



Desktop Publishing Competencies Required for the Entrepreneurial Development of Office Management Technology (OMT) Students in Federal University Otuoke

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Abstract

The growing demand for digitally skilled graduates has made desktop publishing competencies essential for entrepreneurial development in Office Management Technology (OMT) education. However, there is limited empirical evidence on the specific desktop publishing competencies required to enhance the entrepreneurial capacity of OMT students. This study determined the desktop publishing competencies required for the entrepreneurial development of Office Management Technology students in Federal University Otuoke. Two research questions guided the study. A descriptive survey research design was adopted. The population comprised 278 OMT students, and a census sampling technique was employed. Data were collected using a researcher-developed Desktop Publishing Competencies for Entrepreneurial Development Questionnaire (DPCEDQ), validated by three experts. The instrument yielded an overall Cronbach's alpha reliability coefficient of .88, indicating high internal consistency. Data were analysed using mean and standard deviation. The findings revealed that digital communication (Grand Mean = 3.60) and graphic design (Grand Mean = 3.67) are highly required desktop publishing competencies for the entrepreneurial development of OMT students. The study concludes that integrating practical desktop publishing training into the OMT curriculum will strengthen students' entrepreneurial competence, enhance self-employment opportunities, and improve graduate employability in the digital economy. The findings further support Human Capital Theory, which emphasizes the role of skill acquisition in enhancing productivity and entrepreneurial capacity.

Keywords: desktop publishing, digital communication, graphic design, entrepreneurial development, office management technology

1 Introduction

The rapid digital transformation of the global workplace has redefined the competencies required of graduates in Office Management Technology (OMT). Modern organizations increasingly rely on digital technologies for communication, document production, information management, branding, and administrative operations, making advanced digital competencies indispensable for both paid employment and self-employment (Adebayo, 2023; Anokwulu & Ogbusuo, 2024). Among these competencies, desktop publishing has emerged as a critical skill because it enables individuals to create, design, and manage professional digital and print materials that support business communication and organizational effectiveness. Consequently, OMT programmes are expected to equip students with practical desktop publishing competencies that promote innovation, employability, and entrepreneurial development.

Entrepreneurial development has become an important objective of higher education in Nigeria due to increasing graduate unemployment and the growing demand for self-reliant graduates. Possessing entrepreneurial intentions alone is insufficient; graduates require practical competencies that enable them to establish and sustain viable enterprises. Desktop publishing competencies—including digital communication, graphic design, operating system proficiency, and technical troubleshooting—provide students with marketable skills applicable to printing, branding, advertising, digital media production, and other technology-driven ventures (Okegbe, 2025; Awoniyi & Owolabi, 2025). These competencies

therefore represent valuable resources for creating employment opportunities and enhancing business competitiveness in the digital economy.

Although OMT curricula emphasize ICT integration, evidence suggests that many students still experience inadequate practical exposure, limited access to current publishing software, insufficient instructional resources, and weak industry-oriented training, thereby constraining the acquisition of relevant desktop publishing competencies (Tony-Okeme, 2020; Adebayo, 2023). Existing studies have largely examined entrepreneurship education or general ICT competencies, with limited empirical attention given to the specific desktop publishing competencies that drive entrepreneurial development among OMT students. This study therefore investigates the desktop publishing competencies required for the entrepreneurial development of Office Management Technology students in Federal University Otuoke, with a view to providing empirical evidence for curriculum improvement and entrepreneurship-oriented skill development.

Desktop publishing has become one of the most important digital competencies required for achieving the entrepreneurial objectives of Office Management Technology (OMT) education. It refers to the use of computer systems, specialized publishing software, typography, graphics, and digital imaging technologies to design, format, and produce high-quality documents and publications for print and electronic distribution. The rapid growth of the digital economy has transformed the nature of work and expanded entrepreneurial opportunities for individuals with competencies in digital content creation, electronic communication, graphic design, and information management. Modern business organizations increasingly require professionals who can produce professional publications, promotional materials, business documents, and online communication content using contemporary publishing technologies. Consequently, higher education institutions are expected to produce graduates who possess not only theoretical knowledge but also practical digital and entrepreneurial competencies that enable them to create employment opportunities and compete effectively in technology-driven economies. Within business education, Office Management Technology programmes occupy a strategic position in developing students' administrative, technological, managerial, and entrepreneurial competencies required for paid employment and self-reliance in the modern workplace. As such, desktop publishing has become an indispensable component of OMT education because it equips students with practical competencies that can be transformed into viable entrepreneurial ventures and sustainable sources of income (Okoye & Onyeagba, 2020; Adebayo, 2023; UNESCO, 2023). To realize the entrepreneurial objectives of Office Management Technology (OMT) education, students must acquire a range of specialized competencies that underpin effective desktop publishing practice. These competencies involve the application of computer hardware, publishing software, typography, graphics, and digital imaging tools to design and produce professional-quality documents for both print and electronic distribution. They encompass digital communication, graphic design, operating system management, document layout, image manipulation, page composition, and technical troubleshooting, all of which are fundamental to contemporary office administration and digital content production. As business organizations increasingly digitalize their operations and communication processes, they rely extensively on professionally designed reports, brochures, newsletters, flyers, business cards, presentations, promotional materials, social media content, and corporate publications to engage clients and other stakeholders. This transformation has created an increasing demand for professionals and entrepreneurs who possess competencies in digital publishing applications such as Microsoft Publisher, Adobe InDesign, Adobe Photoshop, CorelDRAW, Canva, and other desktop publishing software.

Collectively, these competencies equip OMT graduates with the practical skills required to establish enterprises in commercial printing, digital branding, advertising, publishing, multimedia production, document design, and related digital services. Beyond creating opportunities for self-employment, they enhance workplace productivity by improving document quality, facilitating effective communication, reducing production costs, minimizing dependence on outsourced technical support, and increasing operational efficiency. Consequently, graduates who possess competencies in digital communication, graphic design, operating system management, and technical troubleshooting are better positioned to establish small and medium-sized enterprises, operate digital business centres, provide freelance publishing services, and contribute to national economic development through innovation and self-employment. Empirical evidence consistently indicates that digital competencies are indispensable for employability, entrepreneurial readiness, and organizational performance in the digital economy. Accordingly, integrating desktop publishing competencies into the OMT curriculum strengthens graduates' capacity for self-reliance, enhances their competitiveness in the labour market, and equips them to exploit emerging entrepreneurial opportunities in technology-driven industries (Amoor & Udoh, 2020; European Commission, 2022; Okoye & Onyeagba, 2020; UNESCO, 2023; World Economic Forum, 2023; Njoku et al., 2026).

Although desktop publishing competencies are fundamental to entrepreneurial success, their effective acquisition among Office Management Technology (OMT) students remains a significant challenge in many Nigerian tertiary institutions. The growing demand for digitally skilled graduates has not always been matched by corresponding improvements in teaching

facilities, instructional resources, and practical learning experiences. Many institutions continue to grapple with inadequate computer laboratories, obsolete desktop publishing software, irregular electricity supply, poor internet connectivity, insufficient instructional materials, and limited opportunities for hands-on practice. These constraints often reduce students' exposure to contemporary publishing technologies and limit the development of practical competencies required in today's digital workplace. Similarly, inadequate collaboration between universities and industry deprives students of opportunities to acquire workplace experiences and practical entrepreneurial skills that complement classroom instruction. Consequently, many OMT graduates leave the university with theoretical knowledge but inadequate practical competencies for establishing successful desktop publishing enterprises or meeting the expectations of employers in technology-driven organizations (Akeke et al., 2023; UNESCO, 2023; World Economic Forum, 2023).

The consequences of these competency gaps extend beyond graduate employability to the broader objectives of entrepreneurship education and national economic development. Entrepreneurship education is expected to equip learners with practical competencies that enable them to identify business opportunities, create innovative products and services, and become self-reliant rather than depend solely on paid employment. However, graduates who lack competencies in digital communication, graphic design, operating system management, and technical troubleshooting may encounter difficulties in establishing sustainable businesses within the highly competitive digital economy. Their inability to design professional publications, manage digital production processes, troubleshoot technical problems, and utilize current publishing applications may reduce business competitiveness, limit innovation, and constrain income-generation opportunities. Given the increasing contribution of digital entrepreneurship to economic growth and job creation, strengthening desktop publishing competencies has become imperative for preparing graduates who can adapt to changing labour market demands and contribute meaningfully to sustainable national development (European Commission, 2022; UNESCO, 2023; World Economic Forum, 2023).

A growing body of literature has examined digital competencies, entrepreneurship education, and business education as important drivers of graduate employability and entrepreneurial success. However, most previous empirical studies have focused on broad constructs such as information and communication technology (ICT) competence, digital literacy, computer literacy, or entrepreneurship education, with limited attention to the contribution of specific desktop publishing competencies to the entrepreneurial development of Office Management Technology (OMT) students. Moreover, studies investigating digital skills have seldom disaggregated desktop publishing into its core competency dimensions, including digital communication, graphic design, operating system proficiency, and technical troubleshooting. Existing empirical evidence focusing specifically on OMT students in Nigerian universities also remains limited, while studies conducted within the context of Federal University Otuoke are particularly scarce. This paucity of context-specific evidence creates both an empirical and contextual gap regarding the desktop publishing competencies required to enhance the entrepreneurial development of OMT students, thereby necessitating the present study.

It is against this backdrop that the present study seeks to identify the desktop publishing competencies required for the entrepreneurial development of Office Management Technology students in Federal University Otuoke. Specifically, the study examines the competencies required in digital communication, graphic design, operating system management, and technical troubleshooting with a view to providing empirical evidence that will guide curriculum improvement, strengthen practical skills acquisition, enhance entrepreneurship education, and better prepare graduates for self-employment and productive participation in the digital economy.

Purpose of the Study

The main purpose of this study is to determine the desktop publishing competencies required for the entrepreneurial development of Office Management Technology (OMT) students in Federal University Otuoke.

Specifically, the study seeks to:

1. determine the digital communication competencies required for the entrepreneurial development of Office Management Technology students in Federal University Otuoke; and
2. identify the graphic design competencies required for the entrepreneurial development of Office Management Technology students in Federal University Otuoke.

Research Questions

The following research questions guided the study:

1. What digital communication competencies are required for the entrepreneurial development of Office Management Technology students in Federal University Otuoke?
2. What graphic design competencies are required for the entrepreneurial development of Office Management Technology students in Federal University Otuoke?

2 Literature Review

This study is anchored on the Human Capital Theory (HCT) propounded by Schultz (1961) and further developed by Becker (1964). Human Capital Theory posits that investments in education, training, and skills acquisition enhance individuals' knowledge, competence, productivity, and economic value. The theory maintains that education should not merely be viewed as a social service but as an investment that yields economic returns through improved productivity, innovation, employability, and entrepreneurial capability (Becker, 1964; Schultz, 1961). Human capital comprises the knowledge, competencies, technical skills, and experiences that enable individuals to perform efficiently in the labour market and create economic value. Accordingly, individuals who acquire relevant occupational and technological competencies are better positioned to adapt to changing workplace demands, exploit emerging opportunities, and contribute meaningfully to socio-economic development.

The assumptions of Human Capital Theory align closely with the objectives of Office Management Technology (OMT) education, which emphasizes the acquisition of practical, technological, managerial, and entrepreneurial competencies required for effective workplace performance and self-employment. Within this context, desktop publishing competencies constitute valuable human capital because they equip students with practical digital skills that can be transformed into income-generating ventures. Competencies in digital communication, graphic design, operating system management, and technical troubleshooting enable graduates to establish businesses in commercial printing, digital branding, publishing, multimedia production, and related digital services. Consequently, investment in developing these competencies enhances entrepreneurial readiness, improves employability, and promotes sustainable economic participation within the digital economy (Adebayo, 2023; Anokwulu & Ogbusuo, 2024). The theory therefore provides a suitable framework for explaining how the acquisition of desktop publishing competencies can facilitate the entrepreneurial development of Office Management Technology students.

Desktop publishing has become an integral component of digital literacy, business education, and entrepreneurship education due to the rapid digitalization of organizational communication and business operations. The increasing dependence of organizations on professionally designed documents, digital publications, online promotional materials, and multimedia communication has significantly increased the demand for graduates possessing desktop publishing competencies. Desktop publishing involves the use of computer systems and specialized publishing software to design, edit, format, and produce high-quality print and electronic publications through the integration of typography, graphics, page layout, digital imaging, and document design techniques. These competencies enable users to create professional reports, newsletters, brochures, business cards, flyers, magazines, manuals, posters, and other communication materials that support organizational branding and information dissemination (Tony-Okeme, 2020; Adebayo, 2023).

The increasing relevance of desktop publishing is closely associated with the emergence of the digital economy, where creativity, innovation, and digital content production have become essential drivers of entrepreneurial success. Small and medium-sized enterprises, educational institutions, government agencies, media organizations, and private businesses increasingly require professionals capable of producing visually appealing publications for both print and digital platforms. Consequently, desktop publishing has evolved beyond a technical office skill into an entrepreneurial competency that enables individuals to provide specialized services such as digital branding, commercial printing, advertising, document production, online marketing, multimedia design, and electronic publishing. This transformation has expanded employment opportunities for graduates while creating avenues for self-employment and wealth creation within knowledge-based economies (UNESCO, 2023; World Economic Forum, 2023).

Among the major desktop publishing competencies required for entrepreneurial success, digital communication competency occupies a central position. Digital communication refers to the ability to create, manage, exchange, and disseminate information effectively through digital technologies and electronic communication platforms. It involves proficiency in preparing digital documents, communicating through online platforms, managing electronic correspondence, utilizing collaborative technologies, and engaging customers through digital media. Effective digital communication enables entrepreneurs to promote products and services, establish professional relationships, expand market visibility, and

improve customer engagement. Recent studies indicate that entrepreneurs possessing strong digital communication competencies are more likely to achieve business growth because they effectively utilize digital technologies to reach wider audiences and improve organizational efficiency (Anokwulu & Ogbusuo, 2024; (Okegbe, 2025).

Another important competency is graphic design, which involves the creative application of visual elements such as colour, typography, illustrations, layout, images, and symbols to communicate information effectively. Graphic design competencies enable graduates to produce attractive business publications, promotional materials, advertisements, corporate identities, product catalogues, and digital marketing content. As organizations increasingly emphasize visual communication and brand identity, graphic design has become an indispensable entrepreneurial skill. Entrepreneurs possessing graphic design competencies are better positioned to establish businesses in commercial printing, advertising, branding, publishing, multimedia production, and digital marketing. Consequently, graphic design competency contributes significantly to business competitiveness, customer attraction, and enterprise sustainability (Obidile & Onyeneke2023; Njoku et al., 2026;).

In addition to digital communication and graphic design, competencies in operating system management and technical troubleshooting are equally important for effective desktop publishing practice. Operating system management enables individuals to install, configure, organize, secure, and maintain computer systems required for publishing activities, while technical troubleshooting equips users with the ability to identify, diagnose, and resolve software and hardware challenges that may interrupt production processes. These competencies minimize downtime, improve operational efficiency, reduce maintenance costs, and enhance business continuity. Entrepreneurs who possess technical troubleshooting skills are less dependent on external technical support, thereby increasing productivity and reducing operational expenses. Such competencies are particularly important for graduates intending to establish independent publishing enterprises or digital service centres (UNESCO, 2023).

Empirical evidence consistently supports the positive relationship between digital competencies and entrepreneurial development. Studies have shown that graduates who possess practical digital skills demonstrate higher levels of employability, innovation, business adaptability, and entrepreneurial success than those with limited technological competencies (Adebayo, 2023; Anokwulu & Ogbusuo, 2024). Similarly, UNESCO (2023) emphasized that digital competencies have become indispensable for workforce participation and sustainable economic development because they improve productivity, foster innovation, and strengthen lifelong learning. The World Economic Forum (2023) likewise identified digital literacy, creativity, technological competence, and problem-solving as among the fastest-growing competencies required in the future labour market.

Although the existing literature consistently recognizes the importance of digital competencies for entrepreneurship, previous empirical studies have focused predominantly on broad constructs such as ICT competence, computer literacy, digital literacy, or entrepreneurship education, with relatively limited attention to the specific desktop publishing competencies required by Office Management Technology students. Furthermore, studies that have investigated desktop publishing have rarely examined its constituent competencies—including digital communication, graphic design, operating system management, and technical troubleshooting—as distinct predictors of entrepreneurial development. Empirical evidence focusing specifically on OMT students in Nigerian universities, particularly within Federal University Otuoke, also remains limited. This empirical and contextual gap justifies the present study, which seeks to identify the desktop publishing competencies required for the entrepreneurial development of Office Management Technology students in Federal University Otuoke. The findings are expected to contribute to curriculum improvement, strengthen entrepreneurship-oriented training, and provide empirical evidence for enhancing the digital competencies required for graduate self-reliance in the contemporary digital economy.

3 Materials and Methods

This study adopted a descriptive survey research design to determine the desktop publishing competencies required for the entrepreneurial development of Office Management Technology (OMT) students in Federal University Otuoke, Bayelsa State, Nigeria. The design was considered appropriate because it enabled the researcher to obtain information from respondents regarding the desktop publishing competencies required for entrepreneurial development without manipulating the study variables. The study was conducted at Federal University Otuoke, Bayelsa State, Nigeria. The population comprised 278 students in the Department of Business Education. Given the manageable size of the population, a census sampling technique was adopted, whereby all the students constituted the respondents for the study. Data were collected using a researcher-developed questionnaire titled Desktop Publishing Competencies for Entrepreneurial Development

Questionnaire (DPCEDQ). The instrument consisted of 20 items organized into two clusters: digital communication competencies (10 items) and graphic design competencies (10 items). Responses were rated on a four-point Likert scale of Highly Required (4), Required (3), Slightly Required (2), and Not Required (1).

To ensure the quality of the instrument, face and content validity were established by three experts in Business Education, Educational Technology, and Measurement and Evaluation from the Faculty of Education, Federal University Otuoke. Their observations and recommendations were incorporated before the final administration of the instrument. Reliability was determined through a pilot study involving 20 Office Management Technology students from a university outside the study area with similar characteristics to the target population. Using Cronbach's Alpha, reliability coefficients of 0.86 and 0.89 were obtained for the digital communication and graphic design clusters, respectively, while an overall coefficient of 0.88 indicated that the instrument possessed high internal consistency and was suitable for data collection.

Prior to data collection, ethical approval was obtained from the Department of Vocational and Technology Education, and respondents were informed of the purpose of the study. Participation was voluntary, and confidentiality and anonymity of responses were assured. The questionnaire was administered personally by the researcher with the assistance of two trained research assistants, resulting in a high retrieval rate. Data were analysed using Statistical Package for the Social Sciences (SPSS). Mean and standard deviation were used to answer the research questions, with a criterion mean of 2.50 for decision-making. Items with mean scores of 2.50 and above were regarded as required, whereas those with mean scores below 2.50 were regarded as not required.

4 Results

Research Question 1: What digital communication competencies are required for the entrepreneurial development of Office Management Technology students in Federal University Otuoke?

Table 1: Mean and Standard Deviation on the Digital Communication Competencies Required for the Entrepreneurial Development of Office Management Technology Students ($N = 278$)

S/N	Digital Communication Competencies	Mean (x)	SD	Decision
1	Ability to communicate effectively with clients using digital platforms	3.71	0.54	Required
2	Ability to create and manage professional business emails	3.64	0.59	Required
3	Ability to use social media platforms for business promotion	3.69	0.56	Required
4	Ability to design and share digital marketing content	3.58	0.63	Required
5	Ability to collaborate using cloud-based communication tools	3.52	0.67	Required
6	Ability to conduct virtual meetings using online conferencing applications	3.47	0.71	Required
7	Ability to manage online customer inquiries and feedback	3.60	0.61	Required
8	Ability to observe digital communication ethics and professionalism	3.76	0.49	Required
9	Ability to create and present digital business presentations	3.55	0.65	Required
10	Ability to use instant messaging applications for business communication	3.50	0.69	Required
	Grand Mean	3.60	0.61	Required

Table 1 shows the mean ratings and standard deviations of respondents on the digital communication competencies required for the entrepreneurial development of Office Management Technology students in Federal University Otuoke. The mean scores ranged from 3.47 to 3.76, all exceeding the criterion mean of 2.50, indicating that the respondents considered all the listed competencies as required for entrepreneurial development. The competency "Ability to observe digital communication ethics and professionalism" recorded the highest mean score ($x = 3.76$, $SD = 0.49$), while "Ability to conduct virtual meetings using online conferencing applications" had the lowest mean score ($x = 3.47$, $SD = 0.71$). The grand mean of 3.60 with a standard deviation of 0.61 further indicates that digital communication competencies are generally required for the entrepreneurial development of Office Management Technology students in Federal University Otuoke.

Research Question 2: What graphic design competencies are required for the entrepreneurial development of Office Management Technology students in Federal University Otuoke?

Table 2: Mean and Standard Deviation on the Graphic Design Competencies Required for the Entrepreneurial Development of Office Management Technology Students ($N = 278$)

S/N	Graphic Design Competencies	Mean (x)	SD	Decision
1	Ability to create professional business logos and brand identities	3.74	0.51	Required
2	Ability to design flyers, brochures, and posters using graphic design software	3.69	0.56	Required
3	Ability to use typography effectively in designing business publications	3.58	0.62	Required
4	Ability to edit and manipulate images for commercial purposes	3.62	0.60	Required
5	Ability to apply colour combinations and design principles appropriately	3.65	0.58	Required
6	Ability to create digital advertisements for online marketing	3.71	0.53	Required
7	Ability to produce business cards, banners, and promotional materials	3.60	0.61	Required
8	Ability to use graphic design software such as CorelDRAW, Adobe InDesign, or Canva	3.77	0.49	Required
9	Ability to prepare print-ready and digital publishing files	3.56	0.64	Required
10	Ability to create visually appealing social media graphics for business promotion	3.73	0.52	Required
Grand Mean		3.67	0.57	Required

Table 2 presents the mean ratings and standard deviations of respondents on the graphic design competencies required for the entrepreneurial development of Office Management Technology students in Federal University Otuoke. The mean scores ranged from 3.56 to 3.77, with all the items recording values above the criterion mean of 2.50. This indicates that all the listed graphic design competencies were perceived as required for entrepreneurial development. The competency "Ability to use graphic design software such as CorelDRAW, Adobe InDesign, or Canva" recorded the highest mean score ($x = 3.77$, $SD = 0.49$), whereas "Ability to prepare print-ready and digital publishing files" had the lowest mean score ($x = 3.56$, $SD = 0.64$). The grand mean of 3.67 and standard deviation of 0.57 indicate that respondents generally agreed that

graphic design competencies are required for the entrepreneurial development of Office Management Technology students in Federal University Otuoke.

5 Discussion

The findings of this study revealed that digital communication competencies are required for the entrepreneurial development of Office Management Technology (OMT) students in Federal University Otuoke. Respondents rated all the identified competencies above the criterion mean, indicating a consensus that effective communication through digital technologies is fundamental to entrepreneurial success. Competencies such as managing professional business emails, utilizing social media for business promotion, creating digital marketing content, conducting virtual meetings, and maintaining digital communication ethics were all perceived as essential for establishing and sustaining entrepreneurial ventures. These findings reinforce the proposition of Human Capital Theory (Becker, 1964; Schultz, 1961), which posits that the acquisition of relevant knowledge and skills enhances individuals' productivity and capacity to generate economic value. The findings also corroborate those of Okegbe, (2025), who reported that digital communication competencies significantly enhance entrepreneurs' ability to engage customers, promote products, and expand market opportunities through digital platforms. Similarly, the findings agree with Anokwulu and Ogbusuo (2024), who observed that digital communication skills constitute indispensable employability and entrepreneurial competencies for business education graduates. The implication is that strengthening digital communication competencies among OMT students will enhance their readiness for self-employment and improve their competitiveness within the digital economy.

The study further found that graphic design competencies are required for the entrepreneurial development of Office Management Technology students. The respondents agreed that competencies relating to the use of graphic design software, development of business logos, production of promotional materials, image editing, digital advertising, and preparation of print-ready publications are essential for entrepreneurial practice. These findings support the assertion of Human Capital Theory that specialized technical competencies increase individuals' entrepreneurial productivity and economic opportunities (Becker, 1964). The findings are consistent with those of Njoku et al., (2026), who found that graphic design competencies improve branding, marketing communication, and business competitiveness among entrepreneurs. They also align with the findings of Obidile and Onyeneke (2023) and Tony-Okeme (2020), who reported that proficiency in desktop publishing and graphic design creates opportunities for self-employment in commercial printing, publishing, multimedia production, branding, and digital marketing. The high mean ratings obtained in this study suggest that graphic design competencies are indispensable for OMT students aspiring to establish successful enterprises in the contemporary digital economy.

Overall, the findings demonstrate that desktop publishing competencies, particularly digital communication and graphic design, constitute critical human capital for entrepreneurial development among OMT students. From a practical perspective, the findings underscore the need for universities to strengthen entrepreneurship-oriented desktop publishing training by providing modern publishing software, well-equipped computer laboratories, industry-based practical experiences, and updated instructional approaches that reflect current technological realities. Such initiatives will better prepare graduates for technology-driven self-employment and reduce graduate unemployment (Anih, 2023).

Notwithstanding these contributions, the study has some limitations. The investigation was limited to OMT students in Federal University Otuoke, thereby restricting the generalizability of the findings to other universities. In addition, the study employed a descriptive survey design and relied on self-reported responses, which may not fully reflect students' actual competency levels or entrepreneurial performance.

Future studies should extend similar investigations to other universities across different geopolitical zones of Nigeria using larger and more diverse samples. Researchers may also adopt mixed-methods or longitudinal designs to examine how the acquisition of desktop publishing competencies influences entrepreneurial outcomes after graduation. Further studies could investigate additional dimensions of desktop publishing competencies, such as operating system proficiency and technical troubleshooting, to provide a more comprehensive understanding of their contributions to entrepreneurial development.

6 Conclusion

This study determined the desktop publishing competencies required for the entrepreneurial development of Office Management Technology (OMT) students in Federal University Otuoke. The findings revealed that digital communication and graphic design competencies are indispensable for equipping OMT students with the practical skills needed to identify

entrepreneurial opportunities, establish technology-driven enterprises, and compete effectively in the digital economy. The study therefore confirms that desktop publishing competencies constitute essential entrepreneurial skills that should be integrated into OMT training to enhance graduates' self-reliance and employability.

The study contributes to existing knowledge by providing empirical evidence on the specific desktop publishing competencies required for entrepreneurial development among OMT students. It also reinforces the relevance of Human Capital Theory by demonstrating that the acquisition of specialized digital competencies enhances entrepreneurial capacity. The findings underscore the need for curriculum enrichment through practical desktop publishing training and improved access to contemporary digital technologies. Future studies may extend this investigation to other institutions and examine additional desktop publishing competencies to provide broader evidence for entrepreneurship-oriented business education.

7 Ethical Statement

Ethical approval was obtained from the Research Ethics Committee, Faculty of Education, Federal University Otuoke, Bayelsa State, Nigeria (Approval No.: REC/FUO/BED/2026/007) before data collection. Written informed consent was obtained from all participants after explaining the purpose and procedures of the study. Participation was voluntary, and respondents were informed of their right to withdraw at any stage without penalty. Confidentiality and anonymity were ensured by excluding personal identifiers from the questionnaire, and all data were used solely for academic purposes and reported in aggregate form.

8 Conflict of Interest

The author declares that there are no financial, commercial, or personal relationships that could be construed as a potential conflict of interest with respect to the research, authorship, and publication of this article.

9 Author Contributions

A.A.A. (Dr. Anselem Anih) conceptualized and designed the study, developed the research instrument, supervised data collection, performed the data analysis, interpreted the findings, and drafted the manuscript. M.O. (Dr. Maureen Omu) contributed to the study design, validated the research instrument, critically reviewed and revised the manuscript for important intellectual content, and contributed to the interpretation of the findings. Both authors read and approved the final version of the manuscript and agree to be accountable for all aspects of the work, ensuring that questions related to the accuracy or integrity of any part of the study are appropriately investigated and resolved.

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11 Data Availability Statement

The data supporting the findings of this study are available from the corresponding author upon reasonable request. The data are not publicly available because they contain information obtained from research participants and are subject to institutional and ethical confidentiality requirements.

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