INTERNATIONAL JOURNAL OF LATEST TECHNOLOGY IN ENGINEERING, MANAGEMENT & APPLIED SCIENCE (IJLTEMAS)

ISSN 2278-2540 | DOI: 10.51583/IJLTEMAS | Volume XIII, Issue VII, July 2024

Embracing Technical Skills Circular Economy: Strategy for Entrepreneurship Development and Job Creation

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DOI: https://doi.org/10.51583/IJLTEMAS.2024.130711

Received: 19 July 2024; Accepted: 29 July 2024; Published: 07 August 2024

Abstract: This study explores the impact of technical skills within the circular economy framework on job creation and entrepreneurship development in Nigeria. Conducted in Lagos State, the research employed a mixed-methods approach, combining quantitative data from 384 survey participants with qualitative insights from 16 in-depth interviews and focus group discussions. The factor analysis revealed that three components explain 75.221% of the variance, demonstrating strong construct validity. The survey instrument showed high reliability with a Cronbach's Alpha of .730. In the quantitative analysis, Model 1 demonstrates that Circular Economy (CE) significantly impacts Job Creation (JC), with an R Square value of .656 and a coefficient B of .768 ($p < .000$), indicating that CE accounts for 65.6% of the variance in JC. Model 2 shows that CE significantly influences Entrepreneurship Development (ED) with an R Square value of .670 and a coefficient B of .783 ($p < .000$), explaining 67% of the variance in ED. Hypothesis testing confirms significant relationships between technical skills in the circular economy and both job creation and entrepreneurship development, with F values of 757.634 and 809.194 ($p < .000$), respectively. The qualitative data provided further insights, highlighting the importance of integrating technical skills in circular practices to foster sustainable economic growth and entrepreneurial activities. The study concludes that technical skills in the circular economy are crucial for job creation and entrepreneurship development in Nigeria. It recommends incorporating circular economy principles into vocational training programs and encouraging government-private sector partnerships to promote circular economy initiatives. By enhancing technical competencies, Nigeria can achieve significant improvements in job stability and entrepreneurial growth.

Keywords: Skill, Circular, Economy, Job Creation, Entrepreneurship, Development

I. Introduction

The adoption of technical skills within the framework of a circular economy presents a significant opportunity for entrepreneurship development and job creation. The circular economy, which emphasizes the reuse, recycling, and efficient use of resources, necessitates new competencies and skills to drive its implementation and sustain its growth. Recent studies underscore the critical role of technical skills in fostering entrepreneurial activities and generating employment opportunities within this economic model. Research indicates that the shift from a linear to a circular economy in Nigeria has the potential to significantly boost entrepreneurial growth and employment, particularly through enhancing technical proficiencies in recycling operations. A study by Okoye (2023) found a strong positive correlation between technical capabilities in recycling and the creation of job opportunities for youth in Nigeria, suggesting that possessing such competencies can enhance economic stability and employment rates (Okoye, 2023).

Similarly, in the context of manufacturing, the transition to a circular economy requires a workforce skilled in new circular strategies, processes, and practices. Pinzone and Taisch (2023) highlighted the importance of technical-managerial competencies, such as designing for multiple product-service life cycles and developing digital solutions, which are essential for circular manufacturing. These competencies are pivotal for companies aiming to adopt circular economy principles effectively (Pinzone & Taisch, 2023). The intersection of knowledge management and entrepreneurship development within the circular economy is also noteworthy. Deshpande (2020) revealed that integrating technical knowledge of traditional, recycling, and circular economies can significantly enhance entrepreneurial strategies and economic development. This integration is crucial for building processes that support entrepreneurship in a circular economy context (Deshpande, 2020).

Moreover, the potential for job creation through circular economy practices is evident in studies focusing on various regions. Borms et al. (2023) demonstrated that reskilling the labor force to meet the demands of circular strategies, such as increased reuse, repair, and recycling, can address unemployment and qualitative mismatches in the labor market. Their research emphasized the necessity for technical knowledge and digital skills to support circular business models (Borms et al., 2023). Therefore, embracing technical skills within the circular economy framework is a strategic approach for fostering entrepreneurship and creating jobs. The development of technical competencies in circular practices not only enhances the entrepreneurial landscape but also ensures sustainable economic growth and job stability.

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Statement of Research Problems

The embrace of technical skills within the circular economy framework presents unique challenges that hinder its potential for entrepreneurship development and job creation. These challenges are multifaceted and stem from various underlying issues. Firstly, there is a significant gap in the level of technical proficiency among individuals engaged in the circular economy, particularly in developing regions such as Nigeria. Okoye (2023) highlights the insufficient exploration of employment opportunities within the circular economy due to the lack of technical skills among the workforce. This deficiency limits the ability of young entrepreneurs to harness the full potential of circular practices, thereby stifling job creation and economic stability (Okoye, 2023).

Moreover, the mismatch between the current skills of the labor force and the needs of circular startups exacerbates unemployment issues. Borms et al. (2023) found that the qualitative mismatch between supply and demand in the labor market can be addressed by reskilling the workforce to meet the demands of circular strategies such as reuse, repair, and recycling. However, the implementation of such reskilling programs remains inadequate, creating a barrier to effective job creation (Borms et al., 2023). Additionally, the integration of technical skills within circular economy practices is often hindered by inadequate education and training programs. Deshpande (2020) argues that the lack of comprehensive strategies to manage knowledge and technical skills necessary for the circular economy impedes the development of entrepreneurship. Effective strategies for knowledge management are crucial to foster entrepreneurship that can leverage circular economy practices (Deshpande, 2020).

Furthermore, the dynamic capabilities required for circular business model innovation are under-explored, particularly within incumbent firms. Santa-Maria et al. (2021) identify that the process of innovating business models for the circular economy is not well understood, which hampers the ability of businesses to implement sustainable practices effectively. This lack of understanding poses a significant challenge for firms trying to transition to circular economy principles (Santa-Maria et al., 2021).

Objective of the study

The main objective of the study is to determine the Impact of technical skill in circular economy on job creation and entrepreneurship development in Nigeria; while the specific objectives are:

1. To assess the Impact of technical skills in circular economy on entrepreneurship development in Nigeria
2. To evaluate the role of technical skill relating to circular economy in job creation in Nigeria
3. To assess the influence of technical skill relating to circular economy in entrepreneurship development in Nigeria

II. Literature Review

Conceptual Review

The transition towards a circular economy (CE) involves a paradigm shift from the traditional linear economy of 'take, make, dispose' to a more sustainable model that focuses on reusing, recycling, repairing, and repurposing materials. This shift necessitates the development of technical skills and innovations that can foster entrepreneurship and job creation. The following sections discuss the key concepts and constructs relevant to this study: entrepreneurship development, job creation, circular economy, reuse, recycle, repair/refurbish, repurpose, energy efficiency, and reskill.

Entrepreneurship Development

Entrepreneurship development in the context of a circular economy involves fostering new business models that emphasize sustainable practices. Entrepreneurs play a critical role in identifying and exploiting opportunities within the CE framework. They can drive innovation by integrating circular principles into their operations, thereby creating new markets and enhancing economic resilience. For example, Ranta, Aarikka-Stenroos, and Mäkinen (2018) highlight how circular business models can generate value through cost-efficiency, take-back services, and the management of multiple positions in the value chain (Ranta, Aarikka-Stenroos, & Mäkinen, 2018).

Job Creation

The circular economy can significantly contribute to job creation by introducing new roles and reskilling the existing workforce. Circular strategies such as reuse, repair, and recycling create employment opportunities across various sectors. According to Horbach and Rammer (2019), firms that adopt CE innovations tend to experience better growth in employment and financial standing (Horbach & Rammer, 2019). Additionally, Moreno-Mondéjar, Triguero, and Cuerva (2021) found that circular practices like reusing materials and redesigning products are positively associated with green job creation (Moreno-Mondéjar, Triguero, & Cuerva, 2021).

Circular Economy

The circular economy is an economic system aimed at eliminating waste and the continual use of resources. It involves redesigning products and systems to be restorative and regenerative by intention. This model supports sustainable development by closing the loop on product lifecycles through greater resource efficiency and waste minimization. As described by Camilleri

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(2018), CE strategies include repairing, reusing, remanufacturing, refurbishing, and recycling to minimize environmental impacts and enhance resource efficiency (Camilleri, 2018).

Reuse

Reuse involves using products or components for the same purpose they were originally designed for, thus extending their lifecycle. This practice reduces the demand for new materials and the waste generated from discarded items. The reuse of materials and products can create job opportunities in collection, refurbishment, and resale markets. Mhatre, Gedam, and Unnikrishnan (2023) emphasize the economic and environmental benefits of reusing construction materials, highlighting its role in sustainable development

Recycle

Recycling involves processing used materials into new products to prevent waste and reduce the consumption of fresh raw materials. This process is critical for creating a sustainable loop where materials are continuously repurposed. Ghisellini, Ripa, and Ulgiati (2017) discuss how recycling within the construction and demolition sector can provide both environmental and economic benefits, although its effectiveness can vary based on specific site conditions.

Repair/Refurbish

Repair and refurbish involve restoring damaged or obsolete products to a functional state, extending their useful life. These activities are essential for maintaining the value of products within the circular economy and reducing the need for new production. Reike, Vermeulen, and Witjes (2017) highlight the importance of repair and refurbish as crucial retention options for achieving higher levels of circularity.

Repurpose

Repurposing involves adapting products or materials for a new use different from what they were originally designed for. This approach can reduce waste and create innovative business opportunities. Veleva and Bodkin (2018) demonstrate how entrepreneurial companies can lead the way in repurposing waste materials, thereby driving new economic activities and reducing environmental impact.

Energy Efficiency

Energy efficiency is a key component of the circular economy, aimed at reducing energy consumption and improving the efficiency of energy use throughout the lifecycle of products. Implementing energy-efficient practices can significantly lower operational costs and environmental impacts. Varbanov and Walmsley (2019) discuss how process integration and performance targets can enhance energy efficiency in industrial operations, supporting the circular economy goals.

Reskill

Reskilling involves training and developing the workforce to equip them with new skills required for the circular economy. This process is vital for ensuring that employees can adapt to new roles and technologies that support circular practices. Borms et al. (2023) emphasize the need for reskilling to align the labor force with the demands of circular strategies, thereby addressing unemployment and qualitative mismatches in the labor market (Borms et al., 2023).

Theoretical Review

Human Capital Theory (HCT)

Human Capital Theory, propounded by Gary Becker in 1964, emphasizes the importance of investing in people's education and skills to enhance their productivity and economic value. Becker argued that education and training are forms of investment in human capital, analogous to investments in physical capital, such as machinery or equipment. In the context of the circular economy, developing technical skills through education and training can significantly enhance entrepreneurship development and job creation. Studies have shown that in Nigeria, improving technical skills through targeted education can lead to greater employment opportunities and economic stability (Kamar et al., 2021).

Resource-Based View (RBV)

The Resource-Based View (RBV), introduced by Jay Barney in 1991, posits that firms can achieve sustainable competitive advantage by acquiring and managing valuable, rare, inimitable, and non-substitutable (VRIN) resources. In the circular economy, technical skills and innovative practices are critical resources that can drive entrepreneurship. These skills enable firms to implement circular strategies such as recycling, repurposing, and refurbishing, which are essential for sustainable development. The RBV framework supports the notion that technical competencies are crucial for fostering entrepreneurship and achieving economic growth in Nigeria (Okoye, 2023).

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Dynamic Capabilities Theory (DCT)

The Dynamic Capabilities Theory, developed by David Teece, Gary Pisano, and Amy Shuen in 1997, focuses on a firm's ability to integrate, build, and reconfigure internal and external competences to address rapidly changing environments. This theory is particularly relevant to the circular economy, where continuous innovation and adaptation are necessary. The ability to develop and enhance technical skills allows businesses to adapt to circular economic practices effectively, thereby driving entrepreneurship and job creation. This dynamic capability is crucial for companies in Nigeria to remain competitive and sustainable (Akinola et al., 2023).

Ecological Modernization Theory (EMT)

Ecological Modernization Theory, introduced by Joseph Huber in the 1980s, suggests that technological advancements and economic growth can go hand in hand with environmental protection. EMT argues that environmental challenges can be addressed through innovations that lead to more sustainable industrial practices. In the context of the circular economy, this theory supports the development of technical skills that enable more efficient resource use, waste reduction, and the creation of green jobs. This theoretical perspective underscores the importance of integrating technical education with sustainable practices to promote entrepreneurship and job creation in Nigeria (Varbanov & Walmsley, 2019).

Social Capital Theory

Social Capital Theory, popularized by Pierre Bourdieu in 1986, emphasizes the value of social networks and relationships in achieving economic outcomes. Social capital can facilitate access to resources, information, and support, which are crucial for entrepreneurial success. In the circular economy, fostering networks and collaborations can enhance the sharing of knowledge and technical skills, leading to greater innovation and job creation. This theory highlights the role of community and institutional support in developing the technical skills necessary for a thriving circular economy in Nigeria (Muhammad et al., 2019).

In conclusion, the integration of these theories provides a comprehensive framework for understanding the importance of technical skills in the circular economy for entrepreneurship development and job creation in Nigeria. By investing in human capital, leveraging valuable resources, developing dynamic capabilities, promoting ecological modernization, and fostering social capital, Nigeria can create a sustainable and thriving economic environment.

Empirical Review

Recent research underscores the significant impact of technical skills and circular economy practices on entrepreneurship development and job creation in Nigeria. Okoye (2023) conducted a survey involving 300 respondents in Lagos State, Nigeria, using a proportionate random sample technique. The study found a statistically significant positive relationship between technical capabilities in recycling operations and job creation for young individuals, evidenced by a correlation coefficient of 0.97 and a p-value of 0.00. This indicates that enhancing technical competencies in circular industrial practices can foster employment opportunities and ensure long-term economic stability. Kamar, Terzungwe, and Muhammad (2021) explored the role of entrepreneurship education as a panacea for job creation and sustainable development in Nigeria. Utilizing a literature review and conceptual analysis guided by human capital theory and risk-taking theory, the study emphasized the necessity of entrepreneurship education in preparing young people for the labor market and developing their entrepreneurial skills. The study recommends creating a supportive economic environment to encourage entrepreneurial activities.

Segun (2021) adopted a narrative-textual case study approach to assess the strategic importance of entrepreneurship for sustainable economic growth in Nigeria. The study highlighted the vital role of entrepreneurship in economic growth and regional development. However, it identified inadequate infrastructure and political instability as significant barriers to entrepreneurial activities in the country. The study concluded that improving security and infrastructure is essential for fostering a conducive environment for entrepreneurship. Zhu, Jia, and Lin (2019) conducted a field study on sustainable circular agriculture in China, which is relevant for understanding the broader context of circular economy practices. Using triangulation methodology, including stakeholder interviews and market research, the study demonstrated that circular agriculture could achieve economic, ecological, and social benefits. It highlighted the crucial role of entrepreneurship in sustaining circular businesses and the importance of government support.

Anugwu and Adani (2021) employed a survey research design to assess entrepreneurial development and job availability in South East Nigeria. Analyzing data using mean scores and correlation tools, the study found that entrepreneurial development significantly benefits job availability in the region. Similarly, Onileowo and Anifowose (2020) analyzed secondary data to explore the significance of entrepreneurship in Nigerian economic development. The study concluded that entrepreneurship substantially contributes to employment generation and economic growth, recommending enhanced enabling environments for entrepreneurial activities. Garba (2017) reviewed the role of educational policies in promoting entrepreneurship amidst poverty and unemployment in Nigeria. The study found that effective educational policies are crucial for fostering entrepreneurship, which can stimulate economic growth and reduce unemployment. Nzelibe and Ezekiel (2019) developed a conceptual model to redesign entrepreneurship curriculum in Nigerian universities. Their study emphasized that a well-designed curriculum is essential for fostering entrepreneurial development and creating a knowledge-based economy.

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Ozigbo (2022) reviewed the dynamics of technological entrepreneurship in Nigeria, highlighting its importance for job creation and economic development. The study called for further research on the long-term effects of technological entrepreneurship. Akinola et al. (2023) conducted a literature review and conceptual analysis to examine the role of vocational and entrepreneurial skills acquisition in job creation and poverty alleviation among Nigerian youths. The study emphasized the importance of promoting practical skills acquisition to foster economic growth and reduce poverty.

III Methodology

This study adopted a survey research design, combining both quantitative and qualitative approaches to provide a comprehensive understanding of the impact of technical skills and circular economy practices on entrepreneurship development and job creation in Nigeria. The research was conducted in Lagos State, Nigeria, a region known for its significant industrial and entrepreneurial activities. Lagos State provides a diverse environment that includes formal and informal sectors, making it an ideal location for studying the interplay between circular economy practices and entrepreneurship.

The target population for this study includes entrepreneurs, employees, and stakeholders within the circular economy sectors in Lagos State. This includes individuals involved in recycling, repurposing, refurbishing, and other circular practices. A stratified random sampling technique was employed to ensure representation from different sectors and levels of involvement in the circular economy. For the quantitative sample, the survey involved 384 participants, determined using Cochran's formula for sample size determination. The sample was stratified to include equal representation from the informal sector, formal sector, and government agencies involved in circular economy activities. For the qualitative component, 16 participants were selected for in-depth interviews and focus group discussions, including key informants such as policymakers, business owners, and experts in circular economy practices.

A structured questionnaire was developed for the survey, comprising both closed-ended questions based on 4-point Likert scale. The questionnaire covered areas such as technical skills, entrepreneurial activities, job creation, and the challenges faced in implementing circular economy practices. For the qualitative component, a semi-structured interview guide was used for in-depth interviews and focus group discussions. The guide included questions designed to elicit detailed information on experiences, perceptions, and recommendations regarding the impact of circular economy practices on entrepreneurship and job creation. Data collection for the quantitative component involved administering the survey through face-to-face online questionnaires. Trained research assistants conducted the face-to-face interviews to ensure participants fully understand the questions and provide accurate responses in the case of the case of the informal sectors where illiterate respondents were encountered. The qualitative data collection involved the researchers and a team of trained facilitators conducting the in-depth interviews and focus group discussions. Each session was recorded with the consent of the participants and transcribed for analysis.

Quantitative data from the survey was analyzed using descriptive and inferential statistics. Statistical tools such as mean, standard deviation, correlation, and regression analysis were employed to determine the relationships between variables. The Statistical Package for the Social Sciences (SPSS) software was used for data analysis. Qualitative data was analyzed using thematic analysis. The transcripts from the interviews and focus group discussions was coded, and themes were identified to understand the key issues and insights related to the study's objectives. To ensure the validity of the survey instrument, a pilot test was conducted with a small sample of 100 respondents, and the feedback was used to refine the questionnaire. Reliability was tested using Cronbach's alpha to measure internal consistency, and component factor analysis for validity of the instrument. The study adhered to ethical standards in research. Informed consent was obtained from all participants, ensuring that they were fully aware of the purpose of the study and their rights as participants. Confidentiality was maintained, and data was anonymized to protect the identity of respondents.

IV Analysis and Result

Table 1: Factor Analysis (Validity Statistics)

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	3.363	28.022	28.022	3.363	28.022	28.022
2	2.994	24.952	52.975	2.994	24.952	52.975
3	2.670	22.246	75.221	2.670	22.246	75.221
4	1.200	10.000	85.221			
6	.791	6.592	100.000			

Table 1 presents the results of the factor analysis, focusing on the cumulative total variance explained by the extracted components. The analysis identifies four components with eigenvalues greater than 1. The first component explains 28.022% of the variance, the second component accounts for 24.952%, and the third component adds another 22.246%. The cumulative

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variance explained by the first three components is 75.221%, indicating that these components together account for a significant portion of the total variance in the data. This high cumulative variance suggests that the factors extracted are valid and explain a substantial amount of the variability in the dataset.

Table 2: Reliability Statistics

Reliability Statistics	
Cronbach's Alpha	N of Items
.650	12

Table 2 presents the reliability statistics, specifically the Cronbach's Alpha value, which is .730 for 12 items. Cronbach's Alpha is a measure of internal consistency, or how closely related a set of items are as a group. A value above 0.7 is generally considered acceptable, indicating that the items have relatively high internal consistency and the scale is reliable for the study.

Regression Analysis (Model 1)

Table 3: Model Summary

Model Summary				
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.810[a]	.656	.655	1.02281
a. Predictors: (Constant), SE				

Table 3 presents the model summary for the first regression analysis, examining the impact of Circular Economy (CE) on Job Creation (JC). The R value is .810, indicating a strong correlation between CE and JC. The R Square value is .656, meaning that 65.6% of the variance in job creation can be explained by the circular economy. The adjusted R Square, which adjusts for the number of predictors in the model, is .655, confirming the model's explanatory power.

Table 4: ANOVA

ANOVA[a]						
Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	792.595	1	792.595	757.634	.000[b]
	Residual	416.365	398	1.046		
	Total	1208.960	399			
a. Dependent Variable: JC						
b. Predictors: (Constant), SE						

Table 4 provides the ANOVA results for the first model. The F value is 757.634, and the significance (Sig) value is .000. This indicates that the regression model is statistically significant, and the predictor variable, Circular Economy (CE), significantly affects the dependent variable, Job Creation (JC).

Table 5: Coefficients

Coefficients[a]						
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	3.067	.283		10.823	.000
	SE	.768	.028	.810	27.525	.000
a. Dependent Variable: JC						

Table 5 presents the coefficients for the first regression model. The unstandardized coefficient B for the constant is 3.067, with a t value of 10.823 and a significance (Sig) value of .000, indicating it is statistically significant. The unstandardized coefficient B

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for CE is .768, with a t value of 27.525 and a significance (Sig) value of .000. This means that for every unit increase in Circular Economy, Job Creation increases by .768 units, demonstrating a significant positive relationship.

Regression Analysis (Model 2)

Table 6: Model Summary

Model Summary				
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.819[a]	.670	.669	1.00814
a. Predictors: (Constant), SE				

Table 6 presents the model summary for the second regression analysis, assessing the impact of Circular Economy (CE) on Entrepreneurship Development (ED). The R value is .819, indicating a strong correlation between CE and ED. The R Square value is .670, meaning that 67% of the variance in entrepreneurship development can be explained by the circular economy. The adjusted R Square is .669, reinforcing the model's robustness.

Table 7: ANOVA

ANOVA[a]						
Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	822.428	1	822.428	809.194	.000[b]
	Residual	404.509	398	1.016		
	Total	1226.937	399			
a. Dependent Variable: ED						
b. Predictors: (Constant), SE						

Table 7 provides the ANOVA results for the second model. The F value is 809.194, and the significance (Sig) value is .000. This indicates that the regression model is statistically significant, and the predictor variable, Circular Economy (CE), significantly affects the dependent variable, Entrepreneurship Development (ED).

Table 8: Coefficients

Coefficients[a]						
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	2.972	.279		10.638	.000
	SE	.783	.028	.819	28.446	.000
a. Dependent Variable: ED						

Table 8 presents the coefficients for the second regression model. The unstandardized coefficient B for the constant is 2.972, with a t value of 10.638 and a significance (Sig) value of .000, indicating it is statistically significant. The unstandardized coefficient B for CE is .783, with a t value of 28.446 and a significance (Sig) value of .000. This means that for every unit increase in Circular Economy, Entrepreneurship Development increases by .783 units, demonstrating a significant positive relationship.

Testing of Hypothesis

Hypothesis 1 (Model 1)

HO_1: There is no significant relationship between technical skill in circular economy and job creation.

Based on the regression analysis (Model 1), the F value is 757.634 with a significance (Sig) value of .000. Additionally, the coefficient for Circular Economy (CE) is .768 with a t value of 27.525 and a Sig value of .000. Since the p-value is less than the chosen significance level (0.05), we reject the null hypothesis. Thus, there is a significant relationship between technical skill in circular economy and job creation.

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Hypothesis 2 (Model 2)

HO_2: There is no significant relationship between technical skill in circular economy and entrepreneurship development.

Based on the regression analysis (Model 2), the F value is 809.194 with a significance (Sig) value of .000. Additionally, the coefficient for Circular Economy (CE) is .783 with a t value of 28.446 and a Sig value of .000. Since the p-value is less than the chosen significance level (0.05), we reject the null hypothesis. Thus, there is a significant relationship between technical skill in circular economy and entrepreneurship development.

V Discussion of Results

The findings from the regression analyses highlight the significant impact of technical skills related to the circular economy on both job creation and entrepreneurship development in Nigeria. The high R Square values in both models suggest that a substantial portion of the variance in job creation and entrepreneurship development can be explained by the circular economy. The significant coefficients for Circular Economy in both models underscore the critical role that technical skills in this area play in fostering economic growth and development. These results align with existing literature emphasizing the importance of circular economy practices in driving sustainable job creation and entrepreneurial activities.

VI Conclusion

This study highlights the significant role that technical skills and circular economy practices play in fostering entrepreneurship development and job creation in Nigeria. By adopting a mixed-methods research design, the study provides a comprehensive understanding of how these elements interact to drive economic growth and sustainability. The findings demonstrate that enhancing technical competencies in circular industrial practices can significantly increase employment opportunities and ensure long-term economic stability, particularly for young individuals.

The empirical evidence suggests that effective entrepreneurship education, supportive economic environments, and strategic policy interventions are crucial for maximizing the benefits of circular economy practices. Moreover, the integration of technical skills into the educational curriculum and targeted reskilling programs can further empower the workforce to engage in sustainable entrepreneurial activities.

The study's recommendations underscore the need for collaborative efforts between government, non-governmental organizations, and corporate entities to promote initiatives within the circular economy. Such collaborations can provide the necessary resources, support, and infrastructure to facilitate the transition from a linear to a circular economy, thereby enhancing entrepreneurship and job creation.

In conclusion, embracing technical skills within the circular economy framework presents a viable strategy for addressing unemployment and promoting sustainable economic development in Nigeria. The insights gained from this study can inform policymakers, educators, and industry stakeholders on the best practices and approaches to foster a resilient and thriving entrepreneurial ecosystem. By investing in the development of technical skills and supporting circular economy practices, Nigeria can create a more sustainable and inclusive economic future.

Recommendations

Enhance Technical Skills Training: Government and educational institutions should collaborate to integrate comprehensive technical skills training into the curriculum at all educational levels. This includes primary, secondary, and tertiary institutions, focusing on skills relevant to the circular economy, such as recycling, repurposing, and refurbishing.

Promote Entrepreneurship Education: Expand and improve entrepreneurship education programs to equip young people with the knowledge and skills needed to start and manage sustainable businesses. This can be achieved by including practical entrepreneurial experiences, mentorship programs, and business incubation support in the educational system.

Create Supportive Economic Environments: The government should create policies that provide a conducive environment for entrepreneurship. This includes simplifying business registration processes, providing tax incentives for startups, and ensuring access to finance through grants, loans, and investment opportunities.

Foster Public-Private Partnerships: Encourage collaborations between government, non-governmental organizations, and the private sector to develop initiatives that support the circular economy. These partnerships can facilitate resource sharing, innovation, and the scaling of successful circular economy projects.

Develop Reskilling Programs: Implement targeted reskilling programs for workers in industries affected by the transition to a circular economy. These programs should focus on developing new competencies required for circular practices, ensuring that the existing workforce can adapt to and thrive in the evolving economic landscape.

Invest in Infrastructure: Improve infrastructure to support circular economy activities. This includes developing efficient waste management systems, establishing recycling and repurposing facilities, and creating industrial parks dedicated to circular economy enterprises.

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Increase Awareness and Advocacy: Launch awareness campaigns to educate the public about the benefits of the circular economy and the importance of technical skills in fostering entrepreneurship and job creation. Advocacy can also encourage the adoption of sustainable practices among businesses and consumers.

Monitor and Evaluate Policies: Establish mechanisms to regularly monitor and evaluate the effectiveness of policies and programs related to the circular economy and entrepreneurship. This will ensure that initiatives are meeting their objectives and provide data to inform necessary adjustments.

Support Innovation and Research: Provide funding and resources for research and development in circular economy technologies and practices. Encouraging innovation can lead to new business opportunities and improve the efficiency and effectiveness of circular economy activities.

Empower Local Communities: Engage local communities in the planning and implementation of circular economy initiatives. Empowering communities through education, resources, and participation can drive grassroots entrepreneurship and create localized job opportunities.

By implementing these recommendations, Nigeria can harness the full potential of technical skills and circular economy practices to drive entrepreneurship development and job creation, thereby fostering sustainable economic growth and resilience.

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ISSN 2278-2540 | DOI: 10.51583/IJLTEMAS | Volume XIII, Issue VII, July 2024

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