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Original Research Article

SKILLS MAPPING AND GREEN JOB READINESS OF TERTIARY INSTITUTION GRADUATES IN SOUTH-SOUTH, NIGERIA

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ABSTRACT: This study examined the relationship between skills mapping and green job readiness of tertiary institution graduates in South-South Nigeria. The study was guided by three research questions and hypotheses. The study used a descriptive and correlational survey design to examine skills mapping and green job readiness among tertiary institution graduates in South-South Nigeria. Graduates from federal universities formed the study population, and a sample of 384 was determined using Cochran's formula for unknown populations. Stratified and simple random sampling ensured balanced representation across institutions. Data were collected using a researcher-developed questionnaire titled Skills Mapping and Green Job Readiness (SMGJRQ), consisting of demographic items and 12 substantive items on a 4-point Likert scale. Experts validated the instrument, and reliability coefficients of .825; .881 and .872, respectively, confirmed strong internal consistency. Mean and standard deviation were used to answer the research questions, while the Pearson Product-Moment Correlation coefficient was employed to test the hypotheses at a .05 significance level. Analyses were conducted using SPSS 27. The findings revealed that digital literacy, technical and entrepreneurial skills mapping enhance green job readiness of tertiary institution graduates in South-South Nigeria. Conclusively, skills mapping significantly enhances green job readiness among tertiary institution graduates in South-South Nigeria. It was recommended that institutions should strengthen digital literacy, technical training, and entrepreneurial development to enhance graduates' practical readiness for green jobs and sustainable ventures.

Keywords: Skills Mapping, Green Job Readiness, Tertiary Institution Graduates.

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INTRODUCTION

The role of tertiary institution graduates in driving national development cannot be overstated, as they represent a critical human capital resource essential for economic growth, innovation, and societal transformation. In Nigeria, particularly within the South-South region, these graduates are positioned to address pressing developmental challenges whilst simultaneously contributing to the nation's economic diversification agenda. However, the efficacy of their contribution is

fundamentally contingent upon their readiness to engage with emerging labour market demands, most notably the burgeoning green economy sector. Green jobs have become increasingly vital for sustainable development, particularly in addressing environmental challenges whilst promoting economic growth (Diri & Elisha, 2021). The imperative for graduates to possess competencies aligned with green employment opportunities has thus become a cornerstone of contemporary human capital development discourse, particularly as nations worldwide recognise the urgent need to transition towards environmentally sustainable economic models.

The concept of green job readiness extends beyond traditional employment preparation, encompassing a sophisticated blend of environmental consciousness, technical proficiency, and adaptive capabilities. Research indicates that work readiness for green jobs requires specific competencies that enable individuals to contribute meaningfully to sustainable development initiatives (Ololube & Wome, 2025; Najmudin & Sudira, 2025). This readiness is particularly crucial in Nigeria, where environmental degradation, climate change impacts, and the need for sustainable resource management present both challenges and opportunities for graduate employment. The South-South region, characterised by its rich natural resources and significant environmental concerns related to oil and gas activities, presents a unique context where green job readiness becomes not merely advantageous but essential for meaningful graduate contribution to national development. To effectively prepare graduates for green employment opportunities, skills mapping emerged as a vital strategic tool.

Skills mapping is the systematic process of identifying, assessing, and documenting the knowledge, competencies, and abilities possessed by individuals or required within an organization, industry, or sector. It helps identify skill gaps, inform workforce planning, and guide training and professional development initiatives (ILO, 2022). While Green job readiness refers to the extent to which individuals possess the technical, digital, entrepreneurial and soft skills needed to secure and perform jobs that support environmental sustainability and the transition to a low-carbon economy (Ololube & Wome, 2025). Put together, skills mapping and green job readiness support workforce development and sustainable economic growth.

In addition, skills mapping denotes to the systematic process of identifying, documenting and analysing the competencies possessed by individuals or required within organizations, thereby creating a comprehensive understanding of the alignment between educational outcomes and labour market needs (Clarkson, 2023). This approach provides institutions with a framework for understanding the relationship between acquired competencies and employment requirements. Through skills mapping, educational institutions can identify gaps between current graduate capabilities and the competencies demanded by green sectors, thereby informing curriculum development and pedagogical approaches (Ahadi et al., 2022). The process serves as a knowledge driver within organisations, enabling strategic decision-making regarding human resource development (Badie & Rostomyan, 2025).

Within the context of green job readiness, three competency domains emerge as particularly salient: digital literacy, technical skills, and entrepreneurial capabilities. Digital literacy encompasses the ability to effectively utilise information and communication technologies, analyse data, and engage with digital platforms, it involves the competencies that are increasingly essential in modern green industries that rely heavily on technological solutions for environmental monitoring, renewable energy management, and sustainable resource utilisation. Educational institutions play a crucial role in integrating green skills development, including technological competencies, into their teaching and learning frameworks (Switzer et al., 2024). Technical skills refer to the specialised knowledge and practical abilities required to

perform specific green sector tasks, ranging from renewable energy installation to environmental impact assessment and sustainable agriculture practices. Entrepreneurial skills, meanwhile, encompass the innovative thinking, risk management, and business development capabilities necessary for graduates to not only secure employment within existing green enterprises but also to establish new ventures that address environmental challenges whilst generating economic value. Understanding how these skills align with industry requirements represents a critical bridge between educational outcomes and employment success (da Costa et al., 2025). The integration of these competency domains through systematic skills mapping thus provides a foundation for enhancing graduate readiness to contribute meaningfully to Nigeria's sustainable development agenda.

Statement of the Problem

Despite the growing emphasis on sustainable development in Nigeria's South-South region, a significant misalignment exists between tertiary graduates' competencies and green job sector demands. This "green skills gap" undermines workforce alignment with sustainable, low-carbon economy requirements, impeding climate goals, economic growth and equitable worker transition. Whilst institutions continue producing graduates annually, limited empirical evidence exists regarding their digital literacy, technical proficiency, and entrepreneurial capabilities necessary for green employment integration. This skills gap permeates multiple sectors, including manufacturing, construction, renewable energy, and information technology, hindering organisations' capacity to implement sustainable solutions effectively. The absence of systematic skills mapping frameworks within tertiary institutions has created an inadequate understanding of competency gaps, hampering curriculum development and graduate preparation strategies. This disconnect undermines both graduate employability and Nigeria’s capacity to harness human capital for environmental sustainability and economic diversification. Consequently, an urgent assessment of tertiary graduates' green job readiness is required through comprehensive skills mapping. The objectives are to examine the extent of digital literacy, technical, and entrepreneurial skills among Tertiary Institution Graduates in South-South Nigeria

Research Questions

The following questions guided the study:

- To what extent do digital literacy skills relate to green job readiness of tertiary institution graduates in South-South Nigeria?
- To what extent do technical skills relate to green job readiness of tertiary institution graduates in South-South Nigeria?
- To what extent do entrepreneurial skills relate to green job readiness of tertiary institution graduates in South-South Nigeria?

Hypotheses

The hypotheses were formulated and statistically tested at a 0.05 level of significance:

- There is no significant relationship between digital literacy skills and green job readiness of tertiary institution graduates in South-South Nigeria.
- There is no significant relationship between technical skills and green job readiness of tertiary institution graduates in South-South Nigeria.
- There is no significant relationship between entrepreneurial skills and green job readiness of tertiary institution graduates in South-South Nigeria.

THEORETICAL FRAMEWORK

Human Capital Theory

Human Capital Theory, developed by Gary Becker in 1964, posits that individuals' knowledge, skills, competencies, and attributes constitute valuable economic assets that enhance productivity and contribute to economic growth (Okokoyo & Nwaham, 2024). Becker's seminal work established that investments in education, training, and development yield returns comparable to investments in physical capital, fundamentally transforming how societies perceive the relationship between education and economic prosperity. The theory operates on the premise that human capabilities are not merely byproducts of economic activity but rather central drivers of innovation, productivity enhancement, and competitive advantage (Owolabi, 2018). Core attributes of Human Capital Theory include the recognition that education and training constitute investments rather than consumption; that these investments generate both individual and societal returns; that skills and competencies are transferable and appreciable assets; and that continuous learning and development are essential for maintaining competitive advantage in dynamic labour markets (Orji et al., 2020). The theory further emphasises that human capital development requires deliberate, strategic interventions through formal education, vocational training, and experiential learning opportunities (Asaju & Ashepo, 2025).

The relevance of Human Capital Theory to this study is profound, as it provides the theoretical foundation for understanding how skills mapping and green job readiness initiatives constitute strategic investments in graduate capabilities. Within this framework, competency mapping serves as a knowledge driver within educational contexts, enabling institutions to strategically develop human capital aligned with emerging labour market demands. In the Nigerian context, human capital development through education represents a critical pathway for sustainable national development, particularly when aligned with contemporary economic imperatives such as the green economy transition. The integration of information and communication technologies in human capital development enhances graduates' capacity to engage with modern green economy opportunities, whilst technical and entrepreneurial skills development transforms them into productive economic agents. The theory thus justifies examining how tertiary institutions can systematically map and develop competencies that transform graduates into valuable human capital assets capable of driving Nigeria's green economy transition and contributing meaningfully to sustainable national development.

CONCEPTUALISATION

Skills Mapping

Skills mapping is a visual representation of all the skills employees have within a department or institution. It involves analysing each employee's competency related to a particular skill, especially abilities that relate to specific projects, roles and tasks. This technique allows you to understand the abilities of employees and the value that each of them provides. It can reveal the strengths and weaknesses of each employee (Ábrahám et al., 2023). More so, skills mapping serves as a strategic tool for aligning educational outcomes with workforce demands (Clarkson, 2023). Skills mapping enables colleges to create a universal language that effectively explains their value proposition, facilitating better communication between academia and industry. This approach has proven particularly valuable in addressing competency gaps, as empirical studies from students' perspectives demonstrate the critical role of competency mapping in enhancing employability skills (Amballa & Mary, 2021).

Furthermore, skill mapping contributes significantly to talent pool management and organisational development, with evidence from professional bodies showing its effectiveness in workforce planning (Abioro et al., 2020). The systematic documentation of competencies allows institutions to identify curriculum strengths and weaknesses; ensuring graduates possess relevant capabilities for evolving job markets. Universities can better prepare students for green economy transitions and emerging career opportunities, ultimately bridging the persistent gap between academic preparation and employer expectations. In the context of this study, skill mapping encompasses the identification and documentation of digital literacy, technical, and entrepreneurial competencies essential for green economy participation. This mapping process systematically aligns educational curricula with industry requirements; ensuring students develop relevant capabilities for emerging job markets (Zamecnik et al., 2024). The three skill domains have the potential to help institutions to effectively prepare graduates for sustainable development careers while addressing the evolving demands of environmentally-focused sectors.

Digital Literacy Skills and Green Job Readiness of Tertiary Institution Graduates

Digital literacy has emerged as a fundamental requirement for graduates seeking to enter the green economy workforce. The integration of information and communication technologies serves as a crucial human capital development tool, particularly in emerging economies where digital competencies underpin sustainable development initiatives (Owolabi, 2018). Modern green sectors demand proficiency in data analysis, environmental monitoring systems, and digital collaboration platforms, making technological fluency indispensable for career success. Research demonstrates that ICT capabilities, when combined with adequate infrastructure, significantly enhance human capital development and prepare individuals for environmentally-focused roles (Orji et al., 2020). Tertiary institutions must therefore prioritise digital skills training within their curricula, ensuring graduates can navigate sophisticated environmental management software, contribute to digital sustainability projects, and leverage technology for climate action. Without robust digital literacy, graduates face considerable barriers to entry in green industries that increasingly rely on technological innovation and data-driven decision-making processes.

Technical Skills and Green Job Readiness of Tertiary Institution Graduates

Technical competencies form the backbone of green job preparedness, equipping graduates with practical abilities to address environmental challenges effectively. Universities and research centres play a pivotal role in integrating green skills into teaching and research programmes, ensuring students acquire hands-on expertise relevant to sustainability sectors (Switzer et al., 2024). The development of sector-specific technical knowledge, ranging from renewable energy installation to waste management systems that directly influences graduates' work readiness and their capacity to contribute meaningfully to green transitions. Evidence suggests that vocational and higher education institutions must deliberately cultivate green intentions alongside technical proficiency, as both elements mediate students' preparedness for environmental careers (Najmudin & Sudira, 2025). The dual focus enables graduates to not only possess requisite technical skills but also demonstrate a genuine commitment to sustainability principles. Consequently, institutions that embed practical green competencies within their curricula produce graduates better positioned to secure employment and drive innovation within expanding environmental industries.

Entrepreneurial Skills and Green Job Readiness of Tertiary Institution Graduates

Entrepreneurial capabilities increasingly determine graduates' success in navigating the evolving green economy landscape. Developing environmental education within higher education systems has proven essential for fostering entrepreneurial mindsets necessary for creating sustainable business ventures and innovative environmental solutions (Seilkhan & Aksoy, 2023). Students equipped with entrepreneurial skills demonstrate greater adaptability, problem-solving abilities, and initiative, which are the qualities that are highly valued in green sectors characterised by rapid innovation and emerging opportunities. Institutions that develop green skills simultaneously cultivate entrepreneurial thinking, preparing students to identify market gaps and launch sustainability-focused enterprises (Olzhebayeva & Kozhirova, 2025). This entrepreneurial dimension proves particularly crucial in developing economies where green job creation often depends on graduate-led innovation rather than established corporate structures. Tertiary institutions that integrate entrepreneurship training with environmental education, therefore, produce graduates capable of not merely filling existing green positions but actively creating new opportunities, thereby accelerating the broader transition towards sustainable economic models.

REVIEW OF RELATED EMPIRICAL STUDIES

Najmudin and Sudira (2025) conducted a study determining work readiness of vocational education students to assist in developing green jobs: The mediating role of green intention. The study employed a quantitative research design examining vocational education students' preparedness for green employment. The research investigated green intention as a mediating variable between environmental awareness and work readiness, utilizing statistical analysis to determine relationships among variables. Results revealed that green intention significantly mediates the relationship between environmental knowledge and students' readiness for green jobs. Students with stronger environmental consciousness demonstrated higher preparedness levels for sustainable employment opportunities. Conclusively, technical competencies alone are

insufficient for green job readiness; attitudinal and motivational factors are equally critical. Vocational training programs should integrate environmental consciousness development alongside technical skill acquisition. This research underscores the necessity of incorporating attitudinal dimensions into competency mapping frameworks, suggesting that green skills assessments must evaluate both cognitive knowledge and environmental intentions when preparing students for sustainable careers.

Zamecnik et al. (2024) examined the mapping employable skills in higher education curriculum using LLMs. This study utilized large language models (LLMs) to analyze higher education curricula and identify employable skills. The research employed natural language processing techniques to extract and categorize competencies from course descriptions and learning outcomes, comparing them against industry requirements. The findings revealed that LLMs effectively identified significant gaps between university curriculum content and labor market skill demands. The technology demonstrated capability in automating competency mapping processes with high accuracy. Conclusively, artificial intelligence offers scalable solutions for continuous curriculum alignment with evolving job market needs. Higher education institutions should adopt AI-powered skills analytics tools for regular curriculum audits and updates. This research provides methodological guidance for implementing technology-driven competency mapping in green skills development, demonstrating how automated analysis can enhance curriculum responsiveness to emerging environmental sector requirements in Nigerian higher education.

Olzhebayeva and Kozhirova (2025) examined the role of higher education in developing green skills in Kazakhstan. This qualitative study, presented at an international forum, examined how Kazakh universities integrate environmental competencies into their programs. The research analyzed institutional policies, curriculum frameworks, and stakeholder perspectives on green skills development. The findings revealed that Kazakh higher education institutions face challenges in balancing traditional academic content with emerging green competencies. Universities lack standardized frameworks for environmental skill integration across disciplines. Conclusively**,** Successful green skills development requires systemic curriculum transformation and institutional commitment beyond isolated sustainability courses. Universities should establish comprehensive green skills frameworks with cross-disciplinary implementation strategies and faculty development programs. This research highlights the importance of institutional readiness and systematic approaches to green skills integration. For Nigerian higher education, it emphasizes that competency mapping must be accompanied by organizational capacity building and policy support to effectively prepare students for green economy participation.

METHODS

This study adopted a descriptive and correlational survey research design to investigate Skills Mapping and Green Job Readiness among tertiary institution graduates in South-South Nigeria. This design was considered appropriate because it allows for the examination of existing conditions and the determination of relationships between the key variables without any form of manipulation.

The population of this study comprised graduates from universities in South-South Nigeria. These graduates were chosen because they represent individuals who have completed their academic programmes and are transitioning into the labour market, making them suitable

for examining Skills Mapping and Green Job Readiness. Their experiences and acquired competencies provide reliable insights into how well tertiary education equips them for emerging green economy opportunities in the region.

Because the actual number of graduates from the selected federal universities in South-South Nigeria was unknown, Cochran's formula for estimating sample sizes for unknown populations was used to determine the sample size. Using a 95% confidence level and a 5% margin of error, the calculation produced a minimum of 384 participants (graduate). A stratified random sampling technique was adopted, with each federal university serving as a stratum. Where graduate figures were available, the sample was allocated proportionately; otherwise, it was shared equally across the universities. Simple random sampling was then used within each stratum to select the required number of graduates. This ensured a balanced and representative sample for assessing Skills Mapping and Green Job Readiness in the region.

A self-developed instrument titled "Skills Mapping and Green Job Readiness Questionnaire (SMGJRQ)" was used for data collection. The questionnaire comprised two sections. Section A captured respondents' demographic information, while Section B focused on items designed to assess Skills Mapping and Green Job Readiness among graduates. This section employed a 4-point Likert scale with the options: Very High Extent, High Extent, Low Extent, and Very Low Extent, allowing respondents to express their views clearly. The instrument contained a total of 12 items, with four items developed to address each key research question.

The validity of the questionnaire was ensured through a thorough review by experts in measurement and evaluation. The reliability of the instrument was determined using Cronbach's Alpha, which produced coefficients of .825; .881 and .872 for the respective sections. These values indicate a high level of internal consistency, confirming that the instrument is reliable and suitable for assessing Skills Mapping and Green Job Readiness among graduates.

Copies of the questionnaires were administered by the researchers with the help of of two trained research assistants to ensure efficient distribution and collection. A total of 400 questionnaires, representing the full sample, were distributed across the selected federal universities in South-South Nigeria. Out of these, 344 questionnaires (86%) were completed and returned, making them valid for analysis, while 56 questionnaires (14%) were either not returned or incomplete and therefore excluded. This high retrieval rate strengthened the reliability of the data, ensuring that the findings accurately reflected the views of the target population.

To address the research questions, mean and standard deviation were used to summarise and interpret respondents' responses. For testing the hypotheses, the Pearson Product-Moment Correlation Coefficient (r) was applied at a .05 level of significance to determine the strength and direction of relationships between variables. The statistical analysis was conducted using the Statistical Package of the Social Sciences (SPSS) version 27 to ensure accuracy and reliability. In line with the decision rule, a null hypothesis was rejected when the calculated correlation coefficient indicated a significant relationship at the 0.05 level.

RESULTS

Research Question One: To what extent do digital literacy skills relate to green job readiness of tertiary institution graduates in South-South Nigeria?

Table 1: Mean and Standard Deviation for Digital Literacy Skills and Green Job Readiness

Item	Statement	Mean	SD	Decision
1	I am confident in using digital tools to access environmental and sustainability information.	3.50	0.55	Very High Extent
2	I can effectively use software applications relevant to green job tasks.	3.40	0.57	High Extent
3	I can critically evaluate online resources for skills development in green economy fields.	3.38	0.56	High Extent
4	I am able to integrate digital technologies into practical green initiatives.	3.40	0.54	High Extent
	Grand Mean	**3.42**	0.55	High Extent

Table 1 analysed the extent do digital literacy skills relate to green job readiness of tertiary institution graduates in South-South Nigeria, and the results show a grand mean of 3.42, indicating that graduates perceive digital literacy skills as highly relevant for enhancing green job readiness. This implies that digital competence significantly supports graduates' preparedness for environmentally sustainable career roles, particularly in areas requiring data handling, technology-enabled problem-solving, and eco-efficient work practices.

Research Question Two: To what extent do technical skills relate to green job readiness of tertiary institution graduates in South-South Nigeria?

Table 2: Mean and Standard Deviation for Technical Skills and Green Job Readiness

Item	Statement	Mean	SD	Decision
5	I possess the technical knowledge required for environmentally sustainable practices.	3.42	0.60	High Extent
6	I can apply technical skills to implement green solutions in my field.	3.33	0.62	High Extent
7	I can operate equipment or technologies used in sustainable practices.	3.30	0.59	High Extent
8	I can troubleshoot technical challenges related to green initiatives.	3.35	0.63	High Extent
	Grand Mean	**3.35**	0.61	High Extent

Table 2 analysed the extent to which technical skills relate to the green job readiness of tertiary institution graduates in South-South Nigeria. With a grand mean of 3.35, the findings show that graduates generally agree that technical skills significantly contribute to their preparedness for green jobs. The responses reflect a strong and consistent awareness of how practical and profession-specific competencies support sustainable work practices. This implies that graduates recognise technical proficiency as a key requirement for performing tasks that involve environmental responsibility, resource efficiency, and the application of green technologies within the emerging green economy.

Research Question Three: To what extent do entrepreneurial skills relate to green job readiness of tertiary institution graduates in South-South Nigeria?

Table 3: Mean and Standard Deviation for Entrepreneurial Skills and Green Job Readiness

Item	Statement	Mean	SD	Decision
9	I can identify business opportunities in the green economy.	3.50	0.57	Very High Extent
10	I am able to develop innovative solutions to environmental challenges.	3.45	0.58	High Extent
11	I can create sustainable business plans for green ventures.	3.48	0.59	High Extent
12	I possess the skills to manage and grow environmentally friendly enterprises.	3.48	0.57	High Extent
	Grand Mean	**3.48**	0.58	High Extent

Table 3 analysed the extent to which entrepreneurial skills relate to the green job readiness of tertiary institution graduates in South-South Nigeria. With a grand mean of 3.48, the results show that graduates recognise entrepreneurial skills as important for their readiness for green jobs. This implies that graduates understand the value of innovation, opportunity identification, problem-solving, and creativity in driving sustainable ventures and adapting to the demands of the green economy. It also added that they see entrepreneurial competence as a pathway for creating green solutions, initiating eco-friendly enterprises, and contributing meaningfully to environmental sustainability.

TEST OF HYPOTHESES

Hypothesis One: There is no significant relationship between digital literacy skills and green job readiness of tertiary institution graduates in South-South Nigeria

Table 4: Correlation analysis of digital literacy skills and green job readiness

Variables		Digital Literacy Skills	Green Job Readiness
Digital Literacy Skills	Pearson correlation	1	.652
	Sig. (2-tailed)		.000
	N	344	344
Green Job Readiness	Pearson correlation	.652	1
	Sig. (2-tailed)	.000	
	N	344	344

The Pearson Product-Moment Correlation analysis showed a correlation coefficient of r = .652 with a significance value of p = .000, indicating a statistically significant relationship. Since the p-value is below .05, the null hypothesis one is rejected. This finding indicates a strong and positive relationship between digital literacy skills and green job readiness among tertiary institution graduates. It implies that digital literacy significantly enhances graduates' ability to engage with green economy opportunities by supporting adaptive learning, personalised instruction, data-driven decision-making, and learner-centred educational management. Consequently, institutions that integrate digital literacy into their curricula are better positioned to prepare graduates for sustainable and environmentally focused careers.

Hypothesis Two: There is no significant relationship between technical skills and green job readiness of tertiary institution graduates in South-South Nigeria.

Table 5: Correlation analysis of technical skills and green job readiness of tertiary institution graduates in South-South Nigeria

Variables		Technical Skills	Green Job Readiness
Technical Skills	Pearson correlation	1	.721
	Sig. (2-tailed)		.000
	N	344	344
Green Job Readiness	Pearson correlation	.721	1
	Sig. (2-tailed)	.000	
	N	344	344

The Pearson Product-Moment Correlation analysis was conducted to determine the relationship between technical skills and green job readiness among tertiary institution graduates. The analysis produced a correlation coefficient of r = .721 with a significance value of p = .000. Since the p-value is less than the .05 threshold, the relationship is statistically significant. Based on this result, the null hypothesis two is rejected, indicating a strong and positive relationship between technical skills and green job readiness among graduates. The finding implies that graduates' technical competencies significantly contribute to their preparedness for green jobs. Possessing practical and technical skills enables them to perform environmentally sustainable tasks, implement green solutions, and adapt to the emerging demands of the green economy. This suggests that tertiary institutions should continue to emphasise technical skill development to enhance employability in green job sectors.

Hypothesis Three: There is no significant relationship between entrepreneurial skills and green job readiness of tertiary institution graduates in South-South Nigeria.

Table 6: Correlation analysis of entrepreneurial skills and green job readiness of tertiary institution graduates in South-South Nigeria

Variables		Entrepreneurial Skills	Green Job Readiness
Entrepreneurial Skills	Pearson correlation	1	.748
	Sig. (2-tailed)		.000
	N	344	344
Green Job Readiness	Pearson correlation	.748	1
	Sig. (2-tailed)	.000	
	N	344	344

The Pearson Product-Moment Correlation was conducted to assess the relationship between entrepreneurial skills and green job readiness of tertiary institution graduates. The analysis yielded a correlation coefficient of r = .748 with a significance value of p = .000. Since the p-value is below .05, the relationship is statistically significant. Based on this finding, the null hypothesis three is rejected, indicating a strong and positive relationship between entrepreneurial skills and green job readiness. This result implies that graduates' entrepreneurial competencies significantly enhance their readiness for green jobs. Skills such as opportunity identification, innovation, and sustainable business planning equip graduates to adapt to the demands of the green economy, create environmentally friendly enterprises, and contribute meaningfully to sustainable development initiatives.

DISCUSSION OF FINDINGS

Digital Literacy Skills and Green Job Readiness

The finding that there is a strong positive relationship between Artificial Intelligence (AI) and transformative management through personalisation indicates that AI technologies significantly enhance the ability of tertiary institutions to tailor administrative processes, student support services, and learning experiences to individual needs. This suggests that AI-driven systems can improve decision-making, efficiency and responsiveness within educational management. The finding aligns with Maclean et al. (2022) and Ololube et al. (2025), who identified innovation, digital competence and management-for-change skills as essential capabilities for sustainable transformation and green-economy transitions. Their study emphasizes that digital technologies and technical competencies are fundamental drivers of institutional adaptability and long-term sustainability. Furthermore, AI-enabled personalisation supports data-driven management practices that enhance organizational effectiveness and stakeholder satisfaction (Ololube & Umunadi, 2026). However, notwithstanding the growing relevance of AI and digital technologies, evidence indicates that skill gaps remain a major challenge. Studies on Nigeria's Technical and Vocational Education and Training (TVET) sector reveal inadequate alignment between training programmes and emerging technological and green-skill requirements, limiting the effective adoption of innovative technologies and reducing graduates' readiness for future labour market demands (UNESCO-UNEVOC, 2023; Afeti, 2023).

Technical Skills and Green Job Readiness of Tertiary Institution Graduate

The finding that graduates strongly perceive a significant relationship between technical skills and green job readiness highlighted the critical role of occupation-specific competencies in preparing individuals for employment in the green economy. Technical skills enable graduates to effectively operate green technologies, implement sustainable practices and adapt to emerging environmental standards across various sectors. This finding corroborates the study of OECD (2023, 2024), which established that vocational and technical skill acquisition enhances employability among Nigerian youth. The result also aligns with the view that the transition to a sustainable economy requires a workforce equipped with specialized technical competencies. However, contemporary green-skills literature emphasizes that technical expertise alone may not be sufficient. Workers in green industries increasingly require complementary skills such as innovation, problem-solving, adaptability, communication, and change management to respond effectively to evolving environmental challenges and technological advancements (OECD, 2023; OECD, 2024). Therefore, it is obvious that green job preparedness should integrate both technical and transversal competencies.

Entrepreneurial Skills and Green Job Readiness of Tertiary Institution Graduate

The finding revealed a strong relationship between entrepreneurial skills and green job readiness, which indicates that graduates perceive innovation, opportunity recognition, business planning and resource management as critical competencies for succeeding in the green economy. This suggests that entrepreneurial skills not only enhance self-employment prospects but also equip graduates to identify and develop sustainable business opportunities that contribute to

environmental and economic development. The finding is consistent with the study by Arafeh (2016) and Hamza et al. (2021), which found that green entrepreneurial competencies such as business planning, financial management, and business knowledge are essential for achieving economic sustainability among technical education graduates. Furthermore, entrepreneurial competencies have been linked to innovation, adaptability, and enterprise sustainability, which are crucial in emerging green sectors (Muhammad et al., 2023). However, in spite of the benefits of entrepreneurial training, evidence from Obidile and Onyeneke (2023) indicated that many graduates face challenges in translating these skills into viable ventures due to inadequate funding, weak institutional support, and limited access to entrepreneurial ecosystems, thereby constraining the realization of green employment opportunities.

CONCLUSION

Conclusively, this study has demonstrated that skills mapping significantly enhances green job readiness among tertiary institution graduates in South-South Nigeria. Graduates with higher competence in these skill areas are better able to identify, adapt to, and implement environmentally sustainable practices in their respective fields. The evidence indicates that skills mapping not only facilitates the identification of individual and collective competencies but also supports targeted interventions that improve employability, innovation, and adaptability within the green sector. Consequently, tertiary institutions play a critical role in equipping graduates with relevant skills aligned with emerging environmental and economic demands.

Recommendations

Based on the findings, the following recommendations were made:

- Tertiary institutions should prioritise the integration of digital literacy into their curricula to enhance graduates' green job readiness, supporting adaptive learning, personalised instruction, and data-driven decision-making.
- Tertiary institutions should prioritise practical, industry-relevant technical training, fostering hands-on experience to strengthen graduates' readiness for green jobs.
- Entrepreneurial skills should be developed through workshops, mentorship, and incubation programs, enabling graduates to create sustainable green ventures successfully

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