

**PERCEIVED INFLUENCE OF DIGITAL BUSINESS COMPETENCIES ON  
SUSTAINABLE ECONOMIC DEVELOPMENT OUTCOMES AMONG BUSINESS  
EDUCATION STUDENTS IN PUBLIC UNIVERSITIES IN ANAMBRA STATE,  
NIGERIA**

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**Abstract**

The study investigated the perceived influence of digital business competencies on sustainable economic development among Business Education students in public universities in Anambra State, Nigeria. While sustainable economic development remains a national priority, a persistent digital skills gap among graduates limits youth participation in the digital economy, constraining income generation, entrepreneurship, and economic inclusion. This study examined how digital literacy and skills, and e-commerce knowledge collectively termed digital business competencies, contribute to these outcomes. A descriptive survey design was adopted, involving 206 Business Education students sampled from Nnamdi Azikiwe University, Awka, and Chukwuemeka Odumegwu Ojukwu University, Igbariam, using stratified random sampling. Data were collected via a validated 14-item questionnaire which was also tested for reliability using the Cronbach's Alpha statistic. Data were analyzed using mean and standard deviation. Findings revealed that students strongly perceive digital literacy and skills, such as using productivity software, online communication tools, social media marketing, and digital payments, as influential for accessing income-generating opportunities and enhancing employability (cluster mean = 3.42), among others. The study concludes that digital business competencies represent investable human capital

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capable of fostering youth-driven economic inclusion and sustainable development, emphasizing the need for practical digital skills integration in university curricula. It recommended among others that the National Universities Commission (NUC) should require all business education programmes to include a minimum of 6 credit hours of practical digital literacy courses in their curricula.

**Keywords:** Digital business competencies, digital literacy, e-commerce knowledge, sustainable economic development, Business Education.

### **Introduction**

Sustainable economic development remains a key developmental goal for Nigeria and many other developing countries. It means a long-term improvement in economic well-being, creation of employment opportunities, income generation, and broader socio-economic inclusion. The growth of the digital economy and diffusion of information and communication technologies (ICT) have shown potential to contribute substantially to these targets. For instance, a recent empirical study found that the digital economy promotes Nigeria's economic growth by boosting productivity, reducing operational costs, fostering entrepreneurship, and driving job creation, which contributes to improved living standards and sustainable growth (Ngusha et al., 2025). Digital infrastructure and services are playing an increasingly significant role in Nigeria's economic development. This can be seen in the increasing share of ICT in Nigeria's GDP driven by sectors like telecommunications, information services, and digital platforms. Studies have emphasized that Nigeria's economic sustainability in the digital age depends substantially on building robust ICT infrastructure and digital competencies among the population (Agbeyangi et al., 2024).

Given this backdrop, it becomes particularly relevant to explore how digital business competencies among a key demographic group, university students might translate into sustainable economic development outcomes. Young people, especially those in higher education, represent a critical human resource for the digital economy: they are often more open to adopting technologies, have relatively better exposure to formal education, and may be particularly well positioned to leverage digital tools for entrepreneurial or employment opportunities. Using Business Education university students as the focal study group allows an assessment of whether digital capacity building among the emerging workforce contributes to economic inclusion and sustainable development.

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Digital business competencies refer to a combination of digital literacy, technical digital skills, and the ability to use digital platforms (such as e-commerce, online marketing, digital payment systems) for economic activities. Underlying these competencies, digital literacy is foundational. Digital literacy can be defined as the ability to use digital technologies effectively, understand how to access, manage and communicate information online, and adapt to evolving digital environments. In Nigeria, several studies suggest that enhancing digital literacy and related skills among youth can empower them, improving their employability, enabling them to take advantage of digital job opportunities, or even start digital ventures (Bello et al., 2024). Research has further demonstrated that digital literacy significantly enhances performance dynamics in small and medium enterprises, indicating that such competencies serve as foundational elements for economic participation and business success (Umetiti et al., 2025). Digital literacy and relevant skills are instrumental for equipping youth to participate effectively in the modern digital economy. However, the same literature indicates that investments in emerging technologies, training, cybersecurity, and infrastructure in Nigeria remain low compared to high-income countries which limits the extent to which digital skills can translate into real economic opportunities.

Moreover, when digital literacy and general digital skills are complemented by e-commerce knowledge, the potential for entrepreneurial activity, income generation, and sustainable economic inclusion increases. E-commerce is defined as understanding and ability to use online commercial platforms for buying, selling, marketing or delivering services. Evidence from studies in Nigeria shows that digital platforms and e-commerce have helped small and medium enterprises (SMEs) overcome structural constraints such as high transaction costs, limited market access, and geographical limitations (Ogbevoen, 2024; Umetiti et al., 2025). Recent empirical evidence has shown that digital entrepreneurial competencies, when combined with digital literacy and adequate support systems, significantly impact the success of digital entrepreneurship ventures (Mohamad et al., 2025). For example, Ogbevoen (2024) found that e-commerce and digital platforms significantly accelerated the internationalization and market reach of Nigerian SMEs, enabling them to reach customers beyond local markets and improve competitiveness. In addition, research

by Okegbe (2025), focusing on youth in Southeast Nigeria demonstrated that equipping young people with digital entrepreneurship skills built on digital literacy enables them to engage in self-employment, remote work, and digital business models. These opportunities contribute to income generation, self-sufficiency, and local content development, thereby fostering sustainable economic growth at the community level.

E-commerce and digital platforms can provide viable pathways for entrepreneurial activity, income generation, and broader economic inclusion (Ogbevoen, 2024; Okegbe, 2025). These two dimensions: digital literacy/skills and e-commerce knowledge together form what this study refers to as “digital business competencies.”

However, despite this growing evidence and optimism, a significant gap remains in the literature: relatively few studies have explicitly focused on how digital business competencies among university students rather than general youth populations or SME owners influence sustainable economic outcomes in localized contexts such as Anambra State. Most research has centred on established SMEs or broader youth populations across Nigeria or specific regions; fewer have targeted tertiary-level students and their readiness or capacity to leverage digital tools for sustainable economic participation (Ngusha et al., 2025; Bello et al., 2024; Okegbe, 2025). Moreover, while the potential of ICT and e-commerce is widely acknowledged, challenges remain: digital infrastructure remains uneven (especially outside urban areas), broadband penetration and access to affordable data are not universal, and many youths lack sufficient training to fully exploit digital opportunities (Bello et al., 2024).

Therefore, this study aims to fill that gap by investigating how digital business competencies conceptualized through both digital literacy/skills and e-commerce knowledge influence sustainable economic development outcomes among university students in Anambra State, Nigeria. By doing so, the study contributes to a deeper understanding of how higher education, youthful demographics, and digital transformation might intersect to foster inclusive economic growth.

**Statement of the Problem**

Ideally, university Business Education students in Anambra State should graduate with strong digital business competencies, including digital literacy, practical digital skills, and e-commerce knowledge. These competencies are expected to equip them to secure employment, create digital-based enterprises, and participate productively in Nigeria's digital economy. With such capacities, these students could contribute to income generation, job creation, and sustainable economic development within their communities and beyond.

However, available evidence suggests that this ideal is not being fully realized. Recent reports indicate a persistent digital skills gap among Nigerian university graduates, including those enrolled in business-related programmes. A 2023 survey by GetBundi, reported by News Agency of Nigeria, found that about 85% of Nigerian graduates lack essential digital skills, indicating a serious gap between university training and the demands of the digital economy (News Agency of Nigeria, 2023). This raises concern that Business Education students, despite being trained in commercially oriented disciplines, may still be inadequately prepared to apply digital tools for entrepreneurial and economic purposes.

The implication is a growing mismatch between what Business Education programmes are expected to produce and the actual digital preparedness of their graduates. Many Business Education students may complete their university training without sufficient capacity to leverage e-commerce platforms, digital marketing tools, or online business models for self-employment or income generation. Consequently, the potential contribution of this group to digital entrepreneurship, economic inclusion, and sustainable development remains under-exploited.

Furthermore, while existing studies have examined digital literacy and digital entrepreneurship among general youth populations or owners of small and medium enterprises, empirical evidence focusing specifically on university Business Education students remains limited, particularly within localized contexts such as Anambra State. There is also limited clarity on the extent to which their digital business competencies translate into tangible economic development outcomes.

Without clear empirical evidence on how digital business competencies influence sustainable economic development among Business Education students, policymakers, curriculum designers, and higher-education institutions lack the necessary basis for designing targeted training, curricular reforms, and support mechanisms. This gap underscores the need for a focused investigation into the relationship between digital business competencies and sustainable economic development outcomes among university Business Education students in Anambra State, Nigeria.

### **Research Objectives**

The main research objective is to determine the perceived influence of digital business competencies on sustainable economic development among public university Business Education students in Anambra State, Nigeria?. Specifically, the study sought to find out:

1. Perceived influence of digital literacy and skills on sustainable economic development among public university Business Education students in Anambra State, Nigeria.
2. Perceived influence of e-commerce knowledge on sustainable economic development among public university Business Education students in Anambra State, Nigeria.

### **Research Questions**

The following research questions guided the study:

- (4) What is the perceived influence of digital literacy and skills on sustainable economic development among public university Business Education students in Anambra State, Nigeria?
- (5) What is the perceived influence of e-commerce knowledge on sustainable economic development among public university Business Education students in Anambra State, Nigeria?

### **Digital Business Competencies**

Digital business competencies refer to the ability to apply digital literacy and skills toward economic or entrepreneurial purposes, including online marketing, digital transactions, e-commerce, and virtual collaboration (Mohamad et al., 2025; Rolando & Mulyono, 2025). They are crucial for business performance, growth, and sustainability in digital economies (Mohamad et al., 2025). For this study, digital business competencies denote the integrated capacity of students to leverage digital skills for entrepreneurship and online economic activities.

### **Digital Literacy and Skills**

Digital literacy is the ability to effectively use digital technologies to access, evaluate, create, and communicate information (Reddy et al., 2023). It also includes higher-order skills such as critical thinking, problem-solving, and ethical use of digital media (Bello & Ajao, 2021). Digital skills extend literacy by enabling practical application of technology for communication, collaboration, and problem-solving. In this study, digital literacy and skills encompass technical, cognitive, and creative competencies needed for effective engagement in digital activities.

### **E-commerce Competence**

E-commerce competence involves understanding and using digital platforms to conduct commercial activities, including online sales, digital payments, and customer engagement (Rolando & Mulyono, 2025; Mohamad et al., 2025). Digital literacy enhances e-commerce utilization, which in turn improves business outcomes. In this study, e-commerce knowledge is defined as the ability of students to use online tools for business operations and trade.

### **Sustainable Economic Development**

Sustainable economic development refers to long-term, inclusive, and resilient economic gains, such as stable income, employment, entrepreneurship, and economic participation (Zervas & Stiakakis, 2024; Farach et al., 2025). Digital skills and entrepreneurial competencies are linked to enhanced employability and economic resilience. For this study, sustainable economic

development is considered as the economic benefits university students achieve through effective use of digital business competencies.

### **Business Education**

Business education is a specialized field of study that encompasses the teaching and learning of business principles, practices, skills, and competencies necessary for effective participation in commercial activities, entrepreneurship, and economic development (Okoro & Chukwu, 2023). According to Azuka (2020), business education is designed to equip learners with knowledge, skills, attitudes, and competencies required for office occupations, business ownership, and career advancement in the business world. Nwosu and Eze (2021) further conceptualized business education as a program of instruction that prepares students for careers in business through the development of competencies in areas such as accounting, management, marketing, office technology, and entrepreneurship.

In the Nigerian context, Osuala (2009) defined business education as education for and about business, encompassing three major components: general business education for all citizens to function intelligently as consumers and citizens in a business economy; vocational business education for individuals who will pursue careers in business occupations; and professional business education for those who will teach business subjects or conduct research in business education. More recently, Okafor and Oluchukwu (2022) described business education as a dynamic and responsive educational program that adapts to changing economic conditions, technological advancements, and labor market demands, preparing graduates not only for traditional business careers but also for entrepreneurship, self-employment, and participation in the digital economy. This contemporary understanding emphasizes that business education in the 21st century must integrate digital competencies, innovative thinking, and sustainable development principles to produce graduates capable of contributing meaningfully to economic growth and transformation (Nnamani et al., 2023).

### **Theoretical Framework**

This study is anchored on Human Capital Theory (HCT), developed by Becker (1964) and Schultz (1961), which views knowledge and skills as forms of capital that enhance productivity and economic value. In the digital economy, human capital includes digital literacy, digital skills, and technological competencies, which enable participation in online commerce, digital entrepreneurship, and knowledge-based work (Farach et al., 2025).

HCT frames digital business competencies encompassing digital literacy, digital skills, and e-commerce knowledge as investable human capital. When students develop these competencies, they increase their ability to engage in digital economic activities, generate income, and contribute to sustainable economic development. Outcomes, however, depend on the quality of skills, relevance to market demands, and access to enabling conditions such as infrastructure and digital platforms.

Thus, HCT provides a robust lens to examine how digital business competencies among university students in Anambra State can drive sustainable economic outcomes while considering contextual factors that may facilitate or limit this effect.

### **Research Method**

A descriptive survey design was adopted for the study. This was done by seeking the opinions of Business Education students on the problem of the study. The study was carried out in the two public universities in Anambra state that offers Business Education- Nnamdi Azikiwe University Awka (NAU) and Chukwuemeka Odumegwu Ojukwu University, Igbariam (COOU). The population was 724 including 437 students of Business Education at Nnamdi Azikiwe University and 287 students of the same department at Chukwuemeka Odumegwu Ojukwu University, Igbariam. Taro Yamene formula was used to determine the sample size. The sample size for the study was 258 Business Education students from year 1-4, with 156 students sampled from Nnamdi Azikiwe University, Awka, and 102 students from Chukwuemeka Odumegwu Ojukwu

University, Igbariam. The second students were selected using the proportionate stratified random sampling technique.

The instrument for data collection was a questionnaire constructed by the researchers based on the research questions. The questionnaire was made up of 14 items and was divided into two parts 1 and 2. Part 1 with 7 items to elicit information on perceived influence of digital literacy and skills on sustainable economic development and Part 2 with 7 items to elicit information on perceived influence of e-commerce knowledge on sustainable economic development. The instrument was validated by three experts from the Faculty of Education, Nnamdi Azikiwe University, Awka. The instrument was pilot tested to ensure its reliability and the data collected were analyzed using the Cronbach's Alpha. This gave an overall coefficient reliability of 0.73. The questionnaire was administered by the researchers using the direct administration method. All the 258 copies of the questionnaire administered were retrieved ensuring a 100% return rate.

The data obtained were analyzed using mean and standard deviation based on the 4-point scale ranging from strongly agree of 4 points to strongly disagree of 1 point. Any item with a mean response of 2.50 and above was considered 'agreed' while any item with a mean response below 2.50 was considered 'disagreed'.

## Results

The results from the analysis are presented in the tables below

**Research Question 1** What is the perceived influence of digital literacy and skills on sustainable economic development among public university Business Education students in Anambra State, Nigeria?

**Table 1.** Mean Ratings of Respondents on the perceived influence of digital literacy and skills on sustainable economic development among public university Business Education students in Anambra State, Nigeria

S/N	QUESTIONNAIRE ITEMS	Mean	SD	REMARKS
1	Being able to use digital devices effectively will help me access diverse income-generating opportunities online.	3.61	0.48	Agreed
2	Being proficient in using productivity software would enhance my capacity to create value-added services.	3.47	0.84	Agreed
3	Being competent in online communication tools would allow me to collaborate with potential business partners across different locations.	3.23	0.60	Agreed
4	Having skills in using social media platforms will enable me to market products and services to wider audiences.	3.57	0.58	Agreed
5	Being able to evaluate online information would help me identify sustainable business opportunities.	3.23	0.89	Agreed
6	Having competence in website management would increase my employability in the digital economy.	3.25	0.75	Agreed
7	Being proficient in using digital payment systems will facilitate secure financial transactions for economic activities.	2.95	1.39	Agreed
	Cluster mean	3.33	0.79	Agreed

In table 1, all the 7 items have mean ratings more than or equal to 2.50, showing that the respondents rated them as perceived influence of digital literacy and skills on sustainable economic development among public university Business Education students in Anambra State, Nigeria. The cluster standard deviation of 0.79 shows that the data points are closely clustered around the mean, suggesting low variation in the opinion of respondents.

**Research Question 2:** What is the perceived influence of e-commerce knowledge on sustainable economic development among public university Business Education students in Anambra State, Nigeria?

**Table 2:** *Mean Ratings of Respondents on Perceived Influence of E-Commerce Knowledge on Sustainable Economic Development among Public University Business Education Students in Anambra State, Nigeria*

S/N	ITEMS	Mean	SD	REMARKS
1	Being able to manage online stores would enable me to generate sustainable income.	3.24	0.51	Agreed
2	Having competence in processing online transactions securely will support my entrepreneurial activities.	3.55	0.61	Agreed
3	Having skills in digital marketing would help me reach customers and grow business ventures.	3.28	0.53	Agreed
4	Being able to manage online customer relationships would enhance customer retention and business sustainability.	3.48	0.54	Agreed

5	Having competence in analyzing e-commerce analytics will help me make data-driven business decisions.	3.38	0.52	Agreed
6	Being able to manage digital inventories would improve the efficiency of business operations.	3.52	0.60	Agreed
7	Having the ability to use e-commerce platforms will enable me to participate actively in the digital economy.	3.45	0.58	
	Cluster mean	3.41	0.51	Agreed

In table 2, all the 8 items have mean ratings more than or equal to 2.50, showing that the respondents rated them as perceived influence of e-commerce knowledge on sustainable economic development among public university Business Education students in Anambra State, Nigeria. The cluster standard deviation of 0.51 shows that the data points are closely clustered around the mean, suggesting low variation in the opinion of respondents.

### Discussion of Findings

The findings reveal that business education students in Anambra State strongly perceive digital literacy and skills as influential factors in sustainable economic development among public university Business Education students. The ability to use digital devices for income generation and social media platforms for marketing received the highest ratings, aligning with Bello et al. (2024), who argued that enhancing digital literacy among Nigerian youth improves their employability and enables them to exploit digital opportunities. These findings corroborate Umetiti et al. (2025), who demonstrated that digital literacy significantly enhances performance in small and medium enterprises. The strong agreement on the importance of coding and website management skills supports Agbeyangi et al., (2024), who emphasized that Nigeria's economic sustainability depends on building technical digital competencies among youth. The relatively

lower rating for digital payment systems proficiency, though still indicating agreement, likely reflects infrastructure challenges and security concerns in Nigeria's digital financial services, as noted by Bello et al. (2024).

The findings show that business education students perceive e-commerce knowledge as significantly influencing sustainable economic development among public university Business Education students. Competence in processing secure online transactions and managing digital inventory received the highest ratings, consistent with Ogbevoen (2024), who found that e-commerce enables Nigerian SMEs to overcome structural constraints and expand market reach. The findings align with Okegbe (2025), who demonstrated that e-commerce knowledge enables young people in Southeast Nigeria to engage in self-employment and digital business models, contributing to sustainable economic growth. Strong agreement on customer relationship management and e-commerce analytics supports Mohamad et al. (2025), who found that digital entrepreneurial competencies significantly impact digital entrepreneurship success. The very low standard deviation indicates even stronger consensus on e-commerce knowledge than on general digital literacy, possibly because business education students directly observe how e-commerce competencies translate into tangible entrepreneurial outcomes. However, this finding contrasts with the widespread digital skills gap identified in the GetBundi (2023) survey, suggesting a distinction between educators' understanding of what students need versus what students actually possess. This gap highlights the ongoing challenge of translating curricular intentions into demonstrated competencies amid infrastructure limitations and inadequate practical training opportunities.

## Conclusion

This study investigated the influence of digital business competencies on sustainable economic development outcomes among business education students in public universities in Anambra State, Nigeria. The study examined digital literacy and skills, and e-commerce knowledge as key dimensions of digital business competencies. Findings revealed that business education students

strongly perceive both dimensions as influential factors in sustainable economic development among university students, with all items receiving mean ratings above the acceptance threshold and low standard deviations indicating strong consensus. Grounded in Human Capital Theory, the study confirmed that digital business competencies represent investable human capital that can enhance students' capacity for digital economic participation and sustainable development. The findings support existing literature on the critical role of digital competencies in youth empowerment and economic inclusion in Nigeria's digital economy.

### Recommendations

Based on the findings of this study, the following recommendations are made:

- (1) The National Universities Commission (NUC) should require all business education programmes to include a minimum of 6 credit hours of practical digital literacy courses covering social media marketing, cloud-based productivity tools, and mobile payment platforms. Universities should allocate more instructional time to hands-on practice in digital skills laboratories equipped with internet-enabled devices and current software applications.
- (2) The Tertiary Education Trust Fund (TETFund) should allocate funding to Business Education universities to establish e-commerce training centres with reliable internet, digital payment systems, and partnerships with platforms like Jumia, Konga, and Paystack to give students practical online business experience.
- (3) Small and Medium Enterprises Development Agency of Nigeria (SMEDAN) should provide startup capital, incubation, and mentorship to Business Education students with digital business skills to help them launch viable e-commerce ventures.

### References

Abubakar, B. (2024). Digital literacy as a catalyst to youth development in Nigeria. *International Journal of Computing, Intelligence and Security Research*, 3(1), 1–11.

- Agbeyangi, A., Makinde, A., & Odun-Ayo, I. (2024). Nigeria's ICT and economic sustainability in the digital age. DOI:10.13140/RG.2.2.14651.43048
- Azuka, E. B. (2020). Business education in Nigeria: Issues, challenges and the way forward. *Journal of Educational Research and Development*, 4(1), 23-35.
- Bello, O., Bashir, I. B., & Aliyu, M. (2024). Digital literacy and skills development in Nigeria for youth empowerment and job creation. *International Journal of Applied and Advanced Multidisciplinary Research*, 2(12), 34-45
- Mejías-Acosta, A., D'Armas Regnault, M., Vargas-Cano, E., Cárdenas-Cobo, J., & Vidal-Silva, C.(2024). Assessment of digital competencies in higher education students: Development and validation of a measurement scale. *Frontiers in Education*, 9, 45-56. DOI:10.3389/educ.2024.1497376
- Mohamad, Z., Alim, N. S. S. M., Rashid, N. K. A., Hassim, N. H. C., Anang, Z., Abdullah, S., & Nasir, A. (2025). The impact of digital entrepreneurial competencies, digital literacy and government support on digital entrepreneurship using regression analysis. *Economics*, 13(1), 289–308. DOI:10.2478/eoik-2025-0025
- Nazim, N. I. I., Shuhidan, S. M., Hashim, H., Baharuddin, M. F. B., Winoto, Y., & Rahman, M. S.(2025). Reliability analysis on digital literacy skills, digital financial inclusion and socio-economic development among B40 in Selangor. *Journal of Information and Knowledge Management*, 15(2), 10–17. DOI:10.24191/jikm.v15i2.6012
- News Agency of Nigeria. (2023, August 28). 85% of Nigerian graduates have no digital skills – survey by GetBundi [News report]. *BusinessDay NG*. <https://businessday.ng/news/article/85-of-nigerian-graduates-have-no-digital-skill-survey/>
- Nnamani, S. C., Ejiofor, N. B., & Ugwu, C. O. (2023). Repositioning business education for sustainable development in Nigeria. *Journal of Business Education Research*, 8(2), 45-58.
- Nwosu, B. O., & Eze, C. U. (2021). Business education curriculum and entrepreneurship development in Nigeria. *African Journal of Education and Practice*, 7(3), 112-125.
- Ogbevoen, F. E. (2024). The role of digital platforms and e-commerce in accelerating SME

internationalisation: Evidence from Nigerian SMEs. *Econova*, 1(1), 56-67

Okegbe, O. (2025). Harnessing digital entrepreneurship for youth empowerment: Advancing sustainable economic growth in Southeast Nigeria. *International Journal of Research and Innovation in Social Science*, 9(6), 2195–2207.

Okafor, G. N., & Oluchukwu, E. E. (2022). Business education in the digital age: Implications for curriculum development in Nigerian universities. *International Journal of Educational Development*, 12(4), 89-102.

Okoro, J. C., & Chukwu, E. N. (2023). Reimagining business education for the 21st century Nigerian learner. *Nigerian Journal of Business Education*, 10(1), 67-79.

Osuala, E. C. (2009). *Business and Computer Education*. Cheston Agency Ltd.

Reddy, P., Chaudhary, K., & Hussein, S. (2023). A digital literacy model to narrow the digital literacy skills gap. *Heliyon*, 9(4), 58-68. Doi:10.1016/j.heliyon.2023.e14878

Rolando, B., & Mulyono, H. (2025). E-commerce as a catalyst for digital economy development: A study of marketing strategies and their impact. *Journal of Distribution Science*, 23(4), 61-79

Rosyadi, R. N., Sarwi, S., Wasino, W., & Wardani, S. (2024). Digital literacy as a support for child friendly education in the era of technology disruption. *Journal of Science, Education and Technology*, 10(1), 177–184.

Umetiti, C. B., Nwafor, A. E., Arachie, A. E., & Ifeme, A. P. (2025). Digital literacy in the context of small and medium enterprises (SMEs): A performance dynamic. *International Journal of Public Administration and Management Research*, 11(1), 1–17.

Zervas, I., & Stiakakis, E. (2024). Economic sustainable development through digital skills acquisition: The role of human resources leadership. *Sustainability*, 16(17), 76-88