



UTILISATION OF AI TOOLS FOR RESEARCH IN BUSINESS AND ENTREPRENEURSHIP EDUCATION IN UNIVERSITIES IN KWARA STATE

By

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ABSTRACT

This study investigated the perceptions of business educators and students on the utilisation of artificial intelligence tools for research in Business and Entrepreneurship Education in universities in Kwara State. Descriptive survey design was adopted with population of 283 (16 Educators and 267 students). The entire 16 Business Educators and 131 sampled students were used, giving 147 respondents. Data were collected using a questionnaire validated by two experts and yielded a Cronbach Alpha reliability coefficient of 0.803. Mean and standard deviation were used to answer research questions, while independent samples t-test was employed to test the hypotheses at 0.05 level. The findings showed that generative and content AI tools were use at a high extent (Mean = 3.43), academic writing and editing tools were also to a high extent utilised (Mean = 3.27), to a high extent. reference, citation and academic integrity tools were employed (Mean = 3.39). Respondents agreed that there are challenges affecting utilisation (Mean = 3.93). Findings further revealed that there was no significant difference between business educators and students on generative and content tools ($t_{145} = -0.725, p = 0.470$), academic writing and editing tools ($t_{145} = -0.273, p = 0.785$), and reference, citation and integrity tools ($t_{145} = -0.097, p = 0.923$) leading to acceptance of H01, H02 and H03, while H04 was rejected because a significant difference existed on challenges ($t_{145} = -2.167, p = 0.032$). Based on these results, it was concluded that AI tools were moderately utilised for research and recommended that workshops, seminars and conferences be organised by university management, ABEN and other stakeholders on effective AI utilisation, while AI hubs and adequate technical facilities should be provided.

Keywords: Artificial Intelligence, AI Tools, Research, Business Education, Entrepreneurship Education,

Introduction

Research is the basis of new discoveries which provide room for superior arguments among people of knowledge. Traditionally, researches are carried out through step-by-step approach before conclusion is made. This may range from identification of problems, objectively stating the problem, defining questions and formulating the hypothetical answers to the problems, designing the methodology, analyzing the data collected using appropriate statistics, drawing up conclusions and making recommendations. These steps are rigorous, though always fruitful when conducted objectively. However, the integrity of the approach can be increased when technologies are employed. According to Alam (2021), technological development in the world poses many challenges and opportunities, and perhaps the most increased competition among institutions, enterprises, around markets in changing competitive environment, where knowledge, technology, research and development activities have become increasingly important as the dominant advantage of contemporary economics and strength of nations and the institutions are measured by



their progress in technology, research and development. Also, Dorfler (2023) defined artificial intelligence as the science and engineering that deals with creating intelligent machines especially intelligent computer programs. It is conceived as machines that can perform the tasks that humans carry out through their thinking.

The integration of artificial intelligence in education has been a topic of interest in recent years with its ability to perform tasks associated with human intelligence, including processing information, generating responses and supporting decision making in enhancing teaching and learning outcomes. The recent development of generative AI has expanded the use of AI in higher education because tools such as ChatGPT and other conversational systems can interact with users through natural language and provide assistance with a variety of academic activities. For example, Bhullar et al. (2024) in their synthesis research on ChatGPT in higher education noted that, technology has attracted attention across different academic activities and has been examined in relation to students, academic staff and researchers. In addition, Zhao et al. (2024) found that generative AI has affected students' writing practices in higher education by showing that students used ChatGPT alongside other digital tools to address specific challenges they encountered in their academic writing while also raising concerns about plagiarism, inaccurate information and dependence on technology.

In research process, AI tools and applications can assist researchers including business educators and students in a lot of ways and activities including generating research contents and ideas, identifying possible research questions, summarising information, explaining difficult concepts, improving academic writing, organising references and checking the originality of research work while also providing conversational support when researchers are exploring ideas or seeking clarification on a particular context. However, the extent of using these tools depends on the ability of the user to assess the information provided and make appropriate academic judgements. This is particularly important because AI generated responses may contain inaccurate information, while excessive dependence on AI may affect independent thinking, writing and research skills. The findings of Oladunni-Mohammad (2024) for instance are very relevant to this concern because the study identified a difference between the use of AI tools and the competence of business educators in using them effectively for research. Berglund et al. (2020) also explained that AI systems can process data, learn from experiences and understand and generate human language, thereby allowing them to interact with users.

Therefore, researches are made easy when those sophisticated tools are used in the process. These tools are artificial intelligence which can improve research efforts of both business and entrepreneurship educators and students. It was also defined by Berglund et al. (2020) as the system that can also comprehend and generate human language, enabling them to communicate with humans; it is an Artificial Intelligence system that uses algorithms to process data, learn from experiences and the system rely on high quality data to learn, improve and make accurate decisions. Therefore, artificial intelligence (AI) contains a collection of technologies like machine learning, deep learning, natural language processing, and computer vision. These technologies enable AI systems to understand human language, learn from examples, make predictions, and perform tasks with human like proficiency (Usman, 2025).

Furthermore, all of the world today, the use of AI in research is also connected with academic writing, citation and research integrity because with the advancement in technology and AI tools, students and researchers can now use artificial intelligence writing and editing applications to



improve grammar, sentence construction, readability and paraphrasing in their research works. Reference management and integrity checking applications, for example Turnitin, plagiarism checker, Mendeley, Zotero etc mostly used by researchers can also assist them in organising sources, inserting citations and checking the similarity of written work. Zhao et al. (2024) observed that writing in higher education is an iterative activity in which students already employ different digital tools, while generative AI has added another dimension to the way academic writing is produced. Therefore, the use of AI for research should not be viewed only as the generation of written content, nevertheless also includes the use of digital tools that support different stages of the research process.

Business education is the type of education that assists individual to acquire skills, which they can apply to solve problems in business and office occupation (Usip and Ukoima, 2023). Business education explains Aluko (2024) is a course of study that can offer the skills and abilities necessary for any nation's economic development and growth, which must be managed successfully to reach its goals. Utebor (2024) describes Business Education as a programme that involves the use of knowledge, skills and technological resources to support learning and the development of competencies needed for effective participation in business and related activities. The study views Business Education as an area where the use of ICT resources can support the growth and effective delivery of the programme and also suggests that Business Education is for both professionals (education for) and non professional (education about or consumer education). According to Nwaigburu and Eneogwe (2019), business education has a definite role in preparing and equipping students with skills that increase their chances of finding jobs across territorial boundaries after schooling. The authors further observed that business education equips students with knowledge and skills they need to create their own employment. Business education involves teaching students the fundamental theories and processes of business. Ukoima, Charles and Nworgu (2022) noted that entrepreneurship Education is also an important part of this discussion because entrepreneurship involves the ability to identify opportunities, generate ideas, solve problems and make informed decisions. Chen et al. (2024) for instance, in their review of AI in entrepreneurship education, examine the status of AI adoption in the field and identified gaps concerning the adoption of intelligent technologies and the educational purposes for which they are used. Darnell and Gopalkrishnan (2024) also report that generative AI is changing the way entrepreneurship can be taught and researched, showing the growing connection between AI and entrepreneurship education. These developments make it necessary for business and entrepreneurship educators and students to understand how AI tools can be applied appropriately to their research activities and beyond.

In the context of entrepreneurship education, Bandara (2024) also highlights that artificial intelligence is an important tool with the potential to transform entrepreneurship education. Based on the researchers review, the study identifies four major areas, namely AI as a transformative tool, AI driven teaching strategies, challenges and ethical considerations, and AI ecosystems and policy implications. However, the effective utilisation of AI in entrepreneurship education requires the support and commitment of administrators, who must be willing to invest in the necessary infrastructure and training (Jesam et al., 2025). As said earlier, researches are conducted by business educators and students in order to uncover the covered or to confirm the existing facts or theories.



In this context, the utilisation of AI tools for research in Business and Entrepreneurship Education refers to the use of artificial intelligence applications to support research activities, scientific writing, learning and entrepreneurial education. Castillo Martínez et al. (2024) for instance found that AI tools such as ChatGPT can make different research processes more efficient, but their use requires critical and creative judgement in protecting the quality and rigor of scientific work. In the same view, Yu et al. (2025) identifies the use of generative AI in entrepreneurship education for areas such as personalised instruction, business simulation and decision making, while emphasising the need of ethical guidance, critical thinking and careful application of AI tools. Therefore, the utilisation of AI tools in Business and Entrepreneurship Education involves using these technologies as support for research and educational activities while maintaining academic quality, critical judgement and ethical standards.

In no doubt in education, numerous global systems have embrace digital technology based approaches such as e-learning, distance education, e-assessment, artificial intelligence, cloud computing, and gamification for instructional delivery and assessment (Ukeh & Nwankwo, 2023). But the utilisation of AI based tools in research holds immense importance for advancing education and knowledge creation rather than the use of AI for general classroom instruction. This study therefore focuses on broad areas of research support namely generative and content tools, academic writing and editing tools, and reference, citation and integrity tools. Generative and content tools include applications such as ChatGPT, Google Gemini, Microsoft Copilot, Claude, Jasper AI, Copy.ai and QuillBot, which can assist both the business education students and educators with generating research ideas, summarising information and preparing preliminary content. Academic writing and editing tools can support grammar, sentence construction, readability and academic expression, while reference, citation and integrity tools can assist with managing sources, citations and similarity checking. The relevance of these tools is not limited to their availability but also depends on whether researchers, that is, business educators and students actually use them for research and whether they can use them appropriately. For example, the 2024 study by Oladunni-Mohammad provides useful evidence by showing that AI tools are being considered for research among postgraduate business educators, while also reporting limited awareness, inadequate training, technical challenges and ethical concerns as barriers to effective use. This indicates that the presence of AI tools does not automatically mean that they are being effectively utilise for research.

The Nigerian educational environment is also experiencing wider developments in the use of artificial intelligence. Bali et al. (2024) in their review of emerging AI trends in Nigerian education note the growing integration of AI within the country's educational environment and the need to consider the opportunities and challenges associated with its use most especially among those conducting research. However, existing studies have given considerable attention to AI for teaching, learning, curriculum development and entrepreneurship education, while fewer studies have focused specifically on how business educators and students utilise different categories of AI tools for research.

Not only that, despite all the aforementioned importance associated with utilising various type of AI based tools, lecturers and students in universities in Kwara State seem not to have fully embraced these technologies. However, be it as it may, one cannot out rightly say for sure that lecturers and students in universities in Kwara State are not effectively utilising AI research tools without proper empirical and statistical evidence. It is against this background that this study



aimed to investigate the extent to which business educators and students in universities in Kwara State are utilising available AI based tools in conducting research in business and entrepreneurship education.

Statement of the Problem

The researcher observed that, in this era of AI advancement, numerous undergraduate students on business and entrepreneurship education and business educators in universities in Kwara State continue to face immense difficulty when it comes to using AI tools for composing simple research related documents such as seminar papers, research based opinions, research projects and research based presentation. Although different AI and digital tools are now available to support research activities but it is still not clear whether business educators and students utilise these tools to a reasonable extent for their research activities. One cannot help but wonder whether limited access to technological resources, such as computers equipped with compatible software or a reliable internet connection, might hinder the business educators and students to utilise AI tools in their routine for researches. However, in all sincerity, it is highly unlikely that the aforementioned factors are the cause, as the majority of these business educators and students possess highly advanced smartphones and PCs that are fully capable of accessing the internet. This consequently gives rise to another crucial question, which is, to what extent do the business educators and students utilise available AI tools that could greatly assist them in producing an exceptional researches? It is against this backdrop that the researcher investigated the utilisation of AI tools such as generative and content tools, academic writing and editing tools, and reference, citation and integrity tools that could greatly assist them in producing quality research work? It is also important to determine whether these tools are being utilise for generating research ideas, clarifying research questions and concepts, improving academic writing, organising references, checking citations and examining the originality of research work. Furthermore, business educators and students may face challenges such as inadequate knowledge and training, poor internet connectivity, inaccurate AI responses, difficulty in determining the reliability of AI generated information, subscription costs among others. These challenges may affect the effective utilisation of AI tools for research even where the necessary technological devices are available. It is against this backdrop that the researcher investigated the utilisation of AI tools for research in Business and Entrepreneurship Education in universities in Kwara State. Specifically, this study examined the extent to which business educators and students utilise generative and content tools, academic writing and editing tools, and reference, citation and integrity tools for research, as well as the challenges faced in utilising AI tools for research.

Objectives of the Study

The general purpose of this study was to examine the utilisation of AI tools for research in Business and Entrepreneurship Education in universities in Kwara State. Specifically, the study sought to:

determine the extent to which business educators and students utilise generative and content tools for research in Business and Entrepreneurship Education in universities in Kwara State;

determine the extent to which business educators and students utilise academic writing and editing tools for research in Business and Entrepreneurship Education in universities in Kwara State;



determine the extent to which business educators and students utilise reference, citation and integrity tools for research in Business and Entrepreneurship Education in universities in Kwara State; and

examine the challenges faced by business educators and students in utilising AI tools for research in Business and Entrepreneurship Education in universities in Kwara State.

Research Questions

The following research questions guided the study:

What is the extent to which business educators and students utilise generative and content tools for research in Business and Entrepreneurship Education in universities in Kwara State?

What is the extent to which business educators and students utilise academic writing and editing tools for research in Business and Entrepreneurship Education in universities in Kwara State?

What is the extent to which business educators and students utilise reference, citation and integrity tools for research in Business and Entrepreneurship Education in universities in Kwara State?

What are the challenges faced by business educators and students in utilising AI tools for research in Business and Entrepreneurship Education in universities in Kwara State?

Research Hypotheses

The following null hypotheses were formulated for the study and were tested at 0.05 alpha level of significance:

H01: There is no significant difference between the mean ratings of business educators and students on the extent to which they utilise generative and content tools for research in Business and Entrepreneurship Education in universities in Kwara State.

H02: There is no significant difference between the mean ratings of business educators and students on the extent to which they utilise academic writing and editing tools for research in Business and Entrepreneurship Education in universities in Kwara State.

H03: There is no significant difference between the mean ratings of business educators and students on the extent to which they utilise reference, citation and integrity tools for research in Business and Entrepreneurship Education in universities in Kwara State.

H04: There is no significant difference between the mean ratings of business educators and students on the challenges faced in utilising AI tools for research in Business and Entrepreneurship Education in universities in Kwara State.

Methodology

Descriptive survey design was adopted for this study. The descriptive survey design was preferred because it largely focuses on vital facts, beliefs, opinions, demographic information, attitudes, motives and behaviours of respondents giving responses to the research instrument (Osinbajo et al., 2014). The population of this study consist of 16 Business Educators and 267 400 Level Business Education students in universities in Kwara State making a total of 283 respondents. Due to the manageable size of Business Educators, the entire 16 Business Educators were used for this study while 131 Business Education students were sampled from the 267 400



Level students across the three universities giving a total sample size of 147 respondents used for this study.

A researcher design questionnaire titled “Utilisation of AI Tools for Research in Business and Entrepreneurship Education Questionnaire (UAITRBEEQ)” was used to collect data from the respondents. The questionnaire was administered mainly through Microsoft Google Forms link which enabled the researcher to distribute the instrument electronically and collect the completed responses from the respondents. To ensure the face and content validities of the questionnaire, the researcher submitted the draft of it to two (2) experts in the Departments of Business Education, Kwara State University, Malete Business Education Units, at University of Ilorin and a measurement and evaluation expert from Al-Hikmah University, Ilorin. All the validators were not less than the rank of senior lecturer. Items in the questionnaire were reviewed to ascertain that the statements in the instrument actually covered the contents that they were expected to measure. The experts’ constructive criticisms and suggestions were incorporated to improve and prepare the final version of the instrument. The Cronbach Alpha Method was used to determine the reliability of the instrument. To determine the internal consistency of the items of the questionnaire, the instrument was administered to six lecturers and 18 students who are outside the study area. The Alpha reliability test yielded correlation coefficient of 0.803.

Data collected to answer research questions was analyzed using mean and standard deviation. The hypotheses were tested using independent samples t-test. The decision rule for the research questions was that any question item ranging from 4.50–5.00 were rated “Very Often Utilised”, 3.50–4.49 were rated “Often Utilised”, 2.50–3.49 were rated “Sometimes Utilised”, 1.50–2.49 were rated “Rarely Utilised”, and 1.00–1.49 were rated “Never Utilised”. For the challenge items, mean scores of 4.50–5.00 were rated “Strongly Agreed”, 3.50–4.49 were rated “Agreed”, 2.50–3.49 were rated “Undecided”, 1.50–2.49 were rated “Disagreed”, and 1.00–1.49 were rated “Strongly Disagreed”. The decision rule for testing the hypotheses was to reject H_0 when the observed p-value was less than or equal to 0.05 and not reject H_0 when the observed p-value was greater than 0.05 alpha level of significance.

Results and Interpretation

Research Questions One: What is the extent to which business educators and students utilise generative and content tools for research in Business and Entrepreneurship Education in universities in Kwara State?

Table 1: Mean ratings on the extent to which business educators and students are utilising available AI tools for research in business and entrepreneurship education

S/N	Items	N	Mean	Std. Dev.	Remark
1.	I use AI tools such as ChatGPT, Google Gemini, Microsoft Copilot, Claude, Jasper AI and Copy.ai to generate possible research topics related to Business and Entrepreneurship Education.	147	3.37	1.194	High extent
2.	I use AI tools to	147	3.48	1.273	High extent



S/N	Items	N	Mean	Std. Dev.	Remark
	generate ideas for identifying research problems in my research works and academic writing.				
3.	I use AI tools to develop preliminary ideas and organise related information before writing research sections.	147	3.33	1.240	High extent
4.	I use AI content creation tools to develop and organise content needed for my research work and writing.	147	3.35	1.204	High extent
5.	When difficult research concepts arise, I use AI tools to obtain explanations that improve my understanding.	147	3.49	1.131	High extent
6.	I use AI content creation tools to improve the presentation of information contained in my research work.	147	3.38	1.172	High extent
7.	I use AI tools such as ChatGPT, Writesonic and others to generate summaries and written materials related to my research work and writing.	147	3.59	1.198	High extent
	Average Mean and SD	147	3.43	1.202	High extent

Field Survey (2026)

The analysis of result in table 1 shows the extent to which business educators and students utilise generative and content tools for their research work. From the analysis, the overall mean scores ranged from 3.33 to 3.59 with overall average mean of 3.43 and standard deviation of 1.202. The closeness of the standard deviations indicated that the respondents were homogeneous in their responses, most especially, the outcome of the cluster mean implied that business educators and students in the three sampled universities in Kwara State to a high extent utilise generative and content tools for research in Business and Entrepreneurship Education. The result further revealed that all items except item 7 were utilised on a high extent, with mean scores ranging from 3.33 to



3.49, while item 7 which states that respondents use AI tools such as ChatGPT, Writesonic and others to generate summaries and written materials related to their research work was also highly utilised with a mean score of 3.59.

Research Questions Two: What is the extent to which business educators and students utilise academic writing and editing tools for research in Business and Entrepreneurship Education in universities in Kwara State?

Table 2: Mean ratings on the extent to which business educators and students are utilising academic writing and editing tools for research in business and entrepreneurship education

S/N	Items	N	Mean	Std. Dev.	Remark
1.	I use academic writing tools such as Grammarly, ProWritingAid, Ginger Software, Slick Write and Ref-n-Write to identify and correct grammatical errors in my research work.	147	3.26	1.183	High extent
2.	I use academic writing and editing tools to improve sentence structure and clarity in my research work.	147	3.24	1.218	High extent
3.	I use tools like Ginger Software, ProWritingAid, Slick Write, etc. to identify and improve awkward or poorly constructed sentences in my research documents.	147	3.28	1.169	High extent
4.	I use Ref-n-Write to identify suitable academic expressions when preparing my research work.	147	3.14	1.186	High extent
5.	I use academic writing and editing tools to improve the readability, organisation and quality of my research work before submission.	147	3.45	1.256	High extent
	Average Mean and SD	147	3.27	1.202	High extent

Field Survey (2026)



Table 2 presents the extent to which business educators and students in the three universities in Kwara State utilise academic writing and editing tools for research in Business and Entrepreneurship Education. The results show that the individual mean scores ranged from 3.14 to 3.45, with an overall mean of 3.27 and a standard deviation of 1.202. The standard deviation values indicate that there was some variation in the respondents' ratings even though their responses were generally within a similar range. The overall mean of 3.27 falls within the 2.50–3.49 range indicating that business educators and students in the three sampled universities to a high extent make use of academic writing and editing tools for research. The highest mean score of 3.45 was recorded for the use of academic writing and editing tools to improve the readability, organisation and quality of research work before submission, while the lowest mean score of 3.14 was recorded for the use of Ref-n-Write to identify suitable academic expressions when preparing research work.

Research Questions Three: What is the extent to which business educators and students utilise reference, citation and integrity tools for research in Business and Entrepreneurship Education in universities in Kwara State?

Table 3: Mean ratings on the extent to which business educators and students are utilising reference, citation and academic integrity tools for research in business and entrepreneurship education

S/N	Items	N	Mean	Std. Dev.	Remark
1.	I use reference and citation tools such as Mendeley, Zotero, EndNote, Paperpile and RefWorks to organise sources collected for my research work.	147	3.30	1.213	High extent
2.	I use reference management tools to prepare and organise citations and reference lists for my research work.	147	3.14	1.197	High extent
3.	I use integrity checking tools such as Turnitin, Quetext, Grammarly Plagiarism Checker, Copyleaks and PlagScan to examine the originality of my research writing.	147	3.46	1.278	High extent
4.	I use AI writing tools to improve the arrangement and flow of paragraphs in my research works.	147	3.44	1.159	High extent



S/N	Items	N	Mean	Std. Dev.	Remark
5.	I use AI tools to paraphrase information from research sources while maintaining the original meaning.	147	3.56	1.129	High extent
6.	I use reference, citation and academic integrity tools to improve the accuracy, originality and proper referencing of my research work.	147	3.45	1.212	High extent
	Average Mean and SD	147	3.39	1.198	High extent

Field Survey (2026)

Table 3 shows the extent to which business educators and students in Kwara state universities utilise reference, citation and academic integrity tools for research. The findings show that the individual mean scores ranged from 3.14 to 3.56, with an overall mean of 3.39 and a standard deviation of 1.198. The average mean score of 3.39 further indicates that business educators and students in the three universities utilise reference, citation and integrity tools for research on a high extent. Taking a further look at the items revealed that five out of the six items were highly utilised with the highest mean score of 3.56 was recorded for the use of AI tools to paraphrase information from research sources while maintaining the original meaning of the work while the lowest mean score of 3.14 was recorded for the use of reference management tools to prepare and organise citations and reference lists for research work.

Research Questions Four: What are the challenges faced by business educators and students in utilising AI tools for research in Business and Entrepreneurship Education in universities in Kwara State?

Table 4: Mean ratings on the challenges affecting the use of AI tools for research in business and entrepreneurship education among business educators and students

S/N	Items	N	Mean	Std. Dev.	Remark
1.	Poor internet connectivity, stable electricity and limited access to suitable computers or smartphones restrict my regular use of AI tools for research.	147	4.10	0.920	Agreed
2.	Inadequate training and limited knowledge about AI tools make it difficult for me to use AI effectively for	147	3.99	0.972	Agreed



S/N	Items	N	Mean	Std. Dev.	Remark
	research activities.				
3.	Inaccurate responses from some AI tools sometimes make it difficult for me to use them when preparing my research work.	147	3.90	1.062	Agreed
4.	Most citations generated by AI tools are inaccurate or do not exist and this makes it difficult for me to use AI tools when preparing my research work.	147	3.72	1.019	Agreed
5.	Lack of clear guidelines for the use of AI, concerns about plagiarism and academic integrity, and limited technical support make it difficult for me to use AI tools appropriately for research.	147	3.90	1.005	Agreed
6.	Cost of paid for advanced AI tools and charges for some AI tools limit my access to the usefulness and accessibility of AI tools for my research activities.	147	4.06	0.960	Agreed
7.	I find it difficult to determine whether information generated by AI tools is accurate, reliable and suitable for use in my research work.	147	3.86	0.993	Agreed
	Average Mean and SD	147	3.39	1.198	Agreed

Field Survey (2026)

Table 4 shows the majority of the challenges faced by business educators and students in utilising AI tools for research work in Business and Entrepreneurship Education in Kwara state universities. The results from the analysis indicate that the mean scores ranged from 3.72 to 4.10, with an average overall mean of 3.93 and a standard deviation of 0.990. The standard deviation values show that the responses varied to some extent, although the respondents still had similar



views on the challenges affecting their use of AI tools. The average overall mean score of 3.93 implies that the respondents agreed that identified factors constitute challenges to the utilisation of AI tools for research. Furthermore, all the seven items were rated as agreed with poor internet connectivity, stable electricity and limited access to suitable devices having the highest mean score of 4.10, followed by cost of paid advanced AI tools with a mean of 4.06, denoted that access to infrastructure, cost, inadequate training, accuracy of AI responses, citation problems and concerns about appropriate use are important challenges affecting business educators and students in their utilisation of AI tools for research work.

Hypotheses Testing

H01: There is no significant difference between the mean ratings of business educators and students on the extent to which they utilise generative and content tools for research in Business and Entrepreneurship Education in universities in Kwara State.

Table 5: T-test result on the opinions of business educators and students on the extent of utilisation of generative and content AI tools for research in business and entrepreneurship education in universities

Variables	N	Mean	SD	T-Cal.	Df	t- crit.	Sig. (2tailed)	Decision
Business educators	16	3.31	0.71	-0.725	145	1.984	0.470	Not Rejected
Students	131	3.44	0.66					

Field Research (2026)

The analysis of data from Table 5 above reveals that there were 16 business educators and 131 students for this study. Perceptions of business educators and students were not different on the extent of utilisation of generative and content AI tools for research in Business and Entrepreneurship Education in universities in Kwara state, with ($\bar{X} = 3.31$; $SD = 0.71$) and ($\bar{X} = 3.44$; $SD = 0.66$) respectively. The table therefore reveals that there was no significant difference between the mean ratings of business educators and students on the extent to which they utilised generative and content AI tools for research in Business and Entrepreneurship Education in universities in Kwara State ($t_{145} = -0.725$, $p > 0.05$). Therefore, the null hypothesis (H01) was accepted.

H02: There is no significant difference between the mean ratings of business educators and students on the extent to which they utilise academic writing and editing tools for research in Business and Entrepreneurship Education in universities in Kwara State.

Table 6: T-test result on the opinions of business educators and students on the extent of utilisation of academic writing and editing AI tools for research in business and entrepreneurship education in universities

Variables	N	Mean	SD	T-Cal.	Df	t- crit.	Sig. (2tailed)	Decision
Business educators	16	3.23	0.76	-0.273	145	1.984	0.785	Not Rejected
Students	131	3.28	0.73					

Field Research (2026)

Also, the analysis of the result of data from Table 6 above reveals that perceptions of business educators and students were not different on the extent of utilisation of academic writing and editing tools for research in Business and Entrepreneurship Education with business educators having ($\bar{X} = 3.23$; $SD = 0.76$) and students having ($\bar{X} = 3.28$; $SD = 0.73$). The table therefore



reveals that there was no significant difference between the mean ratings of business educators and students on the extent to which they utilise academic writing and editing tools for research in Business and Entrepreneurship Education in universities in Kwara State ($t_{145} = -0.273$, $p > 0.05$). Hence, the null hypothesis (H_02) was accepted.

H03: There is no significant difference between the mean ratings of business educators and students on the extent to which they utilise reference, citation and integrity tools for research in Business and Entrepreneurship Education in universities in Kwara State.

Table 7: T-test result on the opinions of business educators and students on the extent of utilisation of reference, citation and integrity AI tools for research in business and entrepreneurship education in universities

Variables	N	Mean	SD	T-Cal.	Df	t- crit.	Sig. (2tailed)	Decision
Business educators	16	3.38	0.85	-0.097	145	1.984	0.923	Not Rejected
Students	131	3.39	0.68					

Field Research (2026)

The mean ratings of business educators and students on the utilisation of reference, citation and integrity AI tools were ($\bar{X} = 3.38$; $SD = 0.85$) and ($\bar{X} = 3.39$; $SD = 0.68$) respectively. As shown in Table 7, the difference between the two mean ratings was very small (-0.097). The t-test result further indicates that there was no significant difference between the mean ratings of business educators and students on the extent to which they utilise reference, citation and integrity AI tools for research in Business and Entrepreneurship Education in universities in Kwara State ($t_{145} = -0.097$, $p > 0.05$). Since the calculated t value of -0.097 was less than the critical value of 1.984 and the significance value of 0.923 was greater than 0.05 , the null hypothesis (H_03) was not rejected.

H04: There is no significant difference between the mean ratings of business educators and students on the challenges faced in utilising AI tools for research in Business and Entrepreneurship Education in universities in Kwara State.

Table 8: T-test result on the opinions of business educators and students on the challenges affecting the utilisation of AI tools for research in business and entrepreneurship education in universities

Variables	N	Mean	SD	T-Cal.	Df	t- crit.	Sig. (2tailed)	Decision
Business educators	16	3.66	0.66	-2.167	145	1.984	0.032	Rejected
Students	131	3.97	0.52					

Field Research (2026)

Lastly, the findings presented in Table 8 show that business educators had a mean rating of 3.66 ($SD = 0.66$) whereas students recorded a higher mean rating of 3.97 ($SD = 0.52$) on the challenges affecting the utilisation of AI tools for research. This indicates that students perceived the challenges associated with the use of AI tools more strongly than business educators. Since the significance value of 0.032 was less than the 0.05 level of significance and the calculated t value of -2.167 exceeded the critical value of 1.984 in absolute terms, the null hypothesis was rejected, hence the t-test result shows that there was a significant difference between the mean ratings of business educators and students on the challenges faced in utilising AI tools for research in Business and Entrepreneurship Education in universities in Kwara State ($t_{145} = -2.167$, $p < 0.05$).



Discussion of Findings

The first finding of this study on the extent of utilisation of generative and content AI tools showed that business educators and students in the three universities in Kwara State utilise these tools for research on a high extent with an overall mean of 3.43. This hypothesis result further showed that there was no significant difference between the mean ratings of business educators and students on the utilisation of generative and content AI tools ($t_{145} = -0.725$, $p > 0.05$) implying that both groups (students and educators) had similar opinions about their utilisation of these tools for research. Therefore, addressing this judicious level of utilisation of AI may require improving access to AI tools and providing adequate training to both students and the educators. The finding agrees with Nuhu et al. (2025), who found that AI tools contributed to research productivity among business educators to a moderate extent. It also agrees with Owan et al. (2025), who reported that actual use of AI for self-directed research learning was lower than the level of acceptance.

The findings on academic writing and editing AI tools revealed that business educators and students to a high extent, utilise the tools for research, with an overall mean of 3.27 while the hypothesis showed that there was no significant difference between the mean ratings of business educators and students ($t_{145} = -0.273$, $p > 0.05$). This means that the two groups had similar opinions regarding the extent to which academic writing and editing tools were utilised. The finding goes in line with the findings of Zhao et al. (2024) who found that students used ChatGPT and other digital tools for grammar correction, paraphrasing and other writing activities. It is also in agreement with Mahapatra (2024), who found that ChatGPT improved students' academic writing skills. The insignificant effect found in this study therefore points to the need for proper training so that the available writing and editing tools can be used more effectively for research among educators and students in Kwara states universities.

The result on reference, citation and integrity AI tools showed that business educators and students also make use of the tools for research to a high extent, with an overall mean of 3.39. The hypothesis result revealed that there was no significant difference between the mean ratings of the two groups ($t_{145} = -0.097$, $p > 0.05$). This finding shows the need for increase and continuous training on the proper use of AI reference and citation tools among the respondents because of their similar opinions on the utilisation of the tools for research. The finding agrees with Warda and Habibah (2024), who found that Mendeley was widely used by students for citation and reference management. It is also supported by Istiana and Singh (2025), who reported a high level of awareness of reference management software among postgraduate students.

Lastly, the result on the challenges affecting the utilisation of AI tools showed that business educators and students agreed that the identified factors constituted challenges faced by both respondents group, with an overall mean of 3.93. However, unlike the first three hypotheses, the fourth hypothesis was rejected because there was a significant difference between the mean ratings of business educators and students ($t_{145} = -2.167$, $p < 0.05$). Students recorded a higher mean rating of 3.97 compared with 3.66 for business educators, indicating that students perceived the challenges more strongly than the educators. Therefore, addressing these challenges may require improved stable electricity, training, technical support and clear guidelines on the use of AI for both educator and students. This finding agrees with Oladunni-Mohammad (2024), who identified inadequate training, technical difficulties and ethical concerns as barriers to effective AI use.



Conclusion

Based on the analysis of results and findings, this study indicated that the utilisation of artificial intelligence tools for research among business educators and students in Kwara State universities was high across generative and content tools, academic writing and editing tools, and reference, citation and academic integrity tools. This situation indicated that there is still a gap in the effective use of AI tools for research in business and entrepreneurship education. This study also indicated that business educators and students had similar views on the utilisation of the three categories of AI tools, while they differed significantly in their perception of the challenges affecting their utilisation. Efforts and initiatives therefore need to be made to improve training, access to suitable technology, internet connectivity, technical support and proper guidelines for the use of AI tools because this will enhance effective and responsible utilisation of AI for research in business and entrepreneurship education.

Recommendations

Based on the findings, the study recommends that:

Workshops, seminars and conferences should be organized by the university managements, Association of Business Educators of Nigeria (ABEN) and other stakeholders in education on the effective and responsible utilisation of AI tools for research among business educators and students.

University managements should establish AI Hubs or AI Support Points in order to reduce the challenges faced by business educators and students in utilising AI tools for research and other areas of academic endeavour.

University managements should provide adequate internet facilities, stable electricity supply and access to suitable computers in order to improve the accessibility and regular utilisation of AI tools for research among business educators and students.

Business education departments and university managements should develop clear guidelines and provide technical support for both educator and students on the proper use of AI tools in research most especially on checking the accuracy of AI generated information and citations, avoiding plagiarism and maintaining academic integrity.

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