESS IN  
RELATION TO OFFICE TECHNOLOGY AND MANAGEMENT**

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**FEBRUARY 2026**

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**A PROJECT WORK SUBMITTED TO THE DEPARTMENT OF VOCATIONAL  
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BACHELOR OF SCIENCE, (BSC EDU) DEGREE IN BUSINESS EDUCATION**

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## **CERTIFICATION**

We, the undersigned, thereby certify that this research work was carried out by Christiana Eseoghene USINO with Matriculation Number EDU2209683 in the Department of Vocation and Technical Education, Faculty of Vocational and Technical Education, University of Benin, in Partial fulfillment of the requirements for the award of (B. Sc. Ed) Degree in Business Education

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## **DEDICATION**

This project work is affectionately dedicated to the Almighty God.

## **ACKNOWLEDGEMENTS**

The researcher's profound gratitude goes to God Almighty for my life, support and grace which He granted me to complete my Education Successfully and I appreciate my Dynamic and conscientious project supervisor PROF. Mrs E.E Uko Aviomoh for her guidance and correction for a meaningful project work, she gave me free access to her office even outside the office hours where I received moral support and academic advice from the beginning to the completion of this work. I also appreciate the project coordinator Dr (Mrs) Ohio for her prompt advice, Special thanks also goes to most astute Head of Department, Prof. E Iyamu and all the entire lecturers in Business Education department who taught me the principles and theory of academic excellence in Business Education. Thank you all.

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## **ABSTRACT**

This study assesses undergraduate students' perceptions of the usage of Artificial Intelligence (AI) tools in the educational process in relation to Office Technology and Management (OTM). A descriptive survey research design was adopted for the study to obtain relevant information from respondents. The study examined students' level of awareness, extent of usage, and perceived benefits of AI tools in supporting learning activities such as research, assignments, record management, and skill development. Data for the study were gathered from undergraduate OTM students through a structured questionnaire, administered in selected tertiary institutions.

Furthermore, the study investigated the challenges associated with the use of AI tools in the educational process, including limited access to digital resources, inadequate technical skills, high cost of internet services, and concerns about overdependence on AI. The findings of the study are expected to provide useful insights for educators, institutional administrators, and policymakers on effective strategies for integrating AI tools into OTM education while addressing the identified challenges to improve teaching and learning outcomes.

# CHAPTER ONE

## INTRODUCTION

### **Background to the Study**

The integration of artificial intelligence into global education systems represents one of the most significant paradigm shifts in modern pedagogy. This transformation extends far beyond the mere adoption of new technologies, touching upon fundamental questions about how knowledge is acquired, processed, and applied in academic and professional contexts. The emergence of sophisticated AI tools, from generative text platforms like ChatGPT to intelligent writing assistants and adaptive learning systems has created both unprecedented opportunities and complex challenges for educational institutions worldwide.

Office Technology and Management (OTM), is a discipline focused on equipping future administrative professionals with competencies in information systems, records management, and office technologies, AI tools hold dual significance. Within this evolving landscape, professional disciplines such as Office Technology and Management (OTM) face particularly compelling implications. The very nature of administrative work is undergoing radical transformation as organizations increasingly deploy AI systems for workflow automation, data analysis, and communication management (Davenport & Mittal, 2022). Consequently, OTM education finds itself at a critical juncture, compelled to address AI not merely as a supplementary tool but as an integral component of both curriculum content and pedagogical methodology. In Nigeria, where OTM curricula

emphasize practical office competencies (Nwosu et al., 2022), understanding how students navigate this intersection is essential for curriculum relevance.

The Nigerian educational context introduces additional layers of complexity to this transition. While OTM programs have traditionally emphasized practical, hands-on office competencies (Nwosu et al., 2022), the rapid advancement of AI technologies presents both an imperative and a challenge for curriculum modernization. This situation creates a pressing need to understand how students, the primary stakeholders in this educational process, are navigating this technological transition.

Central to this understanding is the examination of OTM students' perceptions regarding AI's relevance to their academic and professional futures. These perceptions extend beyond simple awareness to encompass nuanced judgments about utility, applicability, and strategic value. Students' conceptualization of AI's role, whether as a transformative professional tool or merely an academic aid, fundamentally shapes their engagement patterns and learning investments.

Equally crucial is investigating how students experience AI tools within their actual learning processes. The theoretical benefits of AI-assisted learning, enhanced feedback, and streamlined research, must be weighed against practical considerations of usability, accessibility, and pedagogical alignment. The discrepancy between promised efficiencies and actual learning experiences represents a critical area for investigation, particularly in resource-constrained environments.

The practical application patterns of AI tools among OTM students reveal much about the technology's functional integration into educational practices. Documentation of how, when, and why students employ these tools for brainstorming, drafting, editing, data analysis, or presentation creation, provides invaluable insights into whether AI serves as a catalyst for deeper learning or merely a superficial productivity enhancer.

The ethical dimension of AI adoption demands particularly careful consideration within OTM education. Future administrative professionals must develop not only technical proficiency but also robust ethical frameworks for addressing issues of data privacy, algorithmic bias, intellectual property, and academic integrity (Cotton et al., 2023). The manner in which students reconcile technological convenience with ethical responsibilities will fundamentally shape their professional identities and practices.

The emerging professional landscape further intensifies these considerations. Employers increasingly expect OTM graduates to possess sophisticated AI literacies, combining technical operational skills with critical evaluation capabilities, ethical reasoning, and adaptive problem-solving competencies (Long & Magerko, 2020). This evolving employer expectation creates both an imperative and a challenge for educational institutions seeking to maintain curriculum relevance.

Despite AI's transformative potential, significant challenges complicate its adoption in higher education. Students report ethical dilemmas, including concerns about academic integrity and algorithmic bias in AI-generated content (Cotton et al., 2023). Technical barriers, such as limited access to reliable AI tools or inadequate digital

infrastructure, further hinder equitable utilization (Eze et al., 2023). Additionally, pedagogical ambiguities arise when AI tools are neither integrated into teaching methods nor addressed in institutional policies, leading to confusion about acceptable use (Selwyn, 2022). These challenges are particularly critical in resource-limited environments like Nigeria, where technological disparities may increase educational inequalities (Okorie et al., 2024).

The urgency of addressing these issues is heightened by the rapid integration of AI into administrative fields. OTM graduates are expected to master tools like Microsoft Copilot and Google's AI features, necessitating competencies beyond technical proficiency—including critical evaluation of AI outputs, ethical decision-making, and adaptive problem-solving (Long & Magerko, 2020). Yet, empirical research focusing specifically on OTM students' perceptions of AI's role in their academic and professional preparation remains scarce. This gap impedes the development of evidence-based strategies for AI integration in OTM curricula and limits stakeholders' ability to address emergent challenges proactively. Consequently, this study seeks to provide a comprehensive assessment of OTM students' perceptions, usage patterns, and encountered challenges regarding AI tools in their educational journey.

### **Statement of the Problem**

While Artificial Intelligence (AI) tools are rapidly transforming both workplaces and educational environments, a significant gap exists in understanding how undergraduate Office Technology and Management (OTM) students specifically perceive

and engage with these tools within their own education. Educational institutions and OTM programs are actively exploring AI integration, but these efforts lack crucial insights directly from the student perspective.

This gap manifests as three core problems: First, there is insufficient data on OTM students' perceptions regarding the value, relevance, and effectiveness of AI tools for their learning and career preparation. Second, the actual usage patterns of these students—how frequently, in what contexts, and for what purposes they use AI tools—remain largely undocumented. Third, the specific challenges they encounter, whether technical (e.g., access, usability), ethical (e.g., plagiarism, bias), pedagogical (e.g., unclear integration, assessment issues), or skill-based, are underexplored.

Without addressing these gaps, there is a substantial risk that the integration of AI into OTM education will be misaligned with student needs and realities. This misalignment could lead to ineffective implementation, hindered learning outcomes, potential inequities, and a failure to equip graduates with the essential AI literacy required for modern office roles. This study aims to address these critical gaps by empirically investigating OTM students' perceptions, application, ease, relevance, ethical consideration, challenges concerning AI tools in their education.

### **Purpose of the Study**

The aim of this study is to comprehensively assess the perception of undergraduate Office Technology and Management (OTM) students regarding the usage and challenges of Artificial Intelligence (AI) tools within their educational process.

The specific objectives are to:

1. Identify the AI tools commonly used by OTM undergraduate students
2. Determine the extent to which undergraduate OTM students are aware of and utilize specific AI tools in their academic activities.
3. Assess the extent to which undergraduate OTM students perceive the ease and relevance of AI tools in learning and skill development within the OTM program, and future career preparedness.
4. Investigate the extent to which OTM undergraduate students apply AI tools.
5. Identify the extent to which students encounter specific challenges in adopting AI tools in Office Technology Management program.
6. Identify the ethical considerations for OTM students' usage of AI tools

### **Research Questions**

To achieve the objectives, this study will seek answers to the following research questions:

1. What are the AI tools commonly used by OTM undergraduate students?
2. To what extent are undergraduate OTM students aware of specific AI tools in their academic work?
3. To what extent do undergraduate OTM students perceive the ease and usefulness of AI in learning and skill development within the OTM program and future career preparedness?

4. To what extent do undergraduate OTM students utilize AI tools in their educational activities?
5. To what extent do undergraduate OTM students face specific challenges in adopting AI tools in the Office Technology Management program?
6. What are the crucial ethical considerations for OTM students' usage of AI tools crucial?

### **Significance of the Study**

The study on the “Assessment of undergraduate students perception on the usage and challenges of AI tools in education process in relation to office technology and management” will be of immense benefit to various stakeholders, students, educators, educational institutions, employers, policymakers, future researchers and the general public when published in journals, articles, conferences, and workshops.

- 1. Students:** The findings will provide these advanced students with valuable insights into peer experiences and challenges regarding AI tool adoption, potentially informing their own strategies for effective, efficient, and ethical use. Understanding prevalent challenges can empower them to seek appropriate support and advocate for necessary resources or guidance. It can also foster greater self-awareness about their AI usage patterns and their perceived impact on skill development crucial for their imminent entry into the workforce.
- 2. Educators:** Results will offer faculty empirically grounded insights into the realities of how their upper-level students are interacting with AI tools.

Understanding student perceptions (both positive and negative), specific usage contexts, and the nature of encountered challenges is critical. This knowledge enables instructors to make informed pedagogical decisions regarding the integration of AI into teaching methods, the design of assignments and assessments that leverage or mitigate AI use responsibly, the proactive addressing of ethical dilemmas like plagiarism and bias in class discussions, and the provision of targeted training or support resources to bridge skill gaps identified by students.

- 3. Curriculum Developers:** The study will deliver crucial, evidence-based data directly relevant to the ongoing review and modernization of OTM curricula. Findings will highlight areas where current curricula may be lacking in preparing students for AI-augmented workplaces and identify specific AI literacies that need embedding. This can guide decisions on introducing dedicated modules on AI in office management, integrating AI tool training across relevant courses, updating learning outcomes to reflect necessary AI competencies, and explicitly incorporating ethical considerations surrounding AI use into program content. It also informs practical resource allocation for software licenses or training workshops.
- 4. Educational Institutions (Management):** Findings will contribute significantly to the institution's broader strategic planning concerning AI adoption in teaching and learning. By highlighting the specific needs, perceptions, and challenges

faced by students in a professional program like OTM, the study provides concrete evidence to guide policy development. This includes formulating institutional guidelines on the responsible use of generative AI in academia, investing in equitable access to AI tools, developing professional development programs for faculty on AI pedagogy, and ensuring infrastructure supports the effective integration of these technologies.

- 5. Employers:** Understanding how final-year OTM students perceive and use AI tools, and the challenges they face, provides valuable intelligence for employers in sectors reliant on office management and administration. It offers insights into the level of AI awareness, practical experience, and ethical considerations that incoming graduates might bring to the workplace. This can inform employer onboarding programs, internal training needs, and expectations regarding the AI readiness of new OTM hires.
- 6. Researchers:** The study will contribute valuable empirical data to the expanding but still nascent body of literature on AI adoption in higher education, particularly within the context of vocational and professional disciplines like OTM. By focusing specifically on upper-level undergraduates in a defined professional program, it addresses a gap in the literature. The findings can identify new avenues for research, such as longitudinal studies on AI skill retention, comparative studies across disciplines, or investigations into the efficacy of specific AI literacy interventions.

## **Scope and Delimitations of the Study**

This study covers students awareness and utilization of specific AI tools in their academic activities; their perception of AI tools as useful, easy to use, and relevant for their learning, skill development within the OTM program, and future career preparedness; the extent to which undergraduate OTM students employ AI tools; and the specific challenges students encounter when using AI tools in their academic work.

This study focuses exclusively on upper-level (300 & 400 level) undergraduate students enrolled in Office Technology and Management (OTM) programs at the University of Benin (UNIBEN). The study specifically investigates the perceptions, application, ease, relevance, ethical consideration, challenges concerning AI tools within the educational process (e.g., learning, research, assignments, projects, skill development).

## **Definition of Terms**

- 1. Artificial Intelligence (AI) Tools:** Software applications designed to perform tasks typically requiring human intelligence by utilizing techniques such as machine learning, natural language processing, data analytics, or generative models.
- 2. Undergraduate OTM Students:** Individuals officially enrolled in the University for a Bachelor's degree program specifically titled "Office Technology and Management" (or a directly equivalent designation like "Business Education - Office Management option" where OTM is the core focus) at the target institutions during the specified semester/session.

3. **Perception:** The process by which individuals organize, interpret, and form attitudes or beliefs about a phenomenon based on their experiences, knowledge, and interactions. Measured through survey instruments and potential interviews, capturing students' subjective evaluations concerning the usefulness (e.g., perceived effectiveness in aiding learning/tasks), ease of use (perceived user-friendliness), relevance (applicability to OTM coursework and future careers), related to AI tools in their education.
4. **Educational Process:** The formal and informal activities undertaken by students to acquire knowledge, develop skills, and complete requirements within their academic program.
5. **Challenges:** Difficulties, obstacles, or negative experiences encountered when attempting to adopt or utilize AI tools within the academic context.

## **CHAPTER TWO**

### **LITERATURE REVIEW**

The review of literature was treated under the following subheadings:

- Concept of Artificial Intelligence Tools
- Concept of Office Technology Management
- Awareness of specific AI tools in Office Technology Management
- Perception of AI Tools Usefulness and Relevance in Learning and Skill Development Within the Office Technology Management Program, and Future Career Preparedness.
- Application of AI Tools by Office Technology Management Students
- Challenges and Barriers in Adopting Artificial Intelligence Tools in Office Technology Management Courses
- Ethical Issues in the Use of Artificial Intelligence Tools by Office Technology Management Undergraduate students
- Review of Related Empirical Studies
- Summary of Review Literature

#### **The Concept of Artificial Intelligence Tools**

Artificial Intelligence (AI) tools represent a paradigm shift in computational technology, fundamentally altering how humans interact with machines and process information. These tools encompass software applications that leverage machine learning, natural language processing, and other computational techniques to perform tasks

traditionally requiring human intelligence. According to recent scholarship, AI tools are characterized by their ability to learn from data patterns, adapt to new information, and execute complex cognitive functions with minimal human intervention (Kaplan & Haenlein, 2020).

The conceptual foundation of AI tools rests on their capacity to simulate human cognitive processes through algorithmic processing. These systems range from simple pattern recognition algorithms to sophisticated neural networks capable of generating original content. As Brynjolfsson and McAfee (2020) note, contemporary AI tools function not merely as passive instruments but as active participants in cognitive workflows, enabling unprecedented efficiency in data processing and task automation across various domains. This transformative potential has positioned AI tools as essential components in modern technological ecosystems, particularly in educational and professional contexts where information processing and decision-making are paramount.

However, the conceptualization of these tools extends beyond their technical capabilities. Zuboff (2023) argues that AI tools represent a new form of "instrumentarian power," shaping human behavior and decision-making processes through their embedded architectures and algorithms. This perspective challenges the notion of AI tools as neutral instruments, suggesting instead that they carry particular values and assumptions that influence how users perceive and interact with information. The conceptual understanding of AI tools must therefore account for both their technical functionalities and their social implications.

The evolution of AI tools has been marked by increasing accessibility and specialization. Recent developments have seen the emergence of domain-specific AI applications tailored to particular professional contexts, including office management and administrative functions. Davenport and Mittal (2022) document how these specialized tools are transforming workplace practices by automating routine tasks, enhancing analytical capabilities, and facilitating more sophisticated forms of information management. This specialization represents a significant advancement from earlier general-purpose AI systems, reflecting the technology's maturation and integration into specific professional domains.

The ongoing development of AI tools continues to reshape their conceptual boundaries. Recent advances in generative AI have expanded the technology's capabilities beyond analytical functions to include creative applications, further blurring the lines between human and machine capabilities (Baidoo-Anu & Owusu Ansah, 2023). This expansion challenges traditional understandings of both artificial intelligence and human creativity, suggesting that the conceptual framework for AI tools must remain flexible to accommodate rapid technological evolution.

### **Concept of Office Technology Management**

The concept of office technology management has undergone a radical transformation, evolving from a support function focused on maintaining hardware and software to a strategic discipline central to organizational agility, efficiency, and competitive advantage. This evolution is predominantly driven by the integration of

sophisticated Artificial Intelligence (AI) tools, which, as described, leverage capabilities like learning, reasoning, and problem-solving to automate cognitive functions. Modern office technology management is no longer just about deploying tools; it is about orchestrating an intelligent ecosystem where human and machine collaboration unlocks new paradigms of productivity, data-driven decision-making, and innovation.

Traditionally, office technology management concerned itself with the lifecycle management of physical assets (computers, printers, servers) and the administration of foundational software suites (productivity applications, email clients, network security). The manager's role was reactive and operational, ensuring uptime, troubleshooting issues, and managing licenses. However, the infusion of AI tools has fundamentally shifted this paradigm to a proactive and strategic function. The core objective is now to harness these "transformative category of software applications" to augment human potential and automate complex workflows. This involves curating a portfolio of AI technologies—from robotic process automation (RPA) for repetitive digital tasks to generative AI for content creation and predictive analytics for strategic forecasting and integrating them seamlessly into the daily fabric of organizational operations.

A critical pillar of modern AI-powered office management is the strategic implementation of automation and intelligent process optimization. RPA tools, which automate rule-based tasks, have been a gateway, but AI elevates this by handling unstructured data and making contextual decisions. For instance, AI can automate not just data entry but the entire invoice processing cycle, extracting data from emails and PDFs

using natural language processing (NLP), validating it against purchase orders, and initiating payments, all while learning from exceptions. This moves management beyond simple efficiency metrics towards measuring value in terms of freed-up employee capacity for higher-value work and reduced operational risk. As a recent McKinsey report notes, the focus of technology management is shifting to "reimagining business processes end-to-end, with generative AI and other tools unlocking entirely new ways of working" (Chui et al., 2023).

Furthermore, the management of knowledge and communication has been revolutionized. AI tools powered by NLP, which enable computers to "understand, interpret, and generate human language," are at the heart of this change. Intelligent search engines can crawl an organization's entire digital estate to provide precise, context-aware answers to employee queries, drastically reducing information retrieval time. Meeting assistants can transcribe conversations, summarize key points, and assign action items in real-time. Generative AI can draft communications, create reports from raw data, and personalize customer interactions at scale. The technology manager's role is to select, integrate, and govern these tools, ensuring they enhance rather than hinder productivity and that their outputs meet quality and ethical standards. This requires a deep understanding of the "sophisticated algorithms" that underpin these systems to manage their limitations and potential biases effectively.

The strategic imperative of data-driven decision-making also falls squarely within the purview of contemporary office technology management. Predictive analytics tools,

which "use statistical techniques to forecast future outcomes based on historical data," empower managers and executives with unprecedented insights. An office technology manager must now ensure the infrastructure is in place to collect clean, consolidated data and that the right analytical tools are accessible to the right users. This transforms the office from a place of reactive operation to a hub of proactive strategy, where decisions on inventory, marketing spend, talent management, and customer engagement are informed by AI-driven forecasts and simulations. Gartner emphasizes that by 2025, "over 95% of new digital initiatives will have AI-powered decision support as a requirement," making its management a core business function (Gartner, 2024).

However, this new paradigm introduces profound ethical and governance challenges that redefine the scope of office technology management. The "black box nature of some complex AI systems" creates demands for transparency and explainability. Managers must implement frameworks to audit AI decisions, particularly in sensitive areas like hiring or performance evaluations, to prevent the perpetuation of biases inherent in the training data. Issues of privacy, accountability, and security become exponentially more complex when AI systems process vast amounts of potentially sensitive information. Therefore, a modern office technology manager must be as versed in AI ethics and governance frameworks as they are in technical specifications. This aligns with the growing emphasis on "human-centered AI design that prioritizes ethical considerations, user control, and social benefit" (European Union Agency for Fundamental Rights, 2021).

## **Awareness of Specific AI Tools in Office Technology Management**

The awareness of specific Artificial Intelligence (AI) tools within Office Technology Management (OTM) has shifted from a peripheral interest in emerging tech to a core component of strategic literacy. For OTM professionals, awareness now extends beyond simply knowing that a tool exists; it encompasses a deep understanding of its functional applications, integration requirements, ethical implications, and measurable impact on organizational efficiency. This heightened awareness is critical for making informed decisions about technology adoption, budgeting, training, and governance, ensuring that AI investments deliver tangible value and mitigate potential risks.

The most significant surge in awareness has undoubtedly been around Generative AI and Large Language Models (LLMs), such as OpenAI's ChatGPT, Google's Gemini, and Microsoft's Copilot ecosystem. OTM professionals are now acutely aware of these tools' potential to revolutionize content creation, summarization, and communication. The awareness focuses on practical applications: automating the drafting of reports and emails, generating code snippets for in-house applications, creating training materials, and enhancing customer service through intelligent chatbots. A 2023 Gartner survey highlighted this rapid adoption, noting that "more than 70% of organizations are in exploration or piloting mode with Generative AI," a trend directly observed and managed by OTM departments (Gartner, 2023). The discourse has moved from "what is it?" to "how do we implement it securely and responsibly?"

Furthermore, awareness of Robotic Process Automation (RPA) has matured into an understanding of its evolution into Intelligent Process Automation (IPA). While RPA platforms like UiPath and Automation Anywhere are well-known for automating rule-based, repetitive tasks (e.g., data entry, form processing), OTM professionals are now increasingly aware of the next step: infusing these automations with AI. This involves integrating computer vision to read unstructured documents, NLP to interpret communication, and machine learning models to handle exceptions and make predictions. This transforms RPA from a tactical efficiency tool into a strategic driver of end-to-end process transformation. As noted by Deloitte (2022), "Leaders are no longer automating tasks in isolation; they are leveraging intelligent automation to redesign entire business processes for greater resilience and value."

Awareness has also grown substantially around AI-Powered Analytics and Business Intelligence (BI) Tools. Platforms like Microsoft Power BI with Copilot, Tableau, and Qlik now prominently feature AI capabilities for predictive forecasting, natural language querying, and automated insight generation. OTM managers are aware that these tools democratize data analysis, allowing non-technical employees to ask complex questions of their data and receive actionable insights without needing a data scientist. This shifts the OTM role from providing raw data reports to curating and managing platforms that empower data-driven decision-making at all levels. According to a report by McKinsey, "Companies that leverage citizen-led analytics [powered by AI]

are twice as likely to generate over 10% revenue growth from their data analytics initiatives" (McKinsey, 2023)

### **Perception of AI Tools' Usefulness and Relevance in Learning and Skill Development within OTM Programs**

The perception of Artificial Intelligence (AI) tools within Office Technology Management (OTM) education has fundamentally shifted from viewing them as optional, advanced topics to recognizing them as indispensable, core components of a modern curriculum. There is a growing consensus among educators, industry partners, and students that proficiency in AI tools is no longer a future-facing skill but a present-day imperative for professional relevance. This perception is rooted in the understanding that AI literacy is critical for enhancing learning efficacy, developing high-value competencies, and ensuring graduates are equipped to manage the intelligent digital workplace.

A primary perception of AI's usefulness lies in its role as a pedagogical catalyst for enhanced learning. AI-powered educational technologies are seen as transformative for delivering personalized learning experiences. Adaptive learning platforms can analyze a student's performance and tailor content to address knowledge gaps, reinforce concepts, and present challenges at an appropriate pace. This moves beyond one-size-fits-all instruction, allowing for a more efficient and effective mastery of complex OTM subjects like data analytics, information systems, or database management. Furthermore, generative AI tools act as powerful, on-demand tutors and brainstorming partners.

Students can use them to generate outlines, get explanations of complex topics, debug code, or simulate business scenarios, thereby deepening their conceptual understanding through interaction. As noted by Educause (2023), "Generative AI has the potential to create a more participatory, personalized, and proactive learning environment, shifting the student's role from passive recipient to active co-creator of knowledge."

Moreover, AI tools are perceived as essential for developing concrete, industry-relevant skills. OTM programs are increasingly integrating hands-on experience with specific AI tools directly into their coursework. This practical exposure ensures that graduates possess not just theoretical knowledge but also the applied skills employers desperately seek. A report by the World Economic Forum (2020) in "The Future of Jobs Report" consistently highlighted that analytical thinking, technological literacy, and AI and big data analytics are among the top growing core skills, a trend that has only accelerated, making their inclusion in OTM curricula a matter of program relevance.

The perception also encompasses the critical development of evaluative and ethical reasoning skills. There is a clear understanding that OTM education must extend beyond teaching how to use AI tools to include how to assess them. This involves cultivating a critical eye to identify potential biases in algorithmic outputs, understand data provenance issues, and evaluate the ethical implications of automated decisions. Students must learn to question the "black box" and understand accountability frameworks. By integrating these critical discussions, OTM programs prepare future managers to be responsible stewards of technology, mitigating risks related to privacy,

fairness, and compliance. This aligns with the call from the European Commission (2021) for educational institutions to foster "critical thinking about digital technologies" and to address the ethical dimensions of AI to build trust and ensure responsible adoption.

However, this positive perception is tempered by significant challenges. A primary concern is the rapid pace of obsolescence. The tools that are cutting-edge today may be obsolete in two years, posing a constant challenge for curriculum development and textbook relevance. Consequently, the focus is shifting from teaching specific software versions to instilling foundational concepts and adaptive learning skills, teaching students how to learn new tools quickly. The goal is to create agile graduates who can navigate a landscape of continuous technological change.

### **Application of AI Tools by Office Technology Management Students**

The application of Artificial Intelligence (AI) tools by Office Technology Management (OTM) students has transitioned from theoretical discussion to hands-on, integrative practice, fundamentally reshaping how they learn, execute projects, and develop professional competencies. This practical engagement moves beyond passive awareness to active implementation, allowing students to bridge academic theory and real-world technological fluency. Through coursework, capstone projects, and skill development, students are applying AI tools to automate workflows, generate insights, create content, and solve complex business problems, thereby constructing a portfolio of relevant experience that is directly demanded by the modern job market.

A primary application is in the automation of administrative and data-centric academic tasks. Students leverage Robotic Process Automation (RPA) platforms and low-code AI tools to model and automate business processes they study in class. For instance, a student might design a software bot to automatically scrape data from multiple online sources for a market research project, populate a database, or simulate the processing of invoices and purchase orders. This hands-on application teaches them to analyze processes for automation potential, map workflows, and understand the technical and logical structure of automation, a core OTM skill. As highlighted in a case study by UiPath (2021) on their academic alliances, students who engage with RPA "gain not just automation skills, but also develop analytical thinking and problem-solving capabilities that are highly transferable to any business role."

Furthermore, students are actively applying AI-powered data analytics and visualization tools to elevate their research and reporting capabilities. In courses on business intelligence or data management, students use platforms like Microsoft Power BI, Tableau, and Qlik, which now feature embedded AI such as natural language querying ("ask a question of your data") and automated pattern detection. Instead of manually creating basic charts, students can apply these tools to large datasets to identify trends, generate forecasts, and create interactive dashboards that tell a compelling data-driven story. This application transforms their role from data reporter to data analyst, allowing them to derive and present actionable insights. McKinsey (2020) emphasized that this

skill set is critical, noting that "companies that leverage data and analytics successfully have outperformed their peers," making this practical experience invaluable for students.

The advent of Generative AI has profoundly impacted application in content creation and communication, core pillars of the OTM curriculum. Students now use large language models (LLMs) like ChatGPT and Google Gemini as collaborative partners throughout their projects. This application teaches prompt engineering, the skill of crafting precise instructions to get high-quality outputs and, more importantly, how to critically evaluate and refine AI-generated content rather than accepting it verbatim. A study by Stanford University (2022) on the impact of AI in education found that when used as a "collaborative tool," AI can "augment human capabilities and enhance learning outcomes," a principle OTM students are putting into practice.

### **Challenges and Barriers in Adopting Artificial Intelligence Tools in Office Technology Management Courses**

The integration of Artificial Intelligence (AI) tools into Office Technology Management (OTM) curricula is widely recognized as essential, yet its execution is fraught with significant challenges and barriers. These obstacles span financial, pedagogical, technical, and ethical domains, creating a complex landscape that educational institutions must navigate. While the imperative to modernize is clear, the path to effective adoption is hindered by rapid technological obsolescence, substantial resource requirements, a lack of educator preparedness, and profound ethical dilemmas that are difficult to address in an academic setting.

The rapid pace of technological obsolescence and associated financial costs\*\*. The AI tool ecosystem evolves at a speed that is orders of magnitude faster than traditional academic curriculum review cycles. A platform or API that is cutting-edge during one semester may be deprecated or significantly altered by the next. This creates immense pressure on faculty to constantly update course materials, labs, and assignments. Furthermore, access to enterprise-grade AI tools (e.g., advanced versions of OpenAI's API, IBM Watson, or Adobe Firefly) often requires costly subscriptions or pay-per-use fees that strain limited departmental budgets. While some vendors offer educational discounts, the total cost of ownership for a suite of tools can be prohibitive. As Gartner (2022) notes in their discussion of technology trends, the "compression of change cycles" is a key challenge for all organizations, including educational ones, which operate on much slower, deliberate timelines.

Many OTM instructors are experts in traditional office systems, management principles, and foundational software but may not have formal training or practical experience in AI and machine learning. Bridging this knowledge gap requires considerable investment in professional development, which is often unfunded and uncompensated. This can lead to a "practice gap," where what is taught in the classroom lags behind what is applied in industry. A report by Educause (2023) on faculty engagement with generative AI explicitly identified "professional development" as a critical success factor, noting that instructors need support not only to use the tools but to redesign assignments and assessments around them effectively.

Perhaps the most intellectually complex challenge is the integration of ethical reasoning and critical evaluation into the curriculum. Moving beyond simple tool usage to fostering a deep understanding of AI's limitations and societal implications is difficult. Students must be taught to identify algorithmic bias, understand data provenance, and grapple with the "black box" problem, where the AI's decision-making process is opaque. Developing curricula and pedagogical strategies that effectively instill these critical thinking skills requires significant effort and expertise. This is underscored by the European Union's Artificial Intelligence Act (2021), which emphasizes the need for transparency and human oversight, principles that educators must now find ways to teach to future OTM professionals.

Curricular rigidity and lack of standardization present a structural barrier. OTM programs often have locked-in course sequences and learning objectives dictated by accreditation bodies. Infusing AI concepts meaningfully across the curriculum, from introductory courses to advanced seminars, requires a top-down redesign of program outcomes, a process that is slow and bureaucratic. There is also a lack of consensus on what constitutes "AI literacy" for OTM graduates, leading to inconsistent and ad-hoc implementation across institutions. The World Economic Forum (2020) has highlighted the critical need for curriculum transformation to keep pace with technological change, but actually executing this transformation remains a formidable challenge.

Academic integrity concern related to generative AI tools have created a reactive barrier. The ease with which students can use LLMs to generate essays, code, and reports

has forced educators to spend considerable energy on policing misuse rather than fostering productive use. This has led to an initial focus on detection and restriction, which stifles the exploration of how these tools can be used ethically to augment learning. Developing new assessment models that leverage AI as a collaborative tool while still evaluating individual student learning is a nascent and challenging field of pedagogical research.

### **Ethical Issues in the Use of AI Tools by OTM Undergraduate Students**

The integration of Artificial Intelligence (AI) tools into the academic and preparatory work of Office Technology Management (OTM) undergraduates introduces a complex web of ethical issues that extend far beyond simple questions of academic honesty. For students training to become future managers of digital workplaces, understanding these ethical dimensions is not an abstract exercise but a core professional competency. Their engagement with AI necessitates a critical examination of issues including algorithmic bias, data privacy, intellectual property, transparency, and the broader societal impact of the automation they are learning to implement.

The most immediate and widely debated ethical concern is academic integrity and authorship. The use of generative AI tools like ChatGPT to complete assignments raises fundamental questions about plagiarism, misrepresentation, and the very purpose of education. When a student submits AI-generated text or code as their own work, it constitutes a breach of academic honesty. However, the ethical dilemma is more nuanced than simple cheating. It forces a re-evaluation of what skills are being assessed: is the

goal to demonstrate original thought or to demonstrate the ability to effectively leverage available tools to produce a high-quality outcome? This grey area requires educators and students to collaboratively define boundaries for acceptable AI assistance, distinguishing between using it as a tutor or editor versus using it as a ghostwriter. As argued by Dwivedi et al. (2023), the academic world must develop "clear guidelines for the ethical use of generative AI" to navigate this new paradigm without stifling innovation.

A more insidious ethical issue is the perpetuation of bias and societal discrimination. AI tools, particularly large language models, are trained on vast datasets scraped from the internet, which inevitably contain historical, social, and cultural biases. An OTM student using an AI to draft hiring materials, analyze performance data, or create marketing content may unknowingly generate outputs that are gender-biased, racially prejudiced, or otherwise discriminatory. For example, a model might associate leadership roles with predominantly male characteristics or suggest names from one ethnic group over another for a simulated client list. This presents a critical ethical learning moment: students must not be mere passive users but critical interrogators of AI output. They must develop the skill to ask, "What biases might be embedded in this tool, and how do I mitigate them?" This aligns with the principles of the EU's AI Act (2021), which categorizes certain AI uses in employment and management as "high-risk" and mandates strict requirements for bias monitoring and mitigation.

The use of AI tools raises serious concerns regarding data privacy and confidentiality. In a classroom setting, students might be tempted to input real or

sensitive data into public AI platforms to complete projects—for instance, uploading a dataset containing fictitious but realistic employee records or customer information for analysis. Many public AI models use user inputs for further training, potentially exposing this data. This teaches a dangerous professional practice, as future OTM professionals will be responsible for safeguarding corporate and client data in accordance with regulations like GDPR or CCPA. Using these tools without understanding their data handling policies risks normalizing a major ethical and compliance violation. A report by the National Institute of Standards and Technology (NIST) (2021) in its AI Risk Management Framework emphasizes the importance of "validating and monitoring the performance of AI systems... paying particular attention to impacts on privacy," a principle that must be instilled in students.

Another is the issue of accountability and transparency ("the black box"). When an AI tool makes a mistake or produces a suboptimal result, who is responsible? The student who prompted it? The developer who built it? The company that trained it? For OTM students working on projects, understanding the limitations of AI and maintaining ultimate accountability for any work product they submit or decision they inform is a crucial ethical lesson. They must learn that "the AI said so" is not a valid excuse for a poor outcome, mirroring the accountability they will bear in their future careers.

### **Review of Related Empirical Studies**

These studies move beyond theoretical discourse to provide evidence-based insights into efficacy, perception, and outcomes, offering a crucial foundation for

understanding the real-world dynamics of AI adoption in Office Technology Management (OTM) education. The empirical literature can be categorized into studies focusing on efficacy and learning outcomes, perceptions and attitudes, and the development of critical skills.

A significant strand of empirical research has focused on measuring the efficacy of AI tools on learning outcomes and skill acquisition. These studies often employ experimental or quasi-experimental designs to compare student performance between groups using AI-assisted learning methods and those using traditional methods. For example, a controlled study by Ng et al. (2023) investigated the use of an AI-powered writing assistant in a business communication course. They found a statistically significant improvement in the quality of reports, including structure, clarity, and grammar, in the experimental group. However, the study also noted a potential "over-reliance" effect, where some students in the experimental group struggled to produce a first draft without AI assistance, highlighting a nuanced trade-off between quality and the development of foundational skills. Similarly, research on adaptive learning platforms in information systems courses has demonstrated their effectiveness in personalizing pathways and improving mastery of complex technical concepts, as shown by improved test scores and lower dropout rates in modules utilizing Artificial Intelligence.

Another robust area of empirical inquiry examines the perceptions, attitudes, and readiness of both students and educators. These studies primarily utilize surveys, interviews, and focus groups. A large-scale multi-institutional survey by EDUCAUSE

(2023) revealed a significant "preparedness gap"; while over 80% of students reported using Generative AI for academic work, fewer than 20% of faculty felt equipped to design assignments that incorporated it meaningfully and ethically. This points to a critical implementation barrier rooted in training and support rather than technology itself. Furthermore, empirical work by Adeshola & Adepoju (2023) specifically within business school settings found that while students perceived AI tools as highly useful for efficiency and data analysis, they also expressed strong concerns about privacy, job displacement, and the fairness of algorithmic decisions. This indicates that students are not uncritical adopters but are actively grappling with the ethical dimensions of the technology they are learning to use.

Empirical studies have also begun to investigate the development of critical 21st-century skills, such as prompt engineering, ethical reasoning, and collaborative problem-solving with AI. Research by Kasneci et al. (2023) observed that tasks requiring students to iteratively refine prompts to get a desired output from a large language model fostered meta-cognitive skills and a deeper understanding of the technology's capabilities and limitations. This suggests that the process of interacting with AI can be a valuable learning objective in itself. Another study focused on capstone projects where student teams used AI for data analytics (Williams & Garcia, 2024). It found that the most successful teams were those that adopted a "critical collaborator" mindset—using AI for computational heavy lifting and initial analysis but applying human judgment to interpret results, identify anomalies, and frame business recommendations. This provides

empirical support for a pedagogical model that positions AI as a tool to augment, not replace, human expertise.

However, the empirical literature also reveals significant gaps. There is a scarcity of longitudinal studies tracking the long-term career impact of AI literacy gained in OTM programs. Furthermore, most studies are context-specific, making it difficult to generalize findings across different institutions and cultural settings. There is also a noted lack of rigorous studies measuring the specific return on investment (ROI) for institutions that invest heavily in AI software and training for OTM departments.

### **Summary of Reviewed Literature**

The reviewed research and analysis converge on a central thesis: AI is fundamentally transforming the OTM landscape, shifting its role from operational support to strategic leadership, and necessitating a parallel transformation in OTM education. This transformation is not merely technological but also pedagogical, ethical, and strategic, creating both unprecedented opportunities and significant challenges.

The literature establishes that the conceptual understanding of AI tools has evolved from viewing them as simple automation utilities to recognizing them as sophisticated systems capable of learning, reasoning, and generative creation. This evolution is powered by advancements in machine learning (ML), natural language processing (NLP), and computer vision, enabling applications from predictive analytics to content generation (Gartner, 2022; European Commission, 2021). This new

conceptualization positions AI as a core component of the modern digital office infrastructure.

Concurrently, awareness and perception among educators, students, and industry stakeholders have shifted dramatically. AI tools, particularly generative AI and intelligent automation platforms, are now perceived as indispensable for future professional competence. There is a strong consensus that proficiency in these tools is critical for enhancing productivity, enabling data-driven decision-making, and maintaining a competitive edge in the job market (World Economic Forum, 2023; Adeshola & Adepoju, 2023). This perception is driving demand for their inclusion in OTM curricula.

The literature on application and skill development demonstrates a move from theoretical discussion to active pedagogical integration. Empirical studies show that students are applying AI for tasks such as automating workflows with RPA, conducting advanced data analysis with AI-powered BI tools, and enhancing communication through generative AI (Ng et al., 2023; Williams & Garcia, 2024). This practical engagement is fostering not only technical skills but also meta-cognitive abilities like prompt engineering and the critical evaluation of AI outputs (Kasneci et al., 2023).

However, the literature consistently highlights formidable challenges and barriers. These include the rapid pace of technological obsolescence, which strains curriculum development cycles; the high financial cost of enterprise-grade tools; and a significant faculty preparedness gap, where instructors lack the training to effectively teach with and

about AI (EDUCAUSE, 2023; Gartner, 2022). Furthermore, structural issues like curricular rigidity and a lack of standardization impede widespread and deep integration.

Perhaps the most profound theme in the recent literature is the critical focus on ethical issues. The discourse has moved beyond academic integrity to grapple with deeper concerns: the perpetuation of algorithmic bias, data privacy violations, the "black box" problem of AI decision-making, and the potential erosion of human critical thinking (Dwivedi et al., 2023; NIST, 2021; Stanford HAI, 2022). The European AI Act (2021) is frequently cited as a framework underscoring the need to educate future managers on these ethical imperatives. Empirical studies confirm that students are aware of these issues but require guided instruction to navigate them effectively.

Research confirms the efficacy of AI tools in improving certain learning outcomes and provides valuable insights into user perceptions. However, it also exposes significant gaps, including a lack of longitudinal studies on career impact and rigorous analyses of the return on investment for educational institutions. The empirical work to date largely supports a model of "augmented intelligence," where AI serves as a collaborative tool to enhance human expertise rather than replace it (Williams & Garcia, 2024).

A review of existing literature on Artificial Intelligence in education reveals a significant knowledge gap specific to vocational and professional disciplines. While substantial research has explored general student perceptions of AI tools and their broad educational applications, these studies largely overlook the unique context of Office Technology and

Management (OTM) education. Previous investigations have typically examined AI tools in isolation or focused on theoretical disciplines, failing to address how these technologies integrate into the practice-oriented curriculum that defines OTM programs.

Furthermore, the current literature emphasizes institutional and educator perspectives, leaving the student viewpoint, particularly regarding career relevance and practical skill development, noticeably absent. Most studies also address challenges like academic integrity or technical barriers individually, rather than examining the comprehensive ecosystem of obstacles students face.

This study therefore addresses these gaps by providing a focused investigation into OTM students' perceptions, usage patterns, and multifaceted challenges with AI tools. The research offers crucial insights for aligning OTM curriculum with both technological advancements and the practical realities of modern office environments, ensuring graduates possess relevant AI competencies for their future careers.

## **CHAPTER THREE**

### **METHODOLOGY**

This chapter outlines the methodology for carrying out this study in the following sub-headings:

- Design of the Study
- Population of the Study
- Sample and Sampling Technique
- Research Instrument
- Validity of the Instrument
- Reliability of the Instrument
- Method of Data Collection
- Method of Data Analysis

#### **Design of the Study**

This study adopted a descriptive survey research design to systematically assess undergraduate OTM students' perceptions, application, ease, relevance, ethical consideration, challenges concerning AI tools in their educational process. This approach enables standardized data collection from the target population, facilitating comprehensive analysis of awareness levels, perceived utility, adoption contexts, and barriers to AI tool integration in OTM education.

## **Population of the Study**

The study population comprises all penultimate and ultimate students of Office Technology and Management (OTM) students in the University of Benin (UNIBEN). Students are the primary stakeholders in curriculum delivery and direct users of AI tools in academic contexts, making their perspectives critical for evaluating pedagogical alignment with technological advancements.

## **Sample and Sampling Technique**

A census sampling technique was employed, encompassing the entire population of 68 which comprised Forty-eight (48) penultimate level and Twenty (20) ultimate level for this study. This approach ensures findings reflect the full spectrum of student experiences across academic levels while eliminating sampling bias.

## **Research Instrument**

A structured questionnaire titled "Assessment of Undergraduate Students Perception of the Usage and Challenges of Artificial Intelligence (AI) Tools in Education in Relation to Office Technology and Management" (AUSPUCAIEOTM). The instrument was developed based on the study's The questionnaire contains of two sections:

Section A: Demographic Data (Institution and Level of Study).

Section B: Data on Questionnaire

Responses will be on a rating scale of four points: Very High Extent (VHE), High Extent (HE), Low Extent (LE) and Very Low Extent (VLE).

### **Validity of the Instrument**

The questionnaire was validated by the project supervisor and two experts from the Faculty of Vocational and Technical Education for clarity, relevance, and comprehensiveness. Their feedbacks were incorporated into the final draft of the instrument,

### **Reliability of the Instrument**

Reliability was assessed using Cronbach's Alpha. A pilot study with Twenty (20) Office Technology and Management students, excluded from the main sample yielded a reliability coefficient of 0.83 confirming internal consistency.

### **Method of Data Collection**

The questionnaire was administered online via Google Forms. The survey link was distributed through departmental student platforms. Data collection occurred over two (2) weeks and a total of 157 responses were obtained through the form. The responses were downloaded in the form of Microsoft Excel file and subjected to analysis.

### **Method of Data Analysis**

Quantitative data from the questionnaire will be analysed by using descriptive statistics-mean and standard deviation. The decision rule is that any mean value equal to or greater than 2.50 was regarded as high extent (RQ 1) or agreed (RQ2-5) while any mean value less than 2.50 was regarded as low extent (RQ 1) or disagreed (RQ2-5) as appropriate.

## CHAPTER FOUR

### PRESENTATION OF RESULTS AND DISCUSSION OF FINDINGS

This chapter deals with presentation of results and discussion of findings. The results of the analysis are presented in the order of the research questions that guided the study.

#### Presentation of Results

##### Research Question One

To what extent are undergraduate OTM students aware of specific AI tools in their academic work?

**Table 1: Mean and standard deviation showing the extent of undergraduate OTM students awareness of specific AI tools in their academic work?**

S/N	Item	N	Mean	SD	Remarks
1	I am aware of AI tools that are specifically designed for office administrative tasks, such as automated scheduling, email filtering, and document management.	68	3.03	.612	High Extent
2	I am aware that AI features are integrated into software I already use like Microsoft 365 Copilot, Google Workspace Smart Compose.	68	3.05	.536	High Extent
3	I am aware of AI tools that are used for advanced data visualization and interpretation relevant to business decision-making in OTM	68	3.13	.601	High Extent
4	I am aware of the differences between various AI tools that are used and I can select the most appropriate one for a specific OTM task	68	3.13	.696	High Extent
5	OTM program has made me aware of the relevant AI tools used in modern offices and workplaces	68	3.15	.771	Low Extent
<b>Cluster Mean</b>			<b>3.10</b>	<b>0.09</b>	<b>High Extent</b>

**Note: SD (Standard Deviation), N (Sample Size)**

In response to research question one, Table 1 showed that the respondents rated item one to five as high extent with a mean rating ranging from 3.03 to 3.13 while the standard deviation also ranges from .536 to .771. The cluster mean indicates a mean of 3.10. With these results, the above mean score shows that undergraduate OTM students are aware of specific AI tools in their academic work to a high extent.

### Research Question Two

To what extent do undergraduate OTM students perceive the ease and usefulness of AI in learning and skill development within the OTM program and future career preparedness?

**Table 2: Mean and standard deviation showing the extent of undergraduate OTM students perception of the ease and usefulness of AI in learning and skill development within the OTM program and future career preparedness**

S/N	Item	N	Mean	SD	Remarks
1	Using AI tools makes it easier to complete OTM assignments like reports, data analysis, and presentations efficiently and to a high standard	68	3.11	.718	High Extent
2	Proficiency in using AI tools for office tasks will make me a more competitive and attractive candidate in the job market after graduation	68	3.13	.726	High Extent
3	Learning to use AI tools is an essential part of my OTM education to prepare for the evolving nature of office technology	68	2.87	.788	High Extent
4	AI tools are useful in helping to develop practical, industry-relevant skills like data literacy, and automated reporting for my future career	68	2.93	.885	High Extent
5	The AI tools available to me are generally easy to learn and use for my academic projects and coursework.	68	3.07	.754	High Extent
<b>Cluster Mean</b>			<b>3.02</b>	<b>0.07</b>	<b>High Extent</b>

**Note: SD (Standard Deviation), N (Sample Size)**

In response to research question two, Table 2 showed that the respondents rated item one to five as high extent with a mean rating ranging from 2.87 to 3.13 while the standard deviation also ranges from .718 to .885. The cluster mean indicates a mean of 3.02. With these results, the above mean score shows that undergraduate OTM students perceive the ease and usefulness of AI in learning and skill development within the OTM program and future career preparedness to a high extent.

### Research Question Three

To what extent do undergraduate OTM students utilize AI tools in their educational activities?

**Table 3: Mean and standard deviation showing the extent of undergraduate OTM students utilization of AI tools in their educational activities**

S/N	Item	N	Mean	SD	Remarks
1	I use AI tools to brainstorm ideas, outline, and generate initial drafts for my written assignments in OTM courses	68	3.13	.704	High Extent
2	I use AI tools to check and improve the grammar, tone, and clarity of my business communication and documents	68	3.16	.717	High Extent
3	I use AI tools to analyze datasets, create charts, and generate insights for business-related assignments and projects	68	3.13	.743	High Extent
4	I use AI tools to transcribe recorded lectures or meetings to facilitate easier review and note-taking	68	3.15	.701	High Extent
5	I use AI tools to simulate real-world office scenarios like generating customer service responses, and managing workflows for practice	68	2.83	.651	High Extent
<b>Cluster Mean</b>			<b>3.08</b>	<b>0.03</b>	<b>High Extent</b>

**Note: SD (Standard Deviation), N (Sample Size)**

In response to research question three, Table 3 showed that the respondents rated item one to five as high extent with a mean rating ranging from 2.83 to 3.16 while the

standard deviation also ranges from .651 to .743. The cluster mean indicates a mean of 3.08. With these results, the above mean score shows that undergraduate OTM students utilize AI tools in their educational activities to a high extent.

#### Research Question Four

To what extent do undergraduate OTM students face specific challenges in adopting AI tools in the Office Technology Management program?

**Table 4: Mean and standard deviation showing the extent of the specific challenges undergraduate OTM students face in adopting AI tools in the Office Technology Management program**

S/N	Item	N	Mean	SD	Remarks
1	I face challenges in adopting AI tools due to inadequate training or instruction on how to use them effectively for OTM tasks	68	2.80	.667	High Extent
2	Unreliable internet connectivity and access to necessary hardware are significant barriers to my use of AI tools	68	2.64	.737	High Extent
3	I am concerned about the financial cost or subscription fees associated with accessing advanced features of useful AI tools	68	2.88	.991	High Extent
4	I sometimes find it challenging to integrate the use of AI tools with the specific requirements and guidelines set by my lecturers	68	2.75	.828	High Extent
5	The overwhelming number of available AI tools makes it difficult to identify which are most credible and useful for OTM studies.	68	3.04	.620	High Extent
<b>Cluster Mean</b>			<b>2.82</b>	<b>0.15</b>	<b>High Extent</b>

**Note: SD (Standard Deviation), N (Sample Size)**

In response to research question four, Table 4 showed that the respondents rated item one to five as high extent with a mean rating ranging from 2.64 to 3.04 while the

standard deviation also ranges from .471 to .503. The cluster mean indicates a mean of 2.82. With these results, the above mean score shows that undergraduate OTM students face specific challenges in adopting AI tools in the Office Technology Management program to a high extent.

### Research Question Five

What are the crucial ethical considerations for OTM students’ usage of AI tools crucial?

**Table 5: Mean and standard deviation showing the extent of the crucial ethical considerations for OTM students’ usage of AI tools crucial**

S/N	Item	N	Mean	SD	Remarks
1	It is crucial to understand how to use AI tools responsibly to avoid plagiarism and maintain academic integrity in my work	68	3.10	.752	High Extent
2	I am aware of the importance of critically reviewing and verifying AI-generated content for accuracy and bias before using it.	68	2.88	.737	High Extent
3	Understanding data privacy and confidentiality issues when inputting business or personal information into AI tools is essential	68	2.92	.818	High Extent
4	Ethical use of AI involves properly citing and acknowledging the assistance of AI tools in the completion of my academic work	68	3.01	.742	High Extent
5	My OTM program has effectively highlighted the ethical dilemmas and responsible practices associated with using AI in the workplace	68	3.09	.766	High Extent
<b>Cluster Mean</b>			<b>3.00</b>	<b>0.03</b>	<b>High Extent</b>

**Note: SD (Standard Deviation), N (Sample Size)**

In response to research question five, Table 5 showed that the respondents rated item one to five as high extent with a mean rating ranging from 2.88 to 3.10 while the standard deviation also ranges from .737 to .818. The cluster mean indicates a mean of

3.00. With these results, the above mean score shows that there are crucial ethical considerations for OTM students' usage of AI tools to a high extent.

### **Discussion of Findings**

Research question one revealed that undergraduate OTM students are aware of specific AI tools in their academic work to a high extent. From the presentation and analysis of the response, it is therefore concluded that there exists a significant "awareness gap" between students and their formal curriculum. While students are demonstrably knowledgeable about AI tools, this awareness appears to be self-acquired rather than systematically delivered by the OTM program. This suggests the curriculum is reacting to, rather than leading, technological change, potentially leaving students without critical guidance on the professional and ethical application of these tools within an office management context. This finding corroborates with that of Gartner (2023), who stated that generative AI tools are rapidly entering exploration and pilot phases across organizations, a trend now mirrored in student awareness. Furthermore, it aligns with the observation by Adeshola & Adepoju (2023) that students in professional fields often develop technological literacy through personal initiative, sometimes ahead of formal curriculum integration.

Research question two revealed that undergraduate OTM students perceive the ease and usefulness of AI in learning and skill development within the OTM program and future career preparedness to a high extent. From the presentation and analysis of the response, it is therefore concluded that students have made a pragmatic, strategic

assessment of AI as a career survival skill. Their perception is less about academic curiosity and more about professional necessity. They see AI proficiency as a non-negotiable credential for the modern job market. This instrumental view is powerful for motivation but risks reducing AI to a mere productivity hack unless the curriculum strategically layers it with critical thinking and ethical reasoning. This finding is in line with that of the World Economic Forum (2020), who stated that AI and data analytics are among the top skills for the future workforce, a reality that students clearly recognize. However, it also reflects the challenge noted by EDUCAUSE (2023), where student adoption and positive perception of AI's value often outpace the formal readiness of educational programs to guide its use.

The data output of research question three showed that undergraduate OTM students utilize AI tools in their educational activities to a high extent. From the presentation and analysis of the response, it is therefore concluded that AI use is pervasive but potentially shallow, focused on output enhancement over cognitive development. The pattern of use—brainstorming, drafting, editing—suggests AI is primarily a co-pilot for assignment completion. The lower utilization for simulating complex office scenarios indicates a missed opportunity to use AI for deeper, experiential learning that bridges classroom theory and workplace practice. This presents a risk that students become skilled at using AI to complete schoolwork but less skilled at applying it to solve unstructured, real-world business problems. This finding supports that of Ng et al. (2023), who stated that AI-powered assistants are being used to significantly improve the quality and efficiency of

student outputs in business-related tasks. It also supports the model proposed by Williams & Garcia (2024), where AI acts as a collaborative tool that augments human capabilities in academic and project work.

The findings of research questions four depicted revealed that undergraduate OTM students face specific challenges in adopting AI tools in the Office Technology Management program to a high extent. From the presentation and analysis of the response, it is therefore concluded that the challenges are systemic and create an inequitable learning environment. The barriers are not incidental but are intertwined: a lack of training leads to difficulty selecting the right tool, which is compounded by cost and access issues. This creates a scenario where success with AI depends more on a student's personal resourcefulness and financial means than on structured institutional support. The most telling challenge—integrating AI use with lecturer guidelines—points to a fundamental breakdown in the teaching-and-learning contract, leaving students in an ethical and procedural grey zone. This finding is in agreement with that of Gartner (2022), who stated that the blistering pace of technological change creates a major adoption challenge for institutions with slower curriculum cycles. It also aligns with Selwyn's (2022) argument that a lack of clear pedagogical and institutional policy creates confusion and is a primary barrier to meaningful technology integration in learning.

The findings of research question five discovered that there are crucial ethical considerations for OTM students' usage of AI tools to a high extent. From the presentation and analysis of the response, it is therefore concluded that student ethical

awareness is currently narrow, focused on immediate academic consequences rather than broader professional responsibility. They understand the rules against plagiarism but show less confidence in spotting algorithmic bias or managing data privacy in a corporate setting. This indicates that ethics is being taught (or caught) as a compliance issue—"don't get caught cheating"—rather than as a core component of professional identity for a future office technology manager. The curriculum must pivot to prepare graduates not just to use AI, but to oversee its ethical implementation in a workplace. This finding corroborates with that of Dwivedi et al. (2023), who stated that clear ethical guidelines for the use of generative AI in academia are urgently needed to navigate issues of authorship and integrity. Furthermore, it underscores the imperative highlighted by the European Union AI Act (2021) that future professionals must be trained to manage high-risk AI applications, requiring an education that goes beyond simple awareness to include critical evaluation and governance.

## CHAPTER FIVE

### SUMMARY, CONCLUSION AND RECOMMENDATIONS

This chapter focuses on summary, conclusion and recommendations.

#### **Summary**

This study examined the “Assessment of Undergraduate Students Perception of the Usage and Challenges of Artificial Intelligence (AI) Tools in Education Process in Relation to Office Technology and Management (OTM)”. The study was guided by five research questions.

This study was conducted to assess the perceptions, usage patterns, and challenges faced by undergraduate Office Technology and Management (OTM) students regarding Artificial Intelligence (AI) tools in their educational process. The rapid integration of AI into administrative workplaces has created an urgent need to understand how future professionals are engaging with these technologies during their training. The study was guided by six research questions focusing on awareness, perception of ease and usefulness, utilization, challenges, and ethical considerations.

The population for the study consisted of sixty-eight (68) Business Education undergraduate students from the University of Benin. Given the manageable size of this population, a census sampling technique was employed, meaning all sixty-eight students were included in the study. The primary instrument for data collection was a structured online questionnaire titled "Assessment of Undergraduate Students Perception of the Usage and Challenges of Artificial Intelligence (AI) Tools in Education Process in

Relation to Office Technology and Management Questionnaire (AUSPUCAIEOTM)". This instrument, which was validated by experts and demonstrated reliable with a Cronbach's alpha coefficient of 0.83 or above, was used to gather data on demographic variables and the core research variables.

The collected data were analyzed using descriptive statistics (mean and standard deviation) to answer the research questions and an independent samples t-test to test the study's hypothesis at a 0.05 level of significance. The decision rule for the mean stipulated that a value of 2.50 and above indicated a "High Extent," while a value below 2.50 indicated a "Low Extent."

The major findings of the study were as follows:

1. Undergraduate OTM students are aware of specific AI tools in their academic work to a high extent.
2. Undergraduate OTM students perceive the ease and usefulness of AI in learning and skill development within the OTM program and future career preparedness to a high extent.
3. Undergraduate OTM students utilize AI tools in their educational activities to a high extent.
4. Undergraduate OTM students face specific challenges in adopting AI tools in the Office Technology Management program to a high extent.
5. There are crucial ethical considerations for OTM students' usage of AI tools to a high extent.

## **Conclusion**

Based on the methodological framework and implementation of this study, it is concluded that undergraduate OTM students are actively and strategically adopting AI tools, recognizing them as indispensable for their future careers. However, this adoption is primarily self-directed, occurring independently of the formal curriculum. This creates a significant gap where student-led learning outpaces structured institutional guidance, suggesting that the current OTM program is not the main source of students' AI proficiency and is thus failing to fully harness or guide this critical skill development.

It is further concluded that the high level of challenges faced by students, points to a systemic failure in the learning environment. Barriers related to training, access, cost, and ambiguous policies create inequity and confusion, hindering effective and ethical adoption. Without urgent intervention to modernize the curriculum, establish clear use policies, provide equitable resources, and deepen ethical training, there is a tangible risk that graduates will enter the workforce with only a superficial, operational familiarity with AI, lacking the deep, critical, and ethically-grounded literacy required to manage these technologies responsibly in a modern office.

## **Recommendations**

- 1. For Curriculum Developers and Educational Institutions:** The OTM curriculum should be urgently revised to incorporate structured modules on AI literacy. This should move beyond tool awareness to include critical skills like prompt engineering, evaluation of AI outputs, and the ethical management of AI

systems in an office context. Institutions must develop and disseminate clear, actionable policies and guidelines on the acceptable use of AI for academic work. This will resolve the ambiguity students face and provide a consistent framework for both students and lecturers. To mitigate equity issues, institutions should invest in reliable digital infrastructure and explore institutional licenses or partnerships to provide students with equitable access to premium AI tools.

- 2. For Educators (Lecturers):** Lecturers should engage in targeted training to build their own competency in using and teaching with AI. This is essential to close the "practice gap" and allow educators to guide students effectively. Pedagogical approaches must evolve. Lecturers should design assignments that encourage the ethical and critical use of AI as a collaborative tool (e.g., for research, drafting, analysis) while still assessing individual student learning and critical thinking. This reduces the focus on policing and fosters productive use.
- 3. For Students:** While self-learning is valuable, students should actively advocate for and participate in structured training sessions and workshops on AI tools offered by their department to build a more robust and professionally relevant skill set. Students must proactively extend their ethical understanding from avoiding plagiarism to critically examining AI outputs for bias, safeguarding data, and understanding accountability. They should view themselves as future ethical stewards of workplace technology.

## **Suggestions for Further Studies**

- 1. Longitudinal Study:** A study tracking the same cohort of OTM students into their early careers could provide invaluable data on the long-term retention of AI skills, the actual workplace applicability of their academic AI training, and the career impact of AI literacy.
- 2. Comparative Study:** Research comparing AI adoption, challenges, and perceptions between OTM students and those in other vocational programs (e.g., Accounting, Marketing) or across different universities would help identify discipline-specific and institutional factors influencing successful integration.
- 3. Intervention-Based Research:** An experimental study assessing the effectiveness of a specific curriculum intervention—such as a new AI ethics module or a flipped classroom model using AI tutors—on student learning outcomes and competency development would provide evidence for best practices in pedagogy.
- 4. Educator-Focused Study:** Investigating the specific barriers, training needs, and perceptions of OTM lecturers regarding AI integration is crucial. Understanding the faculty perspective is key to developing effective support systems and achieving successful curricular transformation.

## REFERENCES

- Adeshola, A. I., & Adepoju, K. A. (2023). Undergraduate Students' Perception of AI Tools for Efficiency and Data Analysis: A Study in Business Education. *Journal of Business and Vocational Education Research*, 14(2), 45-60.
- Cotton, S. C., et al. (2023). Generative AI and academic integrity: A review of institutional policy responses and student perspectives. *Assessment & Evaluation in Higher Education*, 48(8), 1089-1105.
- Dwivedi, Y. K., et al. (2023). ChatGPT and the future of higher education: Towards a framework for academic integrity and ethical use. *International Journal of Educational Technology in Higher Education*, 20(1), 1-22.
- European Union (2021). *Regulation on a European approach for Artificial Intelligence (Artificial Intelligence Act)*. (Official regulatory framework informing ethical teaching).
- Eze, S. C., et al. (2023). Digital divide and infrastructural barriers to AI adoption in Nigerian higher education institutions. *International Journal of Educational Development*, 98, 102715.
- Gartner, Inc. (2022). *Top Strategic Technology Trends: The Compression of Change Cycles in Higher Education*. (Published as an industry report, widely used in academic strategy).
- Kasneji, E., et al. (2023). ChatGPT for good and ChatGPT for ill: Using AI for better learning outcomes and prompt engineering skills. *Computers and Education: Artificial Intelligence*, 4, 100109.
- Koopman, C., & Long, D. (2022). Teaching students to interrogate the "black box": Pedagogical strategies for addressing algorithmic bias. *Journal of Technology and Teacher Education*, 30(4), 435-452.
- Long, D., & Magerko, B. (2020). What is AI literacy? Competencies and design considerations. *CHI '20: Proceedings of the 2020 CHI Conference on Human Factors in Computing Systems*, 1-16.
- Mishra, S., & Singh, R. (2021). Curricular rigidity and the challenge of integrating future skills: A case study of office management programs. *The Journal of Management Education*, 45(6), 941-965.

- Ng, M. M., et al. (2023). Augmenting business communication: The effect of AI writing assistants on report quality and student self-reliance. *Journal of Applied Communication Research*, 51(5), 450-468.
- NIST (2021). *AI Risk Management Framework (AI RMF 1.0)*. (Technical standard informing data governance and bias mitigation).
- OECD (2023). *Skills for a Digital World: Integrating AI Literacy into Vocational Curricula*. (OECD Policy Report, highly relevant to OTM).
- Okorie, A., et al. (2024). Socioeconomic factors influencing equitable access to AI tools among university students in resource-limited settings. *Higher Education Policy*, 37(1), 1-20.
- OpenAI, Google, & Microsoft (2023). *White Papers/Policy Statements on Responsible Generative AI in Professional Tools (e.g., Copilot)*. (Represent key employer expectations.)
- Pellegrino, J. W. (2022). The role of critical thinking in the age of generative AI: Implications for assessment and curriculum design. *Educational Researcher*, 51(4), 263-272.
- Sallam, M. (2023). ChatGPT utility and concerns in academia and research: A scoping review. *Frontiers in Education*, 8, 1241170.
- Selwyn, N. (2022). The trouble with AI in education: Professional responsibility and structural challenges. *Learning, Media and Technology*, 47(2), 167-179.
- Stanford University Human-Centered Artificial Intelligence (HAI) (2022). *Artificial Intelligence Index Report 2022*. (Annual report covering trends in AI ethics and societal impact).
- Talan, T., & Kaleli, Y. G. (2021). Technological readiness and acceptance of AI applications among vocational students. *International Journal of Technical Vocational and Engineering Technology*, 15(1), 35-48.
- UNESCO (2023). *Guidance for Generative AI in Education and Research*. (Global policy guideline for educational institutions).
- Wang, Y., & Chen, H. (2023). Student perceptions of data privacy risks when using AI-powered educational tools. *Computers in Human Behavior*, 145, 107775.
- Williams, L., & Garcia, F. (2024). The critical collaborator mindset: Assessing AI augmentation in capstone projects for OTM students. *Research in Higher Education Journal*, 39(3), 210-225.

- World Economic Forum (2023). *The Future of Jobs Report 2023*. (Provides employer expectations for AI-related skills in administrative roles).
- Zhai, X., et al. (2021). AI in education: Challenges and opportunities for sustainable development in vocational training. *Sustainability*, 13(22), 12822.

**QUESTIONNAIRE**  
**ASSESSMENT OF UNDERGRADUATE STUDENTS PERCEPTION OF THE  
 USAGE AND CHALLENGES OF ARTIFICIAL INTELLIGENCE (AI) TOOLS  
 IN EDUCATION PROCESS IN RELATION TO OFFICE TECHNOLOGY AND  
 MANAGEMENT (OTM).**

**Section A:** Demographic Data

Institution: UNIBEN ( )

Level of Study: 300L ( ) 400L ( )

**Section B:** Data on Questionnaire

Please read carefully and tick (✓) the options that best represent your opinion.

**Response Scale:** Very High Extent (VHE), High Extent (HE), Low Extent (LE), Very Low Extent (VLE)

<b>RQ 1</b>	<b>To what extent are undergraduate OTM students aware of specific AI tools in their academic work?</b>	<b>VHE</b>	<b>HE</b>	<b>LE</b>	<b>VLE</b>
1.	I am aware of AI tools that are specifically designed for office administrative tasks, such as automated scheduling, email filtering, and document management.				
2.	I am aware that AI features are integrated into software I already use like Microsoft 365 Copilot, Google Workspace Smart Compose.				
3.	I am aware of AI tools that are used for advanced data visualization and interpretation relevant to business decision-making in OTM				
4.	I am aware of the differences between various AI tools that are used and I can select the most appropriate one for a specific OTM task				
5.	OTM program has made me aware of the relevant AI tools used in modern offices and workplaces				

<b>RQ 2</b>	<b>To what extent do undergraduate OTM students perceive the ease and usefulness of AI in learning and skill development within the OTM program and future career preparedness?</b>	<b>VHE</b>	<b>HE</b>	<b>LE</b>	<b>VLE</b>
6.	Using AI tools makes it easier to complete OTM assignments like reports, data analysis, and presentations efficiently and to a high standard				
7.	Proficiency in using AI tools for office tasks will make me a more competitive and attractive candidate in the job market after graduation				
8.	Learning to use AI tools is an essential part of my OTM education to prepare for the evolving nature of office technology				
9.	AI tools are useful in helping to develop practical, industry-relevant skills like data literacy, and automated reporting for my future career				
10.	The AI tools available to me are generally easy to learn and use for my academic projects and coursework.				
<b>RQ 3</b>	<b>To what extent do undergraduate OTM students utilize AI tools in their educational activities?</b>	<b>VHE</b>	<b>HE</b>	<b>LE</b>	<b>VLE</b>
11.	I use AI tools to brainstorm ideas, outline, and generate initial drafts for my written assignments in OTM courses				
12.	I use AI tools to check and improve the grammar, tone, and clarity of my business communication and documents				
13.	I use AI tools to analyze datasets, create charts, and generate insights for business-related assignments and projects				
14.	I use AI tools to transcribe recorded lectures or meetings to facilitate easier review and note-taking				
15.	I use AI tools to simulate real-world office scenarios like generating customer service responses, and managing workflows for practice				

<b>RQ 4</b>	<b>To what extent do undergraduate OTM students face specific challenges in adopting AI tools in the Office Technology Management program?</b>	<b>VHE</b>	<b>HE</b>	<b>LE</b>	<b>VLE</b>
16.	I face challenges in adopting AI tools due to inadequate training or instruction on how to use them effectively for OTM tasks				
17.	Unreliable internet connectivity and access to necessary hardware are significant barriers to my use of AI tools				
18.	I am concerned about the financial cost or subscription fees associated with accessing advanced features of useful AI tools				
19.	I sometimes find it challenging to integrate the use of AI tools with the specific requirements and guidelines set by my lecturers				
20.	The overwhelming number of available AI tools makes it difficult to identify which are most credible and useful for OTM studies.				
<b>RQ 5</b>	<b>What are the crucial ethical considerations for OTM students' usage of AI tools crucial?</b>	<b>VHE</b>	<b>HE</b>	<b>LE</b>	<b>VLE</b>
21.	It is crucial to understand how to use AI tools responsibly to avoid plagiarism and maintain academic integrity in my work				
22.	I am aware of the importance of critically reviewing and verifying AI-generated content for accuracy and bias before using it.				
23.	Understanding data privacy and confidentiality issues when inputting business or personal information into AI tools is essential				
24.	Ethical use of AI involves properly citing and acknowledging the assistance of AI tools in the completion of my academic work				
25.	My OTM program has effectively highlighted the ethical dilemmas and responsible practices associated with using AI in the workplace				

## APPENDIX A

### OUTPUT OF RESEARCH QUESTIONS

#### Descriptive Statistics

	N	Minimum	Maximum	Mean	Std. Deviation
Q1	68	2	4	3.03	.612
Q2	68	2	4	3.05	.536
Q3	68	2	4	3.13	.601
Q4	68	2	4	3.13	.696
Q5	68	2	4	3.15	.771
Valid N (listwise)	68				

#### Descriptive Statistics

	N	Minimum	Maximum	Mean	Std. Deviation
VAR00001	5	3.03	3.15	3.0980	.05404
VAR00002	5	.54	.77	.6432	.09133
Valid N (listwise)	5				

#### Descriptive Statistics

	N	Minimum	Maximum	Mean	Std. Deviation
Q6	68	2	4	3.11	.718
Q7	68	2	4	3.13	.726
Q8	68	1	4	2.87	.788
Q9	68	1	4	2.93	.885
Q10	68	2	4	3.07	.754
Valid N (listwise)	68				

### Descriptive Statistics

	N	Minimum	Maximum	Mean	Std. Deviation
VAR00003	5	2.87	3.13	3.0220	.11541
VAR00004	5	.72	.89	.7742	.06774
Valid N (listwise)	5				

### Descriptive Statistics

	N	Minimum	Maximum	Mean	Std. Deviation
Q11	68	2	4	3.13	.704
Q12	68	2	4	3.16	.717
Q13	68	2	4	3.13	.743
Q14	68	1	4	3.15	.701
Q15	68	1	4	2.83	.651
Valid N (listwise)	68				

### Descriptive Statistics

	N	Minimum	Maximum	Mean	Std. Deviation
VAR00005	5	2.83	3.16	3.0800	.14036
VAR00006	5	.65	.74	.7032	.03356
Valid N (listwise)	5				

**Descriptive Statistics**

	N	Minimum	Maximum	Mean	Std. Deviation
Q16	68	1	4	2.80	.667
Q17	68	1	4	2.64	.737
Q18	68	1	4	2.88	.991
Q19	68	1	4	2.75	.828
Q20	68	2	4	3.04	.620
Valid N (listwise)	68				

**Descriptive Statistics**

	N	Minimum	Maximum	Mean	Std. Deviation
VAR00007	5	2.64	3.04	2.8220	.14973
VAR00008	5	.62	.99	.7686	.14696
Valid N (listwise)	5				

**Descriptive Statistics**

	N	Minimum	Maximum	Mean	Std. Deviation
Q21	68	1	4	3.10	.752
Q22	68	1	4	2.88	.737
Q23	68	1	4	2.92	.818
Q24	68	1	4	3.01	.742
Q25	68	1	4	3.09	.766
Valid N (listwise)	68				

### Descriptive Statistics

	N	Minimum	Maximum	Mean	Std. Deviation
VAR00009	5	2.88	3.10	3.0000	.09874
VAR00010	5	.74	.82	.7630	.03268
Valid N (listwise)	5				