REVOLUTIONIZING THE OFFICE TECHNOLOGY AND MANAGEMENT EDUCATION CURRICULUM FOR ENHANCED GRADUATE EMPLOYABILITY THROUGH ARTIFICIAL INTELLIGENCE-POWERED TOOLS

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Abstract

This study investigated how artificial intelligence powered tools could be used in revolutionizing office management education curriculum for enhanced graduate employability. Two purposes of the study with their corresponding research questions guided the study. The hypotheses were tested using a t-test statistical tool at 0.05 level of significance. Descriptive research design was adopted for the study. The population of the study comprised of all the 37-office technology and management education lecturers from all the tertiary institutions in Anambra State. Reliability of the instrument was ensured by trial-testing it at Enugu State University, Enugu. Cronbach Alpha was used to test responses from the trial-test and it yielded coefficient values of 0.79 and 0.82 for clusters one and two respectively. The trial test yielded a total coefficient index of 0.95 for both clusters. The mean value was used in answering the research questions, standard deviation was used to test the homogeneity or otherwise of the mean ratings. T-test statistical tool was used to test the null hypotheses at 0.05 level of significance. The findings revealed that Artificial intelligence powered tools that could be used in office management education curriculum for enhanced graduate employability include Microsoft office 365, google workspace, Zoom artificial intelligence companion, Calendly, among others. The findings also revealed that Modern office skills could be performed using artificial intelligence powered tools including Office automation, Data analysis and interpretation, Document management, Effective office communication, Administration and supervision among others. Based on the findings of the study, it was recommended among others that administrators of office management education should initiate review of the curriculum to include artificial intelligence powered tools that will help students acquire the modern skills needed in contemporary offices.

Keywords; *Office and Technology and Management Education, Artificial Intelligence, and Graduate Employability*

Introduction

The rapid and steady advancement in technologies have transformed work environments across the globe. This has led to redefinition of skills and competencies for the effective functioning of office managers in modern offices. As one of such emerging technologies in the global work environments, artificial intelligence (AI) is an obvious game-changing technology that has far reaching effects on the activities of all the workers in modern offices. Buckinhgham and Deakin (2016) emphasized that any worker that wishes to stay relevant in the global work environment must adapt to the rapidly changing that is been transformed by new technologies. In this line, it is imperative that office managers adapt to the use of AI as it has formed part of daily activities in modern offices (Zimmerman, 2018). This necessity should be initiated through the integration of AI into the curriculum used in training office management education students. With this, Office technology and management education students will acquire artificial intelligence-based skills that are needed in modern offices thereby gaining chances of getting employed in the competitive job market.

Artificial intelligence is one of the most used new technologies that is changing the global work environments. Jordan and Mitchell (2015) described Artificial Intelligence as computer systems that were developed to perform tasks that could be performed using human intelligence. These computer systems were developed to automatically replicate typical human intelligence in performing assigned tasks. To perform tasks assigned to it, human operators use prompts to input the tasks expected of the AI to perform. These prompts are written in simple English language with detailed information and description of the exact result expected of the AI. Nnamani (2021) explained that artificial intelligence was developed to critically think and execute tasks like humans using computer programmes and prompts written or dictated by humans. This system was designed to typically perform perfume tasks such as reasoning and solving varying problems in the same way humans should have performed them. Mutascu (2021) explained that artificial intelligence is a common name for different machine learning technologies that can perform all the tasks that human intellects can perform. With their unique features, artificial intelligence has permeated into different aspects of human activities such as education, finance, security, business among others (Aleryani, 2019). In the field of education, artificial intelligence could be used in teaching and learning, getting access to information over the web and so on. With the above, it is evident that artificial intelligence is a veritable tool for the revolution of Office technology and management education curriculum.

Office technology and management education is an aspect of vocational education that focuses on equipping individuals with skills and knowledge needed to thrive in modern offices. As an important aspect of vocational education, Office technology and management education prepares individuals with competencies required for effective management of office operations. Nwagwu (2017) described Office technology and management education as a programme designed to equip individuals with skills and knowledge needed in performing administrative and record management tasks. These individuals are prepared to effectively use technologies in handling all correspondence and other activities that support effective operation in an organization (Ekwueme, 2018)). Office technology and management education specifically aims at equipping students with skills and knowledge such as ability to generate meeting notes, answering official calls, responding to questions regarding office operations, preparing and managing office records, receiving and attending to visitors, preparation of invoices, supervision of office activities among others.

Office technology and management education is offered in tertiary institutions in Nigeria. In Universities and colleges of education, it is offered as an option in the department of Business Education while it is offered as departments of Office Technology and Management in polytechnics. Despite its domiciliation and changes in nomenclature, Office technology and management education curriculum in tertiary institutions is used in producing quality office managers that effectively maintain office systems and supervise other office operations (Okolocha and Baba, 2017). Azi (2015) explained that Office technology and management education curriculum in tertiary institutions prepares individuals for effective communication in the work environment, information processing, storage, retrieval and dissemination of information in modern offices. Both in universities, polytechnics and colleges of education, the curriculum of Office technology and management education is comprised of courses in records management, office and business communication, office technologies, office administration and so on. All these curriculum contents could be revolutionized using artificial intelligence powered tools.

Revolutionizing Office technology and management education curriculum using artificial intelligence powered tools becomes pertinent as modern offices are adopting different features of artificial intelligence in their operations. Nwagwu (2020) observed that artificial intelligence has great potential to revolutionize Office technology and management education as it exposes students to office technologies and as well provides them with hands-on experience. Using artificial intelligence powered tools in Office technology and management education can help the students to improve their performance of administrative tasks, thereby improving in their academic performances (Okoli, 2019). The use of artificial intelligence powered tools in revolutionizing office management education curriculum has the potential of making the students gain competitive advantage in the job market on graduation as modern offices are adopting AI in their operations. Uzoamaka (2022) noted that students with artificial intelligence skills have higher prospects for employability in modern offices. Therefore, Office technology and management education

curriculum could be revolutionized through the usage of artificial intelligence powered tools as this will help in enhancing their employability prospects.

Statement of the Problem

Office technology and management education is an important aspect of vocational education as it prepares the workforce that is needed in commercial businesses and modern offices. Despite the imperative of office management education in producing human resources for modern offices, the continual use of traditional curriculum seems to be negatively affecting the employability of her graduates. This traditional curriculum is seemingly not equipping the students with competencies that are in high demand in modern offices. As a result of using traditional curriculum, the students are not adequately equipped with contemporary skills and knowledge needed to easily get employed in modern offices. In this regard, it has become necessary for Office technology and management education curriculum developers to integrate new technologies such as artificial intelligence in the curriculum. Since artificial intelligence is revolutionizing different job markets and has become an effective tool in office administration, non-integration of AI tools in office management education curriculum can reduce competitiveness of her graduates in the job markets. This unfortunately makes the students not exposed to modern office technologies thereby reducing their employability prospects. Reduction in the employability prospects of graduates of Office technology and management education could be caused by their lack of skills required for effective function in technology driven offices. Where there is mismatch between skills possessed by Office technology and management education graduates and industry demands, these graduates may either be underemployed or unemployed. Also, non-exposure of students to artificial intelligence powered tools can make them lack skills that are in use in modern offices thereby finding it difficult to harness the benefits of artificial intelligence in such offices. Therefore, Therefore, it is imperative to revolutionize the Office Technology and Management Education curriculum through artificial intelligence to enhance graduates' employability.

Research Questions

The following research questions guided the study

1. What are the artificial intelligence powered tools that could be used in Office technology and management education curriculum for enhanced graduate employability?
2. What are the modern office skills that could be performed using artificial intelligence powered tools for enhanced graduate employability?

Hypotheses

following hypotheses were tested at 0.05 level of significance.

Ho1: there is no significant difference in the mean responses of male and female office management education lecturers from tertiary institutions in Anambra State on the artificial intelligence powered tools that could be used in Office technology and management education curriculum for enhanced graduate employability.

Ho^2: There is no significant difference in the mean responses of Office technology and management education lecturers from tertiary institutions in Anambra on modern office skills that could be performed using artificial intelligence powered tools for enhanced graduate employability based on their years of experience.

Method

This study adopted descriptive research design. The population of the study comprised of all the 37 Office technology and management education lecturers from all the government tertiary institutions in Anambra State. There was no sampling as the researcher found the population to be manageable. The instrument for data collection was a structured questionnaire constructed by the researcher. The instrument was structured on a five-point rating scale of Strongly Agree (SA), Agree (A), Undecided (UN), Disagree (D) and Strongly Disagree (SD). The instrument had two sections, sections A and B. section A related to the respondent’s gender and years of experience, while section B contained 22 items in two clusters in line with the research questions. The first cluster contained items used in answering research question one while the second cluster contained items used in answering research question two. The instrument was validated by

two experts from office management education major and one other expert from measurement and evaluation, Nnamdi Azikiwe University, Awka. Reliability of the instrument was ensured by trial-testing it at Enugu State University, Enugu. Cronbach Alpha was used to test responses from the trial-test and it yielded coefficient values of 0.79 and 0.82 for clusters one and two respectively. The trial-test yielded a total coefficient index of 0.95 for both clusters. This means that the instrument was reliable for the study. A total of 37 copies of the instrument were administered to the respondents via google means and they were all correctly filled and returned. Data collected were analyzed using mean and standard deviation. The mean value was used in answering the research questions, standard deviation was used to test the homogeneity or otherwise of the mean ratings. T-test statistical tool was used to test the null hypotheses at 0.05 level of significance. Mean scores from 4.5 and above were deemed to be Strongly Agree (SA), 3.5-4.49 were deemed to be Agree (A), 2.5-3.49 were deemed to be Undecided (UN), 1.5-2.49 were deemed to be Disagree (D) and 1.49 and below were deemed to be Strongly Disagree (SD). For the hypotheses, where the t-calculated (t-cal) is less than the critical t-value (t-crit), at 0.05 level of significance, the null hypothesis was accepted. On the other hand, where the t-calculated (t-cal) is greater than the critical t-value (t-crit), at 0.05 level of significance, the null hypothesis was rejected.

Results

Research question one: What are the artificial intelligence powered tools that could be used in revolutionizing Office technology and management education curriculum for enhanced graduate employability?

Table 1: mean ratings of Office technology and management education lecturers on the artificial intelligence powered tools that could be used in Office technology and management education curriculum for enhanced graduate employability.

S/N	Artificial intelligence powered tools that could be used in revolutionizing Office technology and management education curriculum	Mean	SD	Remarks
1.	Artificial intelligence powered Microsoft office 365	3.85	0.77	Agreed
2	Artificial intelligence powered google workspace	3.51	0.61	Agreed
3	Zoom artificial intelligence companion	3.63	0.84	Agreed
4	Artificial intelligence powered Calendly	3.71	0.90	Agreed
5	Artificial intelligence powered trint	3.55	0.72	Agreed
6	Artificial intelligence powered Grammarly	3.78	0.93	Agreed
7	Artificial intelligence powered Xero	3.66	0.83	Agreed
8	Artificial intelligence powered HubSpot	3.82	0.59	Agreed
9	Artificial intelligence powered Trello	3.94	0.77	Agreed
10	Artificial intelligence powered crystal	3.76	0.94	Agreed
	Grand	3.72	0.79	Agreed

Data in table 1 revealed that all the items were rated between the range of 3.50 to 4.49. This means that the entire items are artificial intelligence powered tools that could be used in Office technology and management education curriculum for enhanced graduate employability. The grand mean of 3.72 indicates that Artificial intelligence powered tools that could be used in Office technology and management education curriculum for enhanced graduate employability include Microsoft office 365, google workspace, Zoom artificial intelligence companion, Calendly, trint, Grammarly, Xero, HubSpot, Trello and crystal among others.

Research question two

What are the modern office skills that could be performed using artificial intelligence powered tools for enhanced graduate employability?

Table 2: mean ratings of Office technology and management education lecturers on the modern office skills that could be performed using artificial intelligence powered tools for enhanced graduate employability?

S/N	Modern office skills could be performed using artificial intelligence powered tools	Mean	SD	Remarks
11	Office automation	3.57	0.60	Agreed
12	Data analysis and interpretation	3.64	0.65	Agreed
13	Document management	3.77	0.45	Agreed
14	Effective office communication	3.58	0.95	Agreed
15	Administration and supervision	3.81	0.72	Agreed
16	Scheduling and time management	3.64	0.86	Agreed
17	Workflow management	3.67	0.55	Agreed
18	Data visualization and reporting	3.59	0.59	Agreed
19	Transcription and dictation	3.94	0.67	Agreed
20	Email management and organization	3.59	0.53	Agreed
21	Document editing and proofreading	3.91	0.81	Agreed
22	Customer feedback analysis	3.72	0.95	Agreed
	Grand	3.70	0.69	Agreed

Data in table 2 revealed that all the items were rated between the range of 3.50 to 4.49. This means that the entire items were modern office skills that could be performed using artificial intelligence powered tools for enhanced graduate employability. The grand mean of 3.70 indicates that Modern office skills could be performed using artificial intelligence powered tools include Office automation, Data analysis and interpretation, Document management, Effective office communication, Administration and supervision, Scheduling and time management, Workflow management, Data visualization and reporting, Transcription and dictation, Email management and organization, Document editing and proofreading, Customer feedback analysis among others.

Hypotheses

Ho^1: there is no significant difference in the mean responses of male and female Office technology and management education lecturers from tertiary institutions in Anambra State on the artificial intelligence powered tools that could be used in Office technology and management education curriculum for enhanced graduate employability.

Table 3: t-test analysis of male and female respondents means ratings on the artificial intelligence powered tools that could be used in Office technology and management education curriculum for enhanced graduate employability.

Gender	N	X	SD	Df	A	t-cal	t-crit	Decision
Male	15	3.81	0.72					
				35	0.05	0.44	2.02	Not significant
Female	22	3.69	0.89					

Data in table 3 show that the calculated t-value is 0.44 at a degree of difference of 35 and 0.05 level of significance is less than the critical t-value of 2.02. This shows that there is no significant difference in the mean responses of male and female Office technology and management education lecturers from tertiary institutions in Anambra State on the artificial intelligence powered tools that could be used in Office technology and management education curriculum for enhanced graduate employability. Therefore, the null hypothesis is accepted.

Ho^2: there is no significant difference in the mean responses of Office technology and management education lecturers from tertiary institutions in Anambra on modern office skills that could be performed using artificial intelligence powered tools for enhanced graduate employability based on their years of experience.

Table 4: t-test analysis of mean responses on modern office skills that could be performed using artificial intelligence powered tools for enhanced graduate employability based on their years of experience.

Years of experience	N	X	SD	Df	A	t-cal	t-crit	Decision
10 years and above	26	3.51	0.79					
				35	0.05	0.08	2.02	Not significant
9 years and below	11	3.49	0.66					

Data in table 4 shows that the calculated t-value is 0.08 at a degree of difference of 35 and 0.05 level of significance is less than the critical t-value of 2.02. This shows that there is no significant difference in the of mean responses of office management education lecturers from tertiary institutions in Anambra on modern office skills that could be performed using artificial intelligence powered tools for enhanced graduate employability based on their years of experience. Therefore, the null hypothesis is accepted.

Discussions

The findings on the research question one revealed that artificial intelligence powered tools that could be used in Office technology and management education curriculum for enhanced graduate employability include Microsoft office 365, google workspace, Zoom artificial intelligence companion, Calendly, Trint, Grammarly, Xero, HubSpot, Trello and crystal among others. These findings evidenced that artificial intelligence powered tools are veritable tools for enhancing the employability of Office technology and management education graduates in contemporary and competitive job markets. This finding agrees with the view of Wilkins (2019) who held that office personnel needed to be equipped with emerging skills on technologies as possession of such skills will help them to be gainfully employed and enhance their performance in commercial businesses and modern offices. In agreement, Igomu, Kwaghbo, Nayela and Elujekwute (2024) explained that the use of artificial intelligence powered tools in business education curriculum will help in tailoring the programmes individual students need and enhance their skills in line with what is obtainable in real-word experience. In the same vein, Mokonyane-Motha and De-Jager (2024) emphasized that artificial intelligence powered tools should be integrated into the curricula to help students stay abreast with emerging global needs. Similarly, Deloitte (2020) noted that development and use of artificial intelligence in organizations have necessitated an increased demand for artificial intelligence enabled skills. This however shows that enhancing employability of Office technology and management education graduates in the face of artificial intelligence megatrend will not be achieved without the use of artificial intelligence powered tools in the curriculum. Further findings revealed no significant difference in the mean ratings of male and female respondents on the artificial intelligence powered tools that could be used in Office technology and management education for enhanced graduate employability. This shows that both male and female Office technology and management education lecturers agreed that the use of artificial intelligence powered tools in office management education curriculum can enhance employability of her graduates.

Findings on the research question two showed that modern office skills that could be performed using artificial intelligence powered tools include Office automation, Data analysis and interpretation, Document management, Effective office communication, Administration and supervision, Scheduling and time management, Workflow management, Data visualization and reporting, Transcription and dictation, Email management and organization, Document editing and proofreading, Customer feedback analysis among others. This shows that when artificial intelligence powered tools are integrated in Office technology and management education curriculum, the students will learn how to use them in performing different office tasks. This finding is in line with Mokonyane-Motha and De-Jager (2024) when they revealed that students should be sufficiently trained to use different artificial intelligence powered tools in performing different tasks. Mokonyane-Motha et al further explained that artificial intelligence is considered a critical agent in providing innovations in education and educational institutions need to make artificial intelligence tools to be more accessible to students as evolution in the digital world is changing the labour market. The findings further revealed that there was no significant difference in the mean ratings of office management education lecturers on the modern office skills could be performed using artificial intelligence powered

tools for enhanced graduate employability based on their years of experience. This shows that Office technology and management education lecturers despite their years of experience agreed that training the students in the use of artificial intelligence powered tools will equip them with modern office skills thereby positioning them for better employment prospects.

Conclusion

Based on the findings of the study, artificial intelligence powered tools are veritable tools for projecting graduates of Office technology and management education graduates for better employment prospects. This is because integration of artificial intelligence powered tools and their usage in training the students will equip them with contemporary skills that are required in modern offices. Though the use of these tools is still very low, their usage in the curriculum of office management education comes with enormous benefits that will position graduates of the programme for a healthy competition in the labour market. Given the imperative of artificial intelligence powered tools in revolutionizing office management education curriculum for enhanced graduate employability, it is pertinent to encourage their usage in training students for contemporary skills needed in modern offices where such technologies are dominating.

Recommendations

The following recommendations were made based on the findings of the study:

1. Administrators of office management education should initiate review of the curriculum to include artificial intelligence powered tools that will help students acquire modern skills needed in contemporary offices.
2. Administrators of Office technology and management education should organize training and retraining programmes that will equip lecturers with modern artificial intelligence skills and their applicability in teaching and learning of OTME.

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