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INTEGRATING DIGITAL COMPETENCIES INTO BUSINESS EDUCATION CURRICULUM: ALIGNING WITH CORE CURRICULUM AND MINIMUM ACADEMIC STANDARDS (CCMAS) STANDARDS IN NIGERIAN UNIVERSITIES

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ABSTRACT

This study was carried out to ascertain the integration of digital competencies into business education curriculum to meet the CCMAS standards in South-East Nigerian universities. one research question and one null hypothesis guided the study. The study adopted descriptive survey research design. The population of the study comprised 128 business educators from public universities in South-East region offering business education programme. there was no sampling. A-10 item structured questionnaire titled Integrating Digital Competencies into Business Education Curriculum to Meet the CCMAS Standard Questionnaire (IDCBEC-MCCMASQ) was used for data collection. The instrument was validated by three experts in the field of education, and the reliability of the instrument was ascertained through pilot-testing and data collected calculated using Cronbach alpha formula which yielded correlation coefficients of .86. Mean, standard deviation and t-test were used for data analysis. Findings revealed that the overall integration of digital competencies into the Business Education curriculum in South-East

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Nigerian universities is low to meet the CCMAS standard. it was also found that there was no significant difference between federal universities and state universities in South-East Nigeria on digital competencies incorporate into business education curriculum to meet CCMAS standards. based on the findings of the study, the researcher concluded that the Business Education curriculum in South-East Nigerian universities has not effectively integrated digital competencies as required by the updated Core Curriculum and Minimum Academic Standards (CCMAS), indicating a significant gap between policy expectations and actual curriculum implementation. it was recommended among others that; To guarantee complete alignment with the CCMAS, Nigerian universities should conduct a thorough evaluation of their business education curriculum. This review should incorporate both basic and advanced digital competences, such as data analytics, artificial intelligence, and other cutting-edge technologies that are pertinent to modern business practices.

Keywords*:* Integration, Digital Competencies, Business Education, CCMAS

Introduction

The university education is a level of education that covers a broad range of academic disciplines. The main goal of the university education is to equip youths with critical skills for success professional fields. The Federal Republic of Nigeria (FRN), 2013) in her National Policy on Education stated that university education contributes to the development of the country by expanding and changing its educational programmes to produce highly skilled labour needed by the nation for sustainable economic development. Overall, the university education is crucial in shaping individuals intellectually, professionally and personally. Business education is a vital educational programme offered in Nigerian universities. Business education is an aspect of vocational education that is incorporated into the Nigerian educational system right from the junior secondary school for a gradual skill development of the learners (Ezoem et al., 2024). It is a broad area of knowledge that deals with the entire enterprise system, preparing recipients for roles in business as employees or employers (Onojaife, 2019). According to Ile and Okolocha as cited by Ezoem et al., business education concerns itself with the vocational and professional preparation for a career in business. The actual goals of business education are to: prepare students for specific career in office occupations; requisite skills' acquisition for job creation and entrepreneurship and exposure of students with knowledge about business, including digital skills' acquisition by incorporating information and communication technology (ICT) (Edokpolor & Egbri, 2017). It also equips youths with the 21st-century skills needed to work for themselves or find paid employment. Okoye and Nwagu (2022)

noted that the main objective of business education at the university level is to produce manpower equipped with analytical and technical skills to enable them to contribute to the development of the nation. Ingwe, Okute and Okon (2023) argued that business education equips youth with skills essential to excel in many roles within the business sectors. Business education programme, of course, includes a wide range of specialized courses, including Distributive Education, Accounting, Business Management, Office Technology and Management (OTM), and Entrepreneurship (Folashade & Seyi, 2022).

Business education strives to produce graduates with a wide range of skills who can fit into existing career possibilities and create new ones. It supports competency development to improve employability and job creation, with a focus on digital competencies. The worldwide community has witnessed a technical and digital explosion, which has impacted traditional ways of doing things (Ore et al., 2022). Employers require ICT-motivated and digitally engaged employees to further their careers and create jobs. Digital competencies alter the way people work and create job prospects, while robots may replace ordinary labour. Rapid digitization is reshaping economies all around the world, with automation and artificial intelligence altering how businesses produce value and how graduates work. Business education, which is responsible for producing employable and entrepreneurial graduates, must therefore incorporate digital competencies. Competencies describe an individual's capacity to operate effectively in a social setting, providing a structured framework for detecting, evaluating, and developing behaviours (Raven & Stephenson, 2017). Business education graduates in the twenty-first century require digital competencies to be successfully employed or to develop their own jobs, which necessitates adequate business education training. These competencies include data literacy, digital marketing, e-commerce, social media management, basic analytics, cybersecurity awareness, collaboration tools, and cloud-based productivity in addition to basic office applications in its curriculum. Digital competences are required for graduates to work with innovative technology and digital information, allowing them to develop, control, design, and fulfil their full potential. Business education students on graduation must possess digital competences in order to access and manage information via digital devices, communication applications, and networks (Ezoem et al., 2024). Digital competencies also allow graduates to create, share, communicate, cooperate, solve issues, be creative, attain personal fulfilment, study, work and participate in social activities. As labour markets evolve as a result of technology advancement, digital competencies become increasingly important for business education graduates to succeed in the job.

In light of the socio-economic challenges facing Nigeria, business education curriculum must be adaptive in

nature. A plan of study that helps students to gain particular information and abilities is referred to as curriculum. Tyler (2013) defined curriculum as a carefully thought-out order of lessons and teaching resources created to help students meet their learning objectives. It includes all of the materials, techniques, evaluation procedures and content utilized to direct instruction and learning in educational programmes or institutions. The curriculum must be flexible and capable of meeting the changing realities of the society and economy. This involves business education curriculum adjusting assessments, teaching materials, strategies, classroom environment, and most importantly incorporating digital competencies to meet skills needs of youths (Julka, 2016). This guarantees that business education students on graduation possess the needed skills to manage the intricacies of today's socio-economic situation. Julka (2016) stated that creating a robust business education programme involved incorporating digital competencies in its curriculum The National Curriculum Framework (NCF) 2005 as cited by Julka underscores the significance of making a university education curriculum inclusive and meaningful experience for students. This aligns with the Core Curriculum Minimum Academic Standards (CCMAS) initiative by the National University Commission (NUC) to standardize academic programmes across universities and ensure quality and relevance in the education field (NUC, 2024). The National University Commission Core Curriculum Minimum Academic Standards (CCMAS) was published in 2022 to meet 21st-century educational demands. The CCMAS is a unique structured curriculum that provides 70% of core courses for each programme, with the remaining 30% for innovative courses in their areas of focus (Nuhu & Ibrahim, 2024). The curriculum is designed to allow students to carry between 30 and 48 credit units per session. Ogunode et al. (2023) stated that the CCMAS is characterized by national and local content, and is implemented using a blended learning approach. CCMAS also emphasizes the incorporation of contemporary skills and knowledge areas, such as digital analytics, e-commerce, AI, data management, information systems, e-business, cybersecurity awareness, and digital collaboration to align Nigerian graduates with global digital competencies. In addition, the new CCMAS is a comprehensive approach to enhancing business education programme in Nigerian universities, combining human and digital resources. The NUC (2022) highlighted CCMAS's aims as to produce and train manpower, guide universities in developing 30% local content, incorporate innovation and digitalization into curriculum content, produce graduates with high academic and ethical standards, and integrate universities into a blended learning model. Ogunode et al. (2024) asserted that the NUC instructed the implementation of CCMAS in all Nigerian universities for all 100-level students in 2023/2024.

The incorporation of digital competencies into Business Education curriculum at Nigerian universities continues to be a national discussion point. According to Amadi et al. (2024), Business Education graduates from Nigerian universities have poor levels of digital capabilities, indicating a continuing skills gap in the programme's curriculum. Similarly, Okoye and Ubaka (2025) and Ezoem et al. (2024) reported a gap in graduates' digital competencies required for self-reliance and employability in a technology-driven labour market. This suggests that digital competencies are under-taught in Nigerian university education programmes, especially business education. Long-standing implementation barriers that can impede curriculum reform include inadequate ICT infrastructure and connectivity, insufficient lecturer training in emerging tools, limited access to current digital resources, and policy prescriptions that do not reflect classroom realities (Amadi et al., 2024). These limitations risk sustaining traditional, theory-base business education curriculum implementation practices that may not result in verifiable digital competencies among business education students.

In order to support universities with curriculum renewal, pedagogy modernization, and assessment reform, the NUC has reaffirmed its commitment to full CCMAS implementation at the university level, along with extended e-learning and ODL quality criteria (NUC Bulletin, 2025). Business education can use the 30% institutional space for curriculum innovations such as industry-embedded projects and embed digital competencies as explicit learning outcomes thanks to this policy environment. To fully realize these possibilities, though, empirical clarity is required regarding the current level of digital competency integration into business education curriculum to identify skill gaps relative to CCMAS standards. Based on this background, this study focused on integrating digital competencies into the Business Education curriculum: Aligning with CCMAS Standards in Nigerian Universities.

Statement of the Problem

Digital transformation is driving workplaces in the twenty-first century, and a workforce with advanced digital competencies is essential for entrepreneurship and long-term employability. As a field intended to prepare youths for the digital workplaces, business education needs to change to satisfy the needs of a technologically advanced economy. In order to guarantee that academic programmes in Nigerian universities, especially business education, stay current, competitive, and in line with international best practices, the National Universities Commission (NUC) established the Core Curriculum and Minimum Academic Standards (CCMAS). Digital literacy, data management, information systems, e-business, cybersecurity awareness, and digital collaboration abilities

are among the digital competences that are emphasized in the CCMAS. Notwithstanding these recommendations, there seems to be this notion that digital capabilities are still not sufficiently included into the Business Education curriculum of Nigerian universities as many graduates of the programme struggle to fit into the digital workplaces. it appears that digital competencies especially advanced ones like data analytics, cloud computing, artificial intelligence applications, and digital entrepreneurship seem not to be covered at all or seem to be only partially covered in the business education curriculum. There seem to be a substantial skills gap existing between graduates of business education programme and the demands of more automated and digitalized modern workplaces as a result of this inadequate integration.

Furthermore, several universities in Nigeria, including South-East region often deal with systemic issues such as poor internet connectivity, inadequate ICT infrastructure, a lack of training for lecturers in new digital technologies, and restricted access to current instructional materials. These problems appear to make it challenging to match Business Education with the CCMAS standard and impede the successful execution of the programme. The issue appears to be made worse by the lack of evidence of concerted attempts by universities, curriculum designers, and legislators to evaluate and revise the curriculum in a way that is more in line with the reality of the digital economy and traditional business education. This disparity limits the employability and entrepreneurial potential of graduates of business education programme at South-East Nigerian universities since they are frequently unprepared for the needs of modern workplaces. This imbalance jeopardizes Nigeria's larger attempts to attain sustainable economic development by producing graduates with digital competencies, in addition to undermining the value of business education programme among the public. The insufficient incorporation of digital competencies into the Business Education curriculum at South-East Nigerian universities, and the degree to which this shortcoming impedes conformity to the CCMAS standard, is the issue that this study aims to solve. Similarly, the business education programme runs the risk of becoming outdated in terms of preparing students for the opportunities and challenges of the digital age if immediate action is not taken. Specifically, this study determined (1) digital competencies incorporated into Business Education curriculum in South-East universities to meet CCMAS standards.

Research Question

The following research question guided the study

1. What digital competencies are incorporated into Business Education curriculum in South-East universities to meet CCMAS standards?

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Null Hypothesis

The following null hypothesis was tested at 0.05 level of significance;

$H0_1$: There is no significant difference between federal universities and state universities on digital competencies incorporate into business education curriculum to meet CCMAS standards.

Methods

This study adopted descriptive survey research design. It was carried out in South-East, Nigeria. The population of the study comprised 128 business educators in public universities in South-East, Nigeria offering business education programme. Information obtained from the Academic Planning Units of the various universities as at 26th August, 2025 showed that there are four Federal Universities with 93 business educators and four State universities with 35 business educators. There was no sampling since the population was manageable and accessible to the researcher. The instrument for data collection was a structured questionnaire titled "Integrating Digital Competencies into Business Education Curriculum to Meet the CCMAS Standard Questionnaire (IDCBEC-MCCMASQ). The instrument was in two sections: A and B. Section A is structured to elicit demographic information of the respondents such as ownership of university while section B contained 10 items in cluster B1 covering the one research question. The instrument was structured on a four-point rating scale of: Strongly Agree (SA) – 4, Agree (A) - 3, Disagree (D) – 2 and Strongly Disagree (SD) – 1. The face validity of the instrument was determined by three experts' judgments, two experts were in Business Education and one expert in Measurement and Evaluation all from Nnamdi Azikiwe University, Awka, Anambra State. The reliability of the instrument was established through pilot-testing, and data collected were analyzed using Cronbach alpha formula which yielded reliability coefficient of .86. The researcher with the help of five research assistants administered copies of the questionnaire to the respondents in their offices. The research assistants were adequately briefed on methods of administration and retrieval of the questionnaire. On the spot method was adopted but Business Educators who were not able to complete their copies immediately were given more time and revisited on a later agreed date for collection. This method facilitated a high response rate as 120 out of 128 copies of the questionnaires distributed were correctly filled and returned giving a 94% return rate. Statistical mean and standard deviation were utilized to answer the research question and determine the homogeneity of mean responses. The decision rule was based on a benchmark of 2.50, which was considered agreement while anything less than 2.50 was considered disagreement. An independent t-test at 0.05 level of significance was employed to test the null hypothesis. A null hypothesis was rejected where the p-value is less than the significant level; otherwise, the null hypothesis was accepted. The analysis

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was carried out using Statistical Package for Social Sciences (SPSS) version 25.0.

Presentation of Result

Table 1: Respondents' mean ratings and standard deviation on digital competencies incorporated into business education curriculum to meet CCMAS requirements

S/N	Items on Incorporation of Digital Competencies	$\bar{X}$	SD	Remarks
1	I know about the Core Curriculum and Minimum Academic Standards (CCMAS) for Business Education	3.36	.81	Agree
2	Business education curriculum emphasizes basic ICT literacy such as word processing/spreadsheets	3.22	.74	Agree
3	Business education curriculum integrates advanced digital competencies such as data analytics	1.68	.79	Disagree
4	Business education curriculum integrates AI competencies	1.56	.68	Disagree
5	Digital competencies taught in business education programme aligns with the needs of today's business environment	2.23	.73	Disagree
6	The current teaching methods used in Business Education adequately support digital skill acquisition	2.30	.72	Disagree
7	Adequate facilities such as computers/internet access, are available to support digital skill training in business education programme	1.54	.70	Disagree
8	Business education curriculum provides enough opportunities for experiential learning using digital tools such as e-business projects	2.12	.70	Disagree
9	Business educators have the required digital skills to effectively teach the revised CCMAS curriculum	2.10	.71	Disagree
10	Regular professional development programmes such as workshops/seminars are provided to business educators on digital competencies	3.25	.82	Agree
	Cluster Mean	**2.32**		**Disagree**

Data in Table 1 shows that the cluster mean score is 2.32**,** indicating that business educators disagree that majority of digital competencies are incorporated into business education curriculum to meet CCMAS standards. Item by item analysis shows that business educators agree on three items with mean score of 3.22 to 3.36 while they disagree on the remaining seven items with mean scores ranging from 1.54 to 2.30. The standard deviation scores for all the items are within the same range indicating that the respondents are not wide apart in their mean responses.

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Table 2: t-test Analysis of Significance Difference between Federal Universities and state universities on Digital Competencies Incorporate into Business Education Curriculum to Meet CCMAS Standards

Group	N	$\bar{X}$	SD	df	t-value	P-value	Decision
Federal University	86	2.35	.73	118	2.02	.21	Not Significant
State University	34	2.28	.76				

Data in Table 2 shows t-value of 2.02 with a degree of freedom of 118, and p-value of .21 which is greater than.05 significant level. Since the p-value (.21) >.05**,** the null hypothesis is therefore accepted. This means that there is no significant difference between federal universities and state universities in South-East Nigeria on digital competencies incorporate into business education curriculum to meet CCMAS standards.

Discussion of Findings

Findings of this study revealed that the overall integration of digital competencies into the Business Education curriculum in South-East Nigerian universities is low to meet the CCMAS standard. This implies that the majority of business educators surveyed do not believe that the curriculum effectively incorporates digital competencies into business education, even though the updated Core Curriculum and Minimum Academic Standards (CCMAS) place a strong emphasis on these competencies. Findings specifically showed that some degree of advancement, especially in terms of increasing knowledge of CCMAS policy guidelines and offering opportunities for staff capacity-building and basic ICT training. Nevertheless, the vast majority of items were disagreed by business educators, indicating glaring shortcomings in the integration of digital competences such as data analytics and AI abilities. This disparity shows that the curriculum is still focused on teaching fundamental ICT literacy, with little regard for the digital skill sets that are required in the knowledge-driven industry and economy of today. Supporting this view point, Ezoem et al. (2024) reported poor incorporation of digital skills into the business education curriculum in Nigerian universities resulting to business education students possessing low level of proficiency in digital skills. Similarly, Akpan et al. (2023) observed with regret that business education graduates had a low competence in cloud computing and only a moderate level of proficiency in cyber communication and digital literacy. Akpan et al. further noted that the business education curriculum must be restructured to properly address digital skills gaps. in the same vein, Ore (2022) disclosed that the current business education

curriculum does not adequately equip students with the required digital competencies. Furthermore, Okoro and Umoeshiet (2021) reported that the business education curriculum and facilities were insufficient for effectively imparting digital skills. Findings of the study also revealed that there was no significant difference between federal universities and state universities in South-East Nigeria on digital competencies incorporate into business education curriculum to meet CCMAS standards. This finding could be attributed to the fact that the Core Curriculum and Minimum Academic Standards (CCMAS) are set by the National Universities Commission (NUC) and apply to all Nigerian universities, creating a uniform, albeit often outdated framework. This implies that both federal and state universities are often constrained by the same curriculum guidelines, which may not be flexible enough to rapidly adapt to technological advancements. Additionally, there could be likely a widespread lack of continuous professional development for business educators who often possess inadequate digital competencies themselves to effectively teach digital competencies. Okoro and Umoeshiet (2021) found no significant difference between lecturers in state and federal universities regarding digital competencies required by business education graduates. This implies that regardless of whether a university is state or federal, the perceived gap in digital skills and the challenges in incorporating them into the curriculum are largely the same.

Conclusion

This study sought to determine the integration of digital competencies into business education curriculum: aligning with CCMAS standards in South-East universities. the study revealed that overall incorporation of digital competencies into the Business Education curriculum in South-East Nigerian universities is low to meet the CCMAS standard. based on the findings of this study, the researcher concludes that the Business Education curriculum in South-East Nigerian universities has not effectively integrated digital competencies as required by the updated Core Curriculum and Minimum Academic Standards (CCMAS), indicating a significant gap between policy expectations and actual curriculum implementation.

Recommendations

Based on the findings of the study, the researcher makes the following recommendations;

1. To guarantee complete alignment with the CCMAS, Nigerian universities should conduct a thorough evaluation of their business education curriculum. This review should incorporate both basic and advanced digital competences, such as data analytics, artificial intelligence, and

other cutting-edge technologies that are pertinent to modern business practices.

2. Since both federal and state universities show similar gaps, targeted training and professional development programmes should be organized for business educators across all universities to enhance their digital skills and pedagogical competencies to enable them effectively deliver digital-oriented course contents.
3. The Federal and state governments of Nigeria in partnership with university management should invest in modern ICT facilities, digital learning tools and reliable internet access across university campuses to support the integration of digital competencies into teaching and learning of business education programme.

REFERENCES

Adekoya, O. A. & Adekoya, O. F. (2019). Innovations in business education curriculum: The case of Nigeria. *Journal of Education and Practice*, *10*(30), 13-21.

Akpan, U. I., Akpan, N., & Homevor, M. D. (2023). Application of Digital Skills and the Future of Business Education in Nigeria. *International Journal of Educational and Scientific Research Findings*, *5*(1), 56-66.

Amadi, E. A., Wogboroma, N., & Levi, N. B. (2024). Digital competencies possessed by business education students for management of small-scale businesses in Rivers State universities. *IARD International Journal of Economics and Business Management*, *10*(7), 227–238.

Edet, D. and Atah, C. (2019). Job creation enhancing mentality among universities business education students for global relevance. enhancing job creation mentality among universities business education students for global relevance. *Nigerian Journal of Business Education (NIGJBED)* 6(2), 196-205. https://doi.org/10.18535/ijsrm/v6il.e101

Ezoem, M. N., Okpuzor, V. N., Orhorhoro, P. N., & Okolo, J. A. (2024). Digital Competencies Needed of Business Education Graduates' Employability Prospect and Job Creation in Tertiary Institutions in Delta State, Nigeria. *International Journal of Recent Innovations in Academic Research*, *8*(3), 1-9.

Federal Republic of Nigeria (2013). *National policy on education.* Lagos: NERDC Publishers.

Folashade, A. R. & Seyi, D. (2022). Business education curriculum and skills acquisition in digital marketing era. *Nigerian Journal of Business Education (NIGJBED)*, 9(3), 145-154.

Julka, A. (2016). Curricular adaptations for children with special needs. *Confluence, 18.* https://www.education.gov.in/sites/upload_files/mhrd/files/document-reports/Confluence.pdf

NUC Bulletin (2025). *Guidelines on e-Learning and ODL implementation (policy environment for digital delivery).* National Universities Commission

NUC – CCMAS (Education). (2023). *Core Curriculum and Minimum Academic Standards (CCMAS): Education.* National Universities Commission. (70% NUC core / 30% university component). ijbcoe.edu.ng Federal Republic of Nigeria (2013). *National policy on education.* Lagos: NERDC Publishers.

Okoro, J., & Umoeshiet, E. A. (2021). Interactive technology competencies required by business education graduates in universities, South-South Nigeria as perceived by lecturers. *Library Philosophy and Practice (e-journal)*, 5705. https://digitalcommons.unl.edu/libphilprac/5705

Okoye, A. C. & Nwagu, C. C. (2022). Business education and acquisition of employability skills for global competitiveness in the Covid-19 era: competency needs of business educators in Anambra State. *COOU Journal of Educational Research, 7*(1), 153 – 164.

Ore, A., Hassan, A. & Ogungbe, B.A. (2022). Robotic perception and mapping: Emerging techniques. Aerospace Control Lab, 4(1), 41-59.

Ore, E. R. (2022). Effectiveness of business education programme and the development of employability skills of business education students in public universities in Lagos State, Nigeria. *African Journal of Educational Management*, *23*(1), 58–73.

Raven, J., & Stephenson, J. (2017). *Competency in the learning society*. Peter Lang.

Tyler, R. W. (2013). *Curriculum development: The process and the product.* The University of Chicago Press.