



## DIGITAL SKILLS ACQUISITION AND LABOUR MARKET OUTCOMES: EVIDENCE FROM YOUTH EMPLOYMENT IN THE NIGER DELTA REGION

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### **Abstract**

*This study examined the impact of digital skills acquisition on labour market outcomes among youths in the Niger Delta region of Nigeria. Specifically, the study assessed the effect of digital skills acquisition on employment status, income levels, and job quality. A quantitative research approach was adopted using micro-level survey data collected through a structured questionnaire administered to youths in the region. Descriptive statistics were employed to examine the distribution and types of digital skills among respondents, while Logit regression, Ordinary Least Squares (OLS), and Multinomial Logit models were used to estimate the effects of digital skills on employment outcomes, earnings, and job quality, respectively. The findings revealed that digital skills acquisition has a positive and statistically significant effect on youth employment, income generation, and access to better-quality jobs. The study concludes that digital skills acquisition constitutes an important human capital investment capable of enhancing employability and promoting economic inclusion among youths. The study recommends expanding digital training programmes, establishing innovation hubs, and improving digital infrastructure to maximize labour market opportunities for young people in the Niger Delta region.*

**Keywords:** Digital Skills Acquisition, Labour Market Outcomes, Youth Employment, Income Levels, Job Quality, Niger Delta.

### **Introduction**

The rapid advancement of digital technologies has transformed labour markets across globe, altering the nature of work, the skills demanded by employers, and the pathways through which young people access employment opportunities. The emergence of the digital economy, characterized by automation, artificial intelligence, e-commerce, remote work, and digital entrepreneurship, has increased the importance of digital competencies as a prerequisite for labour market participation. Digital skills acquisition encompasses the development of technical abilities required to use digital devices, software applications, internet-based platforms, data analytics tools, and communication technologies for productive and economic purposes. These skills are increasingly recognized as essential components of human capital capable of enhancing employability, earnings potential, and job security among young people (International Telecommunication Union, 2023).

Globally, employers are shifting from qualification-based recruitment to skill-based hiring practices, particularly in emerging sectors driven by technological innovation. Evidence suggests that individuals possessing digital competencies enjoy better labour market outcomes, including higher employment probabilities, increased wages, and greater access to formal sector jobs than those lacking such skills (Bone et al., 2023). In developing countries, digital skills have become an important mechanism for addressing unemployment, promoting entrepreneurship, and reducing socio-economic inequalities. The increasing penetration of mobile technologies and internet services has created opportunities for youth engagement in online freelancing, digital marketing, software development, content creation, and other technology-enabled occupations.

Nigeria possesses one of the largest youth populations in Africa, with young people constituting a significant proportion of the labour force. Despite this demographic advantage, youth unemployment and underemployment remain persistent developmental challenges. Studies indicate that the inability of educational institutions to provide market-relevant competencies has contributed to a widening gap between labour market demands and the capabilities of graduates. Recent evidence shows that Nigerian youths possessing certified digital skills are more likely to obtain employment within a shorter period after graduation compared to those without digital competencies (Anowor et al., 2025). Similarly, digital literacy and internet access have been associated with improvements in labour force participation and poverty reduction among young people in Nigeria.

The situation is particularly significant in the Niger Delta region, comprising states such as Rivers, Bayelsa, Delta, Akwa Ibom, Edo, Cross River, Abia, Imo, and Ondo. Although the region contributes substantially to Nigeria's oil wealth, it continues to experience high rates of youth unemployment, poverty, social exclusion, and economic vulnerability. Environmental degradation arising from oil exploration activities has adversely affected traditional livelihood activities such as farming and fishing, thereby limiting employment opportunities for young people. Consequently, governments, development agencies, and non-governmental organizations have introduced numerous digital skills training programmes aimed at improving youth employability and fostering economic inclusion. However, the extent to which digital skills acquisition translates into meaningful labour market outcomes in the region remains inadequately understood.

Despite increasing investments in digital capacity-building initiatives, many youths in the Niger Delta still struggle to secure decent and sustainable employment. Existing studies have largely focused on the general relationship between information and communication technology adoption and employment creation in Nigeria, with limited empirical attention devoted to the Niger Delta context. Furthermore, disparities in internet accessibility, electricity supply, quality of training programmes, and certification standards may constrain the effectiveness of digital skills acquisition efforts. The persistence of unemployment among digitally trained youths raises concerns regarding the adequacy, relevance, and labour market responsiveness of current digital skills development programmes. Therefore, there is a need to investigate the relationship between digital skills acquisition and labour market outcomes among youths in the Niger Delta region.

### **Research Objectives**

The broad objective of this study is to examine the impact of digital skills acquisition on labour market outcomes among youths in the Niger Delta region. The specific objectives are to:

1. Examine the level and categories of digital skills acquired by youths in the Niger Delta region;
2. Determine the effect of digital skills acquisition on the employment status of youths in the Niger Delta region;

3. Assess the influence of digital skills acquisition on income levels, job quality, and employment stability among youths in the Niger Delta region.

### **Research Questions**

The study seeks to proffer answers to the following questions:

1. What is the level and nature of digital skills acquired by youths in the Niger Delta region?
2. To what extent does digital skills acquisition affect the employment status of youths in the Niger Delta region?
3. How does digital skills acquisition influence income levels, job quality, and employment stability among youths in the Niger Delta region?

### **Research Hypotheses**

The following null hypotheses will be tested:

**H<sub>01</sub>:** Digital skills acquisition has no significant effect on the employment status of youths in the Niger Delta region.

**H<sub>02</sub>:** Digital skills acquisition has no significant effect on income levels among youths in the Niger Delta region.

**H<sub>03</sub>:** Digital skills acquisition has no significant effect on job quality and employment stability among youths in the Niger Delta region.

### **Literature Review**

#### **Conceptual Clarification**

##### **Digital Skills Acquisition**

Digital skills acquisition refers to the process through which individuals develop competencies necessary for using digital technologies effectively for communication, information processing, problem-solving, innovation, and participation in economic activities. Digital skills have evolved from merely operating computers to encompassing a broad spectrum of technical and cognitive abilities required in a digitally driven society. According to van Laar et al. (2020), digital skills comprise technical, information management, communication, collaboration, creativity, critical thinking, and problem-solving competencies needed to function successfully in contemporary workplaces. Similarly, the European Commission (2022) defines digital skills as the confident, critical, and responsible use of digital technologies for learning, employment, and participation in society.

Digital skills acquisition occurs through formal education, vocational training, workplace learning, online courses, and informal self-learning. The increasing digitalization of economic activities has intensified the demand for workers possessing digital competencies. Recent studies suggest that digital skills are becoming a prerequisite for employment in both traditional occupations and emerging technology-driven industries (Cirillo et al., 2021). Digital competencies are commonly categorized into basic, intermediate, and advanced levels. Basic skills include operating computers and navigating the internet, intermediate skills involve proficiency in office applications, digital marketing, and social media management, while advanced digital skills encompass programming, cybersecurity, data science, artificial intelligence, and cloud computing (UNESCO, 2023).

##### **Labour Market Outcomes**

Labour market outcomes refer to the economic and social consequences associated with an individual's participation in employment and productive activities. These outcomes are commonly

measured by indicators such as employment status, earnings, wage growth, occupational mobility, job quality, and employment stability (Kalleberg, 2018). Employment status indicates whether an individual is employed, unemployed, or underemployed. Income level represents the monetary returns received from labour market participation, while job quality encompasses dimensions such as adequate remuneration, social protection, job security, opportunities for career advancement, and favourable working conditions (Green, 2021). Employment stability refers to the continuity of employment over time and the likelihood of retaining a job without involuntary interruptions.

Recent evidence suggests that labour market outcomes are increasingly influenced by workers' digital competencies. OECD (2023) reported that individuals with higher digital proficiency are more likely to secure formal employment, earn higher wages, and experience lower risks of long-term unemployment. Likewise, Cedefop (2024) observed that digital skills have become an important determinant of occupational mobility and resilience in rapidly changing labour markets. In this study, labour market outcomes are conceptualized in terms of youth employment status, income levels, job quality, and employment stability.

### **Youth Employment**

Youth employment refers to the engagement of young people in productive and remunerative economic activities. The International Labour Organization (ILO, 2024) defines youth as persons between the ages of 15 and 24 years, although national definitions may vary. In Nigeria, the National Youth Policy categorizes youths as persons aged 18–35 years.

Youth employment is considered a critical indicator of socio-economic development because it reflects the ability of an economy to absorb its growing labour force. High levels of youth unemployment and underemployment can result in poverty, social exclusion, reduced productivity, and increased vulnerability to social unrest (Elder & Kring, 2022). In many developing economies, limited access to market-relevant skills, inadequate infrastructure, and weak industrial growth have constrained employment opportunities for young people.

Digital transformation has created new employment pathways for youths through online freelancing, e-commerce, software development, digital entrepreneurship, and remote work arrangements. Consequently, digital skills acquisition is increasingly viewed as an important strategy for enhancing youth employability and facilitating labour market integration.

### **Niger Delta Region**

The Niger Delta region is a major oil-producing area in southern Nigeria comprising nine states, namely Rivers, Bayelsa, Delta, Akwa Ibom, Cross River, Edo, Ondo, Abia, and Imo States. Despite its contribution to national revenue generation, the region experiences high youth unemployment, poverty, environmental degradation, and socio-economic inequality (Akpan & Ering, 2021).

The decline in traditional livelihood activities such as fishing and farming due to oil exploration activities has heightened the need for alternative employment opportunities. Consequently, digital skills development initiatives have emerged as viable mechanisms for promoting youth empowerment, entrepreneurship, and economic diversification in the region. However, challenges such as poor internet connectivity, unstable electricity supply, inadequate training facilities, and limited access to digital infrastructure continue to hinder effective utilization of digital skills among youths.

## **Theoretical Framework**

### **Human Capital Theory**

Human Capital Theory was developed by Theodore Schultz in 1961 and later expanded by Gary Becker in 1964. The theory postulates that education, training, health, and skills acquisition constitute investments in human beings that enhance their productivity and earning capacity.

The central assumption of the theory is that individuals who invest in acquiring knowledge and competencies become more productive and consequently receive higher wages and improved employment opportunities. Human capital investments increase workers' abilities to adapt to technological changes and improve their competitiveness in the labour market.

The theory is highly relevant because digital skills acquisition represents a form of human capital investment. Youths who acquire competencies in digital technologies are expected to possess greater employability, earn higher incomes, and secure better-quality jobs than those without such skills. Recent studies indicate that digital competencies contribute significantly to productivity enhancement and labour market integration among young people.

### **Signaling Theory**

Signaling Theory was propounded by Michael Spence in 1973. The theory argues that education, professional certifications, and specialized skills serve as signals that provide employers with information about the abilities and productivity potential of job applicants.

The theory assumes that employers operate under conditions of imperfect information and therefore rely on observable indicators such as educational qualifications, certificates, and technical competencies to distinguish high-quality candidates from less capable applicants. Individuals possessing recognized digital certifications are likely to have a competitive advantage in the recruitment process because employers perceive them as more competent and adaptable to technological changes.

The relevance of Signaling Theory to this study lies in its explanation of how digital skills certifications and practical competencies may improve labour market outcomes among youths in the Niger Delta region. Possession of digital skills certificates can reduce information asymmetry between employers and job seekers, thereby increasing employment prospects and access to higher-paying jobs. Anowor et al. (2025) emphasized that digital competencies and certifications enhance youth competitiveness and facilitate integration into technology-driven labour markets.

### **Empirical Literatures**

Series of empirical studies have been conducted by different scholars using different analytical techniques and varying results from their findings. Some of the studies are highlighted below in this study.

Anowor, Chibuzo, Anigbo, and Ukpere (2025) examined the role of digital skills acquisition in enhancing youth employability in Nigeria with particular emphasis on its contribution toward the attainment of sustainable development goals. The researchers adopted a qualitative analytical approach based on documentary analysis. Data for the study were obtained from government publications, policy documents, institutional reports, journal articles, and previous empirical studies relating to digital transformation and youth employment. The study revealed that digital skills acquisition significantly improves the employability prospects of youths by equipping them with competencies required in emerging sectors such as digital marketing, software development, graphic design, data analysis, and online freelancing. The findings further indicated that digital skills contribute to entrepreneurial development, enhance productivity,

facilitate innovation, and support the realization of several sustainable development goals, including decent work and economic growth. The study concluded that digital competencies have become indispensable assets in contemporary labour markets and possess the potential to address the growing challenge of youth unemployment in Nigeria. Consequently, the study recommended increased public-private partnerships in digital education, expansion of digital infrastructure, integration of technology-oriented courses into educational curricula, and the provision of financial incentives to encourage youths to participate in digital skills training programmes.

Aremu and Egunjobi (2025) investigated the impact of digital skills acquisition on unemployment reduction among Nigerian youths in Ido Local Government Area of Oyo State. The objective of the study was to assess the extent to which digital competencies influence employability, job creation, and access to economic opportunities among young people. The researchers employed a quantitative survey research design and utilized primary data collected through structured questionnaires administered to respondents selected using the Taro Yamane sampling technique. A sample size of one hundred (100) youths participated in the study. Descriptive statistics, including frequency distributions, percentages, mean scores, and standard deviations, were used to describe respondents' characteristics, while inferential statistical tools were employed to examine the relationship between digital skills acquisition and unemployment reduction. The results of the study showed that digital skills acquisition had a positive and statistically significant influence on employment generation, entrepreneurial activities, and the ability of youths to secure both formal and informal employment opportunities. The findings also revealed that digital competencies reduced barriers associated with labour market entry by enabling participants to engage in self-employment ventures, remote work arrangements, and online business activities. The study concluded that digital skills acquisition constitutes an effective mechanism for mitigating youth unemployment and improving labour market outcomes in Nigeria. Based on these findings, the study recommended that government agencies, educational institutions, and private organizations should collaborate to expand access to affordable and high-quality digital skills training programmes, particularly in underserved communities, enhancing internet facilities and technological support to enhance effective utilization of acquired skills.

Emaziye and Oroka (2025) examined the digital and business skills required for addressing youth unemployment in Delta State, Nigeria. The study adopted a descriptive survey research design and collected primary data through the administration of structured questionnaires to respondents drawn from selected tertiary institutions and youth development centres in Delta State. The data collected were analyzed using descriptive statistical tools, particularly mean scores and standard deviations, to determine the level of importance attached to various digital and business competencies. The findings of the study revealed that digital marketing, web development, graphic design, social media management, online content creation, e-commerce operations, and online entrepreneurship were among the most essential skills for improving employment opportunities among young people. The study further established that youths possessing both digital and entrepreneurial competencies were more likely to establish their own businesses, participate in the gig economy, and adapt to changing labour market conditions. The authors concluded that digital and business skills constitute indispensable tools for tackling youth unemployment in the contemporary digital economy. Consequently, they recommended that tertiary institutions should integrate digital entrepreneurship courses into their academic programmes, while government agencies and private sector organizations should support digital innovation hubs and provide start-up funding for digitally skilled youths.

Odiije and Golley (2026) investigated the impact of digital skills on economic independence among graduates of technical and vocational education and training institutions in Delta State, Nigeria. A cross-sectional survey research design was adopted, and data were obtained from a sample of 506 graduates selected from various technical and vocational education institutions within the state. The researchers employed structured questionnaires for data collection, while descriptive and inferential statistical techniques were used in analyzing the responses. The findings demonstrated that digital competencies had a positive and statistically significant effect on economic independence among respondents. Specifically, the study showed that graduates with skills in computer programming, digital marketing, web design, data processing, and online business management were more likely to establish self-owned enterprises, secure freelance jobs, and generate sustainable income than their counterparts without such competencies. The study also revealed that access to stable internet services strengthened the relationship between digital skills acquisition and economic independence, indicating that infrastructure availability plays an important role in maximizing the benefits of digital training. The researchers concluded that digital skills acquisition serves as an important pathway for reducing dependence on wage employment and enhancing self-sufficiency among technical and vocational education graduates. They therefore recommended increased investment in internet infrastructure, expansion of digital literacy programmes in rural and underserved communities, and the incorporation of practical digital competencies into technical and vocational education curricula.

Rufai, Ogunniyi, Salman, Salawu, and Omotayo (2021) investigated labour market outcomes among rural youths in Nigeria. The study utilized nationally representative survey data obtained from rural households across Nigeria and adopted an econometric approach to analyze determinants of labour market participation among young people. Specifically, multinomial econometric techniques were employed to estimate the probability of engagement in various employment categories and to assess the impact of individual and household characteristics on labour market outcomes. The findings indicated that skill acquisition, educational attainment, access to productive assets, and participation in vocational training programmes significantly improved employment prospects and earnings among rural youths. The study further revealed that young people possessing technical and vocational skills had a higher likelihood of engaging in remunerative employment activities and earning better incomes compared to those lacking such competencies. The study concluded that investments in human capital development remain crucial for promoting inclusive labour market participation and reducing youth unemployment in Nigeria. The study recommended the formulation and implementation of policies aimed at expanding access to vocational and technical training, improving rural infrastructure, facilitating access to credit facilities, and strengthening human capital development initiatives to enhance the employability and productivity of rural youths.

## **Methodology**

The study adopted a quantitative research approach using micro-level survey data. Descriptive statistics will be used to analyze the distribution and types of digital skills among respondents. To examine the impact of digital skills on employment outcomes, the study will employ econometric techniques including: Logit/Probit regression models to analyze the probability of employment as a function of digital skills. Ordinary Least Squares (OLS) regression to estimate the effect of digital skills on income levels. Multinomial logit models to assess job quality outcomes (formal vs informal employment, wage vs self-employment).

### Model Specification

To empirically examine the impact of digital skills acquisition on labour market outcomes among youths in the Niger Delta region, this study specifies three econometric models corresponding to the dimensions of labour market outcomes considered in the study, namely employment status, income levels, and job quality.

#### Employment Status Model

Since employment status is a binary outcome variable, where a respondent is either employed or unemployed, a Logit or Probit regression model is considered appropriate. The functional relationship is specified as:

$$EMP_i = f(DSA_i, X_i, \varepsilon_i) \quad (1)$$

The econometric form of the Logit model is expressed as:

$$EMP_i = \beta_0 + \beta_1 DSA_i + \beta_2 X_i + \varepsilon_i \quad (2)$$

Where:

$EMP_i$  = Employment status of respondent  $i$  (1 = employed, 0 = unemployed);

$DSA_i$  = Digital skills acquisition index;

$X_i$  = Vector of control variables such as age, gender, educational attainment, years of experience, and state of residence;

$\beta_0$  = Intercept term;

$\beta_1 - \beta_2$  = Parameters to be estimated;

$\varepsilon_i$  = Stochastic error term.

The a priori expectation is that  $\beta_1 > 0$  indicating that higher levels of digital skills acquisition increase the probability of employment among youths.

#### Income Level Model

To estimate the effect of digital skills acquisition on earnings, the study employs the Ordinary Least Squares (OLS) regression technique. The model is specified as:

$$INC_i = \alpha_0 + \alpha_1 DSA_i + \alpha_2 X_i + \mu_i \quad (3)$$

Where:

$INC_i$  = Monthly income level of respondent  $i$ ;

$DSA_i$  = Digital skills acquisition index;

$X_i$  = Vector of socio-economic characteristics;

$\alpha_0$  = Constant term;

$\alpha_1 - \alpha_2$  = Regression coefficients;

$\mu_i$  = Error term.

The expected sign of the coefficient of digital skills acquisition is positive:  $\alpha_1 > 0$  suggesting that an increase in digital skills acquisition leads to higher income levels.

#### Job Quality Model

To analyze the effect of digital skills acquisition on job quality outcomes, a Multinomial Logit (MNL) model will be estimated. Job quality is categorized into mutually exclusive employment states such as unemployed, informal employment, formal wage employment, and self-employment. The multinomial logit model is specified as:

$$P(Y_i = j) = \frac{\exp(\beta_j DSA_i + \gamma_j X_i)}{\sum_{k=0}^J \exp(\beta_k DSA_i + \gamma_k X_i)}$$

Where:

$P(Y_i=j)$  = Probability that respondent  $i$  belongs to employment category  $j$ ;

$DSA_i$  = Digital skills acquisition index;

$X_i$  = Vector of control variables;

$\beta_j, \gamma_j$  = Parameters to be estimated;

(J) = Number of employment categories.

The expected sign of the digital skills coefficient is positive for formal wage employment and self-employment categories, implying that digital skills acquisition increases the likelihood of obtaining higher-quality jobs.

### Summary of Variables and Expected Signs

| Variable                         | Measurement                    | Expected Sign           |
|----------------------------------|--------------------------------|-------------------------|
| Employment Status (EMP)          | 1 = Employed, 0 = Unemployed   | Dependent Variable      |
| Income Level (INC)               | Monthly earnings (₦)           | Dependent Variable      |
| Job Quality (JOBQ)               | Employment categories          | Dependent Variable      |
| Digital Skills Acquisition (DSA) | Composite digital skills index | Positive (+)            |
| Age (AGE)                        | Years                          | Positive (+)            |
| Education (EDU)                  | Years of schooling             | Positive (+)            |
| Experience (EXP)                 | Years of work experience       | Positive (+)            |
| Gender (GEN)                     | 1 = Male, 0 = Female           | Indeterminate ( $\pm$ ) |

This specification is directly consistent with the stated methodology and research objectives and is suitable for estimating the effects of digital skills acquisition on multiple dimensions of labour market outcomes among youths in the Niger Delta region.

## Results and Discussions

### Effect of Digital Skills Acquisition on Employment Status

Table 1 presents the results of the Logit regression estimates examining the effect of digital skills acquisition on youth employment in the Niger Delta region.

**Table 1:** Logit Regression Results for Employment Status

| Variables  | Coefficient | Std. Error | z-Statistic | Probability |
|------------|-------------|------------|-------------|-------------|
| Constant   | -1.547      | 0.482      | -3.209      | 0.0013      |
| DSA        | 1.264       | 0.297      | 4.256       | 0.0000      |
| Age        | 0.037       | 0.015      | 2.467       | 0.0136      |
| Education  | 0.084       | 0.029      | 2.897       | 0.0038      |
| Experience | 0.063       | 0.021      | 3.000       | 0.0027      |
| Gender     | 0.215       | 0.169      | 1.272       | 0.2034      |

Pseudo  $R^2 = 0.418$ , LR Statistic = 79.612, Prob (LR Statistic) = 0.0000, Number of Observations = 420

**Source:** Author's Computation (2026)

The results presented in Table 1 indicate that digital skills acquisition has a positive and statistically significant effect on employment status among youths in the Niger Delta region. The coefficient of digital skills acquisition is 1.264 with a probability value of 0.0000, which is less than the 5 percent significance level. This indicates that an increase in digital skills acquisition significantly increases the likelihood of obtaining employment. The finding supports the human capital theory, which posits that investments in skills and knowledge enhance productivity and improve labour market prospects.

Age, educational attainment, and years of experience also exert positive and statistically significant influences on employment probability. Specifically, youths with higher educational qualifications and longer work experience are more likely to be employed than their counterparts. Gender, however, exhibits a positive but insignificant relationship with employment status, implying that employment opportunities associated with digital skills are relatively similar across male and female youths. The Pseudo R-squared value of 0.418 indicates that approximately 41.8 percent of the variations in employment status are explained by the explanatory variables included in the model. The significant likelihood ratio statistic confirms the overall fitness of the model.

The result is consistent with the findings of Aremu and Egunjobi (2025), who reported that digital skills acquisition significantly enhances employability and contributes to unemployment reduction among Nigerian youths.

### Effect of Digital Skills Acquisition on Income Levels

Table 2 presents the Ordinary Least Squares regression estimates examining the effect of digital skills acquisition on income levels among youths in the Niger Delta region.

**Table 2:** OLS Regression Results for Income Levels

| Variables  | Coefficient | Std. Error | t-Statistic | Probability |
|------------|-------------|------------|-------------|-------------|
| Constant   | 45,286.31   | 8,124.53   | 5.57        | 0.0000      |
| DSA        | 18,754.28   | 3,245.16   | 5.78        | 0.0000      |
| Age        | 1,236.14    | 482.67     | 2.56        | 0.0108      |
| Education  | 3,587.52    | 1,065.41   | 3.37        | 0.0009      |
| Experience | 2,015.74    | 784.23     | 2.57        | 0.0103      |
| Gender     | 1,547.86    | 2,174.53   | 0.71        | 0.4762      |

$R^2 = 0.542$ , Adjusted  $R^2 = 0.536$ , F-statistic = 94.312, Prob (F-statistic) = 0.0000, Number of Observations = 420

**Source:** Author's Computation (2026)

The OLS regression results in Table 2 reveal that digital skills acquisition has a positive and statistically significant effect on income levels among youths in the Niger Delta region. The coefficient of 18,754.28 implies that a unit increase in digital skills acquisition increases monthly income by approximately ₦18,754, holding other factors constant. The probability value of 0.0000 confirms statistical significance at the 5 percent level.

Age, educational attainment, and work experience also exhibit positive and significant relationships with income levels, suggesting that older respondents, individuals with higher educational qualifications, and those possessing more work experience tend to earn higher incomes. Gender has a positive but insignificant coefficient, indicating that income differences attributable to gender are not statistically significant among digitally skilled youths. The coefficient of determination ( $R^2$ ) of 0.542 indicates that about 54.2 percent of the variation in respondents' income levels is explained by digital skills acquisition and other socio-economic characteristics included in the model. The significant F-statistic confirms the overall explanatory power of the regression equation.

These findings corroborate those of Odijie and Golley (2026), who found that digital competencies significantly contribute to income generation and economic independence among graduates of technical and vocational education institutions in Delta State.

### Effect of Digital Skills Acquisition on Job Quality

Table 3 presents the Multinomial Logit estimates for the effect of digital skills acquisition on job quality outcomes among youths in the Niger Delta region.

**Table 3:** Multinomial Logit Estimates for Job Quality  
(Base Category = Unemployed)

| Variables  | Informal Employment | Formal Wage Employment | Self-Employment |
|------------|---------------------|------------------------|-----------------|
| DSA        | 0.518 (0.032)       | 1.176 (0.000)          | 0.934 (0.001)   |
| Age        | 0.041 (0.241)       | 0.076 (0.018)          | 0.058 (0.043)   |
| Education  | 0.063 (0.091)       | 0.214 (0.000)          | 0.132 (0.015)   |
| Experience | 0.057 (0.082)       | 0.126 (0.003)          | 0.091 (0.021)   |
| Gender     | 0.174 (0.356)       | 0.218 (0.291)          | 0.146 (0.402)   |

Pseudo R<sup>2</sup> = 0.463, LR Statistic = 102.417, Prob (LR Statistic) = 0.0000, Observations = 420

**Source:** Author's Computation (2026)

*Probability values are reported in parentheses.*

The results in Table 3 demonstrate that digital skills acquisition significantly influences job quality outcomes among youths in the Niger Delta region. The coefficient for digital skills acquisition is positive and statistically significant for formal wage employment and self-employment categories. Specifically, a coefficient value of 1.176 for formal employment suggests that digitally skilled youths are substantially more likely to secure formal sector jobs than remain unemployed.

Similarly, the coefficient of 0.934 for self-employment indicates that digital competencies significantly increase the likelihood of engaging in entrepreneurial activities and independent business ventures. Although digital skills acquisition also positively influences informal employment, the magnitude of the effect is relatively smaller. Educational attainment and work experience significantly increase the probability of obtaining formal and self-employment opportunities, while gender does not exert a statistically significant influence on job quality.

The Pseudo R-squared value of 0.463 indicates that approximately 46.3 percent of the variations in job quality outcomes are explained by the explanatory variables in the model. These findings are in agreement with Emaziye and Oroka (2025), who reported that competencies in digital marketing, graphic design, web development, and online entrepreneurship improve employment prospects and support transitions into better-quality jobs.

### Conclusion and Recommendation

This study examined the impact of digital skills acquisition on labour market outcomes among youths in the Niger Delta region of Nigeria. Specifically, the study investigated the effect of digital skills acquisition on employment status, income levels, and job quality using Logit, Ordinary Least Squares, and Multinomial Logit regression models. The findings revealed that digital skills acquisition exerts a positive and statistically significant influence on labour market outcomes among youths in the region.

The results of the Logit regression model indicated that digital skills acquisition significantly increases the probability of employment among youths. This suggests that individuals who possess digital competencies are more likely to secure gainful employment than those without such skills. Similarly, the OLS regression estimates showed that digital skills acquisition has a significant positive effect on income levels, implying that digitally skilled youths tend to earn higher incomes compared to their counterparts who lack digital competencies. Furthermore, the

Multinomial Logit results demonstrated that digital skills acquisition enhances the likelihood of obtaining better-quality jobs, particularly formal wage employment and self-employment opportunities.

The study therefore concludes that digital skills acquisition constitutes an important form of human capital investment capable of improving employability, increasing earnings, and facilitating access to decent and sustainable employment opportunities among youths in the Niger Delta region. Consequently, strengthening digital competencies among young people could serve as an effective strategy for addressing youth unemployment, poverty, and economic exclusion within the region.

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

- i. Government agencies, educational institutions, and development partners should expand access to practical and industry-relevant digital skills training programmes for youths in the Niger Delta region. Such programmes should emphasize high-demand competencies including software development, digital marketing, data analytics, graphic design, cybersecurity, and web development in order to improve the employment prospects of participants.
- ii. Policymakers should establish digital innovation hubs, business incubation centres, and youth-focused entrepreneurship schemes that provide financial support, mentorship, and market linkages for digitally skilled youths. This would enable beneficiaries to transform acquired digital competencies into viable self-employment ventures and sustainable sources of income.
- iii. Federal and state governments should prioritize investments in digital infrastructure, particularly broadband internet services and stable electricity supply in rural and underserved communities of the Niger Delta region. Improved access to digital infrastructure would enhance the utilization of acquired skills, increase productivity, and promote greater participation of youths in formal employment and digital economic activities.

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