

Entrepreneurship Education in Ceramics: Encouraging SMEs in Expanding Economic Activities in Nigeria

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Abstract

Entrepreneurship education has been widely recognized as a significant driver for economic diversification and small business growth across developing economies. In Nigeria, the ceramics sector represents both cultural heritage and economic potential, yet it remains underexplored in academic literature on entrepreneurship education despite its relevance for Small and Medium Enterprises (SMEs). This article synthesizes emerging scholarship on how entrepreneurship education enhances ceramics SMEs' capacity to expand economic activities in Nigeria. Drawing on human capital theory, social learning theory, and capability approach frameworks, the review examines structural opportunities and constraints that shape educational interventions for ceramic artisans. Conceptual constructs such as entrepreneurial mindset, skills acquisition, experiential learning, market orientation, and institutional support are extensively reviewed. Empirical evidence from recent studies reveals that tailored entrepreneurship education positively influences market competitiveness, innovation adoption, and sustainability outcomes among ceramics enterprises. However, policy gaps, curriculum disconnects, and limited access to finance continue to hinder educational effectiveness. The article concludes by proposing a research agenda and policy recommendations to foster holistic entrepreneurship education for ceramics SMEs in Nigeria.

Keywords: Artisanal enterprises, ceramics SMEs, entrepreneurship education, Nigeria economic development, skills training.

1. Introduction

Entrepreneurship education has emerged as a critical factor in strengthening the economic performance of SMEs in both developed and developing countries (Brush, de Bruin, & Welter, 2019; Unger et al., 2020). In the Nigerian context, where youth unemployment rates remain high and informal sector enterprises dominate employment statistics, entrepreneurship education provides a pathway for sustainable economic engagement (Ogundele, Akingbade, & Akinlabi, 2020). While research has examined entrepreneurship education across various industries, the artisanal ceramics sector has received limited scholarly attention despite its cultural importance and economic potential (Adeniran & Ogunniyi, 2021).

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Ceramics, encompassing pottery, tiles, and artistic clay products, forms an integral part of many Nigerian communities' cultural heritage and livelihoods (Olaoye & Adeyemo, 2021). Yet, ceramics SMEs often face challenges related to market access, innovation adoption, and professionalization (Bello & Abubakar, 2020). Entrepreneurship education tailored to artisanal contexts can address these challenges by equipping practitioners with business acumen, innovation strategies, and market orientation skills (Ekpenyong & Nyong, 2023).

This paper critically explores the relationship between entrepreneurship education and its potential to encourage economic expansion among ceramics SMEs in Nigeria. By synthesizing theoretical and empirical insights, the review identifies key constructs that underpin effective education models and highlights gaps in current policy and practice. The study also proposes a research agenda for future scholarly inquiry.

2. Theoretical Review

Theoretical frameworks provide essential lenses through which entrepreneurship education's impact can be examined in artisanal contexts like ceramics. The following theories are particularly pertinent:

2.1 Human Capital Theory: Human capital theory posits that investment in education and skills development enhances individual productivity and economic outcomes (Becker, 1964; Schultz, 1961). Within entrepreneurship research, human capital represents an entrepreneur's knowledge, skills, and experience that contribute to business success (Manolova, Brush, & Edelman, 2021). In the context of ceramics SMEs in Nigeria, human capital development through entrepreneurship education equips artisans with knowledge about financial management, marketing, and innovation strategies necessary for business growth (Adeniran & Ogunniyi, 2021).

Studies indicate that ceramics practitioners who engage in formal and informal education display higher capabilities in product diversification and market engagement (Chukwuemeka, 2023). This suggests that entrepreneurship education functions as a catalyst for human capital accumulation and economic performance improvement in artisanal sectors.

2.2 Social Learning Theory: Social learning theory emphasizes that learning occurs through observation, imitation, and modeling within social contexts (Bandura, 1977). This framework is instrumental for understanding how ceramic artisans acquire entrepreneurial skills from mentors, peers, and industry networks. Research reveals that apprenticeship models and community-based learning significantly shape entrepreneurial competencies among Nigerian artisans (Nwude, 2022). Social learning thus supports the notion that entrepreneurship education should incorporate peer learning and community engagement to enhance practical skill transfer.

2.3 Capability Approach: Originating from Sen's capability approach, this theory focuses on individuals' genuine opportunities to achieve valued outcomes based on their environment and capabilities (Sen, 1999). Applied to entrepreneurship education, this framework highlights how educational experiences expand artisans' capabilities to engage in economic activities beyond

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mere survival into meaningful enterprise development (Welsh, Memili, & Kaciak, 2018). In ceramics SMEs, capability expansion entails access to resources, technical skills, and networks that enable sustainable business models.

2.4 Experiential Learning: Experiential learning emphasizes action-based education where learners engage in real business challenges to construct knowledge (Kolb, 1984). Studies show that apprenticeships, cooperative studios, and field-based projects enhance artisans' entrepreneurial capabilities by linking theory with practice (Nwude, 2022). Experiential learning plays a crucial role in entrepreneurship education in ceramics, enabling students to apply theoretical knowledge in practical settings (Kolb, 2015). By engaging in hands-on ceramic projects, students develop essential skills like problem-solving, creativity, and risk-taking, which are vital for entrepreneurial success (Krueger & Brazeal, 1994).

Experiential learning approaches, such as project-based learning and internships, provide ceramics students with real-world experiences, allowing them to test their ideas and receive feedback (Dutta et al., 2011). This approach helps build confidence, resilience, and adaptability, essential qualities for ceramic entrepreneurs (Rae, 2007). Research suggests that experiential learning in ceramics education can lead to increased entrepreneurial intentions and venture creation among graduates (Nabi et al., 2017). Thus, by integrating experiential learning into ceramics programs, educators can equip students with the skills and mindset needed to succeed in the ceramic industry.

3. Conceptual Review

A review of key concepts clarifies the theoretical foundation for understanding entrepreneurship education's role in Nigeria's ceramics sector.

3.1 Entrepreneurship Education: Entrepreneurship education refers to structured programs designed to develop knowledge, competencies, and attitudes necessary for identifying and exploiting business opportunities (Fayolle & Gailly, 2015). It includes formal academic courses, vocational training, mentoring, and experiential learning. In Nigerian artisanal sectors, entrepreneurship education often combines technical skill development with business training (Ogbari, Ogbu, & Etim, 2019).

Emerging scholarship emphasizes the need for contextualized curriculum design sensitive to local artisanal realities rather than generic business training (Adetunji & Osasona, 2024). For ceramics SMEs, this means integrating material science, design thinking, e-commerce, and sustainability in educational interventions.

3.2 Ceramics SMEs: Ceramics SMEs comprise small and medium-scale enterprises engaged in producing pottery, ceramic art, tiles, and related products. These enterprises often exist within informal economies and rely on traditional techniques passed through generations (Bello & Abubakar, 2020). Although ceramics products have both cultural and commercial value, many

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SMEs struggle with commercialization due to limited managerial knowledge and weak market linkages (Ekpenyong & Nyong, 2023).

3.3 Entrepreneurial Skills and Mindset: Entrepreneurial skills include financial literacy, marketing, innovation, risk management, and strategic planning (Rae, 2017). Entrepreneurial mindset refers to cognitive orientations toward opportunity recognition, resilience, and creative problem-solving (Nabi et al., 2017). For ceramics SMEs, fostering these competencies through education can influence venture viability and expansion.

3.4 Economic Activities: Economic activities refer to actions and processes involved in the production, distribution, and consumption of goods and services (Jhingan, 2016). These activities are the backbone of any economy, contributing to economic growth, employment, and overall well-being (Todaro & Smith, 2020). Economic activities may include primary, secondary, and tertiary activities. Primary activities involve extraction and harvesting of natural resources, like agriculture, mining, and forestry (Fischer et al., 2018). Secondary activities may involve processing and manufacturing of goods, such as construction and manufacturing (Krugman & Wells, 2018). Tertiary activities deals with the provision of services, such as transportation, finance, and healthcare (Lipsey & Chrystal, 2015).

Economic activities are important because they promote economic growth (contribute to GDP growth, increasing national income and living standards) (Acemoglu & Robinson, 2012); employment (create jobs, reducing unemployment and poverty) (International Labour Organization, 2019); innovation (drive innovation, improving productivity and competitiveness (Schumpeter, 1934); and boost the entire economy of the nation through its national income.

Encouraging economic activities, especially for start-ups is very important, but can be painstaking. Key challenges faced include inequality/capital unavailability (economic activities can exacerbate income inequality, necessitating redistributive policies (Piketty, 2014), as such people with low or no income, are affected negatively in the implementation of their business plans. Another problem they face is sustainability and continuity (economic activities must balance growth with environmental sustainability and social responsibility (United Nations, 2015). Most people with creative ideas are not encouraged while trying to build their ideas from scratch, this can lead to lack of continuity and sustainability.

3.4.1 Reasons for Encouraging Economic Activities

Several reasons promote the need for encouraging economic activities in a country, few of them include:

a. Job creation and employment: Economic activities create jobs, reducing unemployment and poverty (International Labour Organization, 2019).

b. Economic growth and development: Economic activities contribute to GDP growth, increasing national income and living standards (Acemoglu & Robinson, 2012).

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c. Improved standard of living: Economic activities provide goods and services, improving the overall quality of life (Todaro & Smith, 2020).

d. Increased government revenue: Economic activities generate tax revenue, enabling governments to fund public services and infrastructure (World Bank, 2020).

e. Innovation and entrepreneurship: Economic activities drive innovation, improving productivity and competitiveness (Schumpeter, 1934).

f. Reduced poverty and inequality: Economic activities can help reduce poverty and income inequality (Piketty, 2014).

g. Increased foreign exchange earnings: Economic activities can generate foreign exchange earnings through exports (Krugman & Wells, 2018).

In addition, some specific reasons relevant to Nigeria include:

h. Diversifying the economy: Encouraging economic activities can help reduce dependence on oil exports (National Bureau of Statistics, 2020).

i. Developing local industries: Supporting economic activities can promote local industry development and import substitution (African Development Bank, 2020).

j. Improving infrastructure: Economic activities can drive infrastructure development, such as transportation and energy (World Bank, 2020).

3.4.2 Economic Activities and Entrepreneurship Education in Ceramics

Entrepreneurship education in ceramics can significantly contribute to economic activities in Nigeria by fostering innovation, job creation, and skill development. Recent studies highlight the importance of integrating practical entrepreneurship education into ceramics programs to equip students with essential skills for sustainable enterprise creation (Okoro & Nwankwo, 2022; Olayemi & Abdul, 2023).

3.4.3 Benefits of Entrepreneurship Education in Ceramics

Key benefits of promoting entrepreneurship education in ceramics may include:

a. Job Creation: Ceramics production creates employment opportunities at various skill levels, reducing unemployment rates (Africa's Young Entrepreneurs Organization, 2023). Entrepreneurship education empowers students to start their own ceramic businesses, creating employment opportunities (Adu & Ojelabi, 2023).

b. Revenue Generation: The ceramics industry generates substantial revenue through sales and exports, contributing to the national economy.

c. Skill Development: Ceramics education equips artisans with valuable skills, improving their employability and entrepreneurial capabilities. Entrepreneurship education helps ceramics students develop business skills, such as marketing, finance, and management (Okoro & Nwankwo, 2022).

d. Rural Development: Ceramics production often occurs in rural areas, stimulating economic growth and development. It helps in promoting local industry development. Entrepreneurship education in ceramics can contribute to the growth of local ceramic industries, reducing dependence on imports (African Development Bank, 2020).

e. Innovation and creativity: Entrepreneurship education encourages students to think creatively and develop innovative ceramic products (Olayemi & Abdul, 2023).

3.4.4 Challenges of Entrepreneurship Education in Ceramics

Key issues affecting entrepreneurship education in ceramics include the following:

a. Limited Access to Funding: Entrepreneurship education programs often face funding constraints, hindering their effectiveness. Ceramic materials need adequate funds to access them, so when these funds are not available, entrepreneurial projects in ceramics become disrupted or inappropriately done.

b. Infrastructure Deficits: Inadequate infrastructure, such as equipment and facilities, can impede ceramics production and entrepreneurship.

c. Global Competition: Nigerian ceramics face competition from global brands, necessitating quality improvements and innovation.

d. Technology: There is poor and inadequate access to technological innovations needed for entrepreneurial projects in ceramics. The absence of these materials and technology helps to hinder the smooth teaching of entrepreneurship as it relates with ceramics.

e. Poor Curriculum: Most schools that offer entrepreneurship education in ceramics have not yet understood the objectives of the program and what needs to be in curriculum for adequate teaching and learning to take place.

To address these challenges, incorporating entrepreneurship educational professionals into ceramics programs can help develop innovative solutions, build good and well-structured curriculum, improve product quality, and enhance market competitiveness.

4. Empirical Evidence and Emerging Trends in Ceramics-Focused Entrepreneurship Education in Nigeria

4.1 Empirical evidence

Recent scholarly works on entrepreneurship education for ceramics SMEs in Nigeria demonstrates both opportunities and persistent challenges in translating education into economic impact.

i. Impact of Entrepreneurship Education on SMEs' Performance: Empirical studies reveal that entrepreneurship education significantly enhances SME performance in artisanal sectors, including ceramics. Adeniran and Ogunniyi (2021) conducted a survey of 120 ceramics SMEs across Lagos, Ibadan, and Kano and found that artisans who received formal business and entrepreneurial training were 35% more likely to adopt modern production techniques and engage with larger market networks than those without such training. Similarly, Nwude (2022) reported that entrepreneurship education positively influenced revenue growth, product diversification, and sustainability practices among Nigerian artisanal SMEs.

Fayolle and Gailly (2015) argue that these outcomes are most pronounced when education programs integrate practical training, mentorship, and exposure to real-world business challenges. In the Nigerian ceramics sector, apprenticeship and cooperative studio models have emerged as key modes of experiential learning, enabling artisans to internalize both technical and managerial skills.

ii. Market Orientation and Innovation Adoption: Studies indicate that entrepreneurship education enhances SMEs' market orientation and innovation adoption (Olaoye & Adeyemo, 2021; Ekpenyong & Nyong, 2023). For example, a comparative study by Chukwuemeka (2023) across Yoruba and Igbo ceramics communities showed that artisans who participated in entrepreneurship programs were more likely to adopt digital marketing platforms, participate in trade fairs, and experiment with value-added products, such as decorative tiles and customized ceramic artworks.

The integration of technology in ceramics production and distribution is a notable trend, where education equips artisans to leverage e-commerce and social media platforms, thereby expanding customer reach and increasing profitability (Ogundele, Akingbade, & Akinlabi, 2020).

iii. Policy and Institutional Support: Empirical evidence highlights that entrepreneurship education's effectiveness depends on supportive institutional frameworks (Adetunji & Osasona, 2024). National and state-level vocational programs, such as the National Directorate of Employment (NDE) and state craft development initiatives, have provided structured training for ceramic artisans, improving skills acquisition and entrepreneurial competence. However, gaps remain, including limited access to start-up capital, inadequate mentoring, and weak linkages with industry stakeholders (Bello & Abubakar, 2020).

4.2 Emerging Trends Entrepreneurship Education in Ceramics

a. Contextualized and Culturally Sensitive Curriculum: Recent studies emphasize the importance of tailoring entrepreneurship education to local contexts. Generic business courses fail to address specific artisanal challenges. For example, curricula integrating traditional ceramic techniques with contemporary design thinking, quality control, and marketing strategies have proven more effective in Nigeria (Ekpenyong & Nyong, 2023; Chukwuemeka, 2023).

b. Experiential and Peer-Based Learning: Apprenticeships and peer-led learning remain dominant in skill acquisition among Nigerian ceramics SMEs. Social learning theory (Bandura, 1977) explains how artisans gain entrepreneurial skills through observation, imitation, and collaboration. Modern interventions now combine these traditional methods with structured mentoring and business simulation exercises to enhance competency (Nwude, 2022).

c. Technology Integration: Digital tools for marketing, production, and supply chain management are increasingly embedded in entrepreneurship education programs. Artisans trained in e-commerce platforms, CAD software for design, and social media marketing demonstrate higher sales, greater market penetration, and innovative product development (Olaoye & Adeyemo, 2021).

d. Sustainability and Resource Efficiency: Sustainable practices are increasingly included in entrepreneurship education for ceramics SMEs. Topics include eco-friendly clay sourcing, energy-efficient kiln operation, and waste reduction strategies (Adeniyi, 2022). Education programs that incorporate sustainability enhance both environmental responsibility and long-term business viability.

Other potential areas of focus for entrepreneurship education in ceramics may include:

e. Product development and design: Encouraging students to develop unique and marketable ceramic products.

f. Marketing and sales: Teaching students how to effectively market and sell their ceramic products.

g. Business planning and management: Equipping students with skills to manage and grow a ceramic business.

5. Case-Study Insights from Nigeria

a. Lagos State Ceramics Cooperative Initiative: The Lagos State Ceramics Cooperative, established in 2019, integrates entrepreneurship training with artisan production. A study by Adeniran and Ogunniyi (2021) showed that artisans participating in the cooperative increased sales by 28% over 12 months, adopted innovative product designs, and expanded into digital marketplaces.

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b. Kano Pottery Artisans Training Program: In Kano, the National Directorate of Employment partnered with local artisans to provide targeted entrepreneurship workshops. Evaluation reports indicate improved financial management skills and product quality standards, enabling participants to access larger local markets (Bello & Abubakar, 2020).

c. Comparative Context: Lessons from Ghana and Kenya: Comparative studies suggest that entrepreneurship education tailored to local artisanal practices is effective across Sub-Saharan Africa. In Ghana, pottery SMEs trained through vocational colleges exhibited enhanced business performance and innovation capacity (Mensah & Anane, 2021). In Kenya, ceramics artisans integrating entrepreneurship modules within apprenticeship programs expanded their market reach via online platforms (Kariuki & Wanjohi, 2022).

These cross-national insights reinforce the importance of contextualized, experiential, and technology-integrated entrepreneurship education in improving SMEs' economic outcomes.

6. Synthesis and Discussion

The empirical evidence reviewed demonstrates that entrepreneurship education positively influences ceramics SMEs in Nigeria across several dimensions such as:

- a. Business Competence:** Education equips artisans with skills in financial management, market analysis, and strategic planning (Fayolle & Gailly, 2015). Entrepreneurship education in ceramics will help ceramists and students to learn, understand and appreciate the opportunities in the ceramics and construction market. Research have proven that education bridges the gap between theory and practice, as such entrepreneurship education in ceramics may help with extending theoretical knowledge into the industry, while also on the other hand, exploring untapped industrial ceramic materials into unique and unprecedented designs. These lines of activities have a synergy for improving business competence of students, ceramists, artisans, and even the ceramics industry at large.
- b. Innovation and Market Expansion:** Training encourages adoption of new product designs and digital marketing strategies (Olaoye & Adeyemo, 2021). Innovation and market expansion are crucial for the growth of ceramics SMEs in Nigeria. Entrepreneurship education can play a significant role in influencing these aspects, for instance in innovation, there may be product innovation (entrepreneurship education can encourage ceramics SMEs to develop unique and marketable products, such as functional art pieces or sustainable ceramics) (Olayemi & Abdul, 2023); process innovation (SMEs can adopt new techniques and technologies to improve production efficiency and reduce costs) (Krugman & Wells, 2018); and market innovation (entrepreneurship education can help SMEs identify new markets and customer segments for their products) (Nabi et al., 2017).

Also, for Market Expansion, there may be considerations for improving Local market expansion (SMEs can expand their customer base within Nigeria by targeting new regions or demographics) (African Development Bank, 2020); international market expansion

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(entrepreneurship education can equip SMEs with the skills to export their products, tapping into global markets) (World Trade Organization, 2020); and digital market expansion (SMEs can leverage e-commerce platforms and social media to reach a broader audience) (McEwan & Khavul, 2016).

- c. Sustainability Practices:** Integrating eco-friendly production methods enhances both social and economic sustainability (Adeniyi, 2022). Sustainability practices are becoming increasingly important for ceramics SMEs in Nigeria. These practices for ceramics SMEs may include: Eco-friendly materials (using locally sourced, recycled, or sustainable materials for production) (UNEP, 2020); energy efficiency (adopting energy-efficient kilns and production processes to reduce carbon footprint) (IEA, 2020); waste reduction (implementing waste reduction and recycling strategies, such as reusing clay scraps) (NBS, 2020); water conservation (implementing water-saving techniques and technologies) (UN-Water, 2020); sustainable packaging (using biodegradable or recyclable packaging materials) (Packaging Digest, 2020). Entrepreneurship education also impact ceramics SMEs to adopt sustainable practices by raising awareness (educating students and entrepreneurs about the importance of sustainability in business) (AACSB, 2020); providing skills (equipping entrepreneurs with skills to implement sustainable practices) (UNESCO, 2020); and encouraging innovation (fostering innovative solutions for sustainability challenges) (OECD, 2020). Key benefits of sustainability practices for ceramics SMEs through entrepreneurship education include cost savings (reduced energy and resource consumption can lead to cost savings) (World Bank, 2020); market opportunities (sustainable products can attract environmentally conscious customers) (Nielsen, 2020); and regulatory compliance (meeting sustainability regulations can reduce risks) (NBS, 2020).
- d. Networking and Institutional Access:** Structured programs foster linkages with cooperatives, trade associations, and financial institutions (Adetunji & Osasona, 2024). Networking and institutional access are crucial for ceramics SMEs in Nigeria, and entrepreneurship education can play significant roles in influencing these aspects. For instance, in Networking, it can impact areas like industry connections (entrepreneurship education can facilitate connections between ceramics SMEs and industry stakeholders, such as suppliers, buyers, and mentors) (Granovetter, 2018); networking events (SMEs can leverage networking events, conferences, and trade fairs to build relationships and identify opportunities) (GEM, 2020); and online platforms (utilizing online platforms, such as social media and industry forums, can help SMEs connect with potential partners and customers) (Kane, 2019).

Also, for Institutional access, the following areas can be impacted: access to finance (entrepreneurship education can equip SMEs with skills to access finance from institutions, such as banks and venture capitalists) (World Bank, 2020); regulatory support (SMEs can benefit from institutional support, such as tax incentives and regulatory guidance) (NBS, 2020); and training and development (institutions can provide training and development

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opportunities, enhancing SMEs' skills and competitiveness) (UNDP, 2020). Some practical strategies for ceramics SMEs in Nigeria, may include joining industry associations, such as the Ceramic Industry Association of Nigeria (CIAN); attending trade fairs and exhibitions, such as the Nigeria International Trade Fair (NITF); utilizing online platforms, such as LinkedIn and industry-specific forums; and building relationships with local universities and research institutions.

Some practical strategies for ceramics SMEs in Nigeria may include:

- a. Collaborating with designers and artists to create unique products
- b. Attending trade fairs and exhibitions to showcase products
- c. Utilizing online platforms to market and sell products
- d. Developing export-ready products and strategies.

Despite these gains, challenges persist, and the following issues keep emerging:

- a. There are more curriculum gaps between academic programs and artisanal/industry realities.
- b. Limited access to grants and or other financial aids as startup capital for students, artisans, and SMEs in Ceramics.
- c. Unequal exposure to technology-based interventions due to issues such as political interference, nepotism, corruption, godfatherism, and misplaced priorities during skills acquisition initiatives managed by the government.
- d. Weak monitoring and evaluation frameworks for educational programs by relevant authorities.

7. Policy Recommendations, Future Research, and Conclusion

7.1 Policy Recommendations

Based on the empirical and conceptual synthesis, the following policy recommendations are proposed to strengthen entrepreneurship education for ceramics SMEs in Nigeria:

- a. **Curriculum Reform:** Higher education institutions and vocational centers should develop contextualized curricula that integrate ceramics techniques, business management, and digital marketing. Programs should bridge the gap between artisanal skill and entrepreneurship theory (Adetunji & Osasona, 2024; Chukwuemeka, 2023).
- b. **Financial and Institutional Support:** Government agencies and financial institutions should provide accessible microloans, grants, and seed funding for SMEs in the ceramics sector. Linking education programs with funding initiatives encourages practical application of entrepreneurial skills (Bello & Abubakar, 2020).
- c. **Experiential and Peer Learning Expansion:** Policies should promote apprenticeships, cooperative learning, and mentoring programs. Structured experiential learning fosters practical skill acquisition and enhances business performance (Nwude, 2022).

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- d. **Technology Integration:** Incorporating digital literacy, e-commerce, and design software into entrepreneurship education enables artisans to expand market reach and adopt innovative production methods (Olaoye & Adeyemo, 2021).
- e. **Sustainability Promotion:** Education and training programs should integrate eco-friendly production practices, waste management, and energy-efficient kiln operation, aligning SMEs with sustainable development goals (Adeniyi, 2022).
- f. **Monitoring and Evaluation:** Regular assessment of entrepreneurship programs ensures relevance, effectiveness, and scalability, enabling iterative improvements in curriculum design and support services (Ogundele, Akingbade, & Akinlabi, 2020).
- g. **Research and Development:** Ceramists, students, Fine and Applied Arts institutions, construction industries, and other relevant bodies should collaborate to support research initiatives, in order to explore areas untapped in entrepreneurial ceramics.

7.2 Future Research Directions

Despite emerging insights, gaps remain that future research should endeavor to address. These include:

- a. Longitudinal studies tracking the long-term impact of entrepreneurship education on ceramics SMEs' profitability and sustainability.
- b. Comparative studies between regions in Nigeria to identify contextual factors influencing education outcomes.
- c. Technology adoption research focusing on the effectiveness of digital tools in artisan enterprise growth.
- d. Policy impact assessments to evaluate how government and institutional interventions affect SME expansion.
- e. Gender-focused research exploring women's participation and empowerment in ceramics entrepreneurship education.

8. Conclusion

Entrepreneurship education represents a critical channel for expanding economic activities among ceramics SMEs in Nigeria. Theoretical and empirical evidences indicate that well-designed programs enhance business competence, innovation adoption, sustainability practices, and access to networks and markets. The integration of theoretical frameworks such as human capital, social learning, capability approach, and experiential learning, highlights the importance of skill development, risk-taking/innovation, mentorship, and capability expansion. Empirical findings underscore the need for context-sensitive, experiential, and technology-integrated interventions.

Despite these progress, policy gaps, limited funding, and uneven access to education remain barriers to optimal SME growth, specifically in ceramics. Effective strategies to address these

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include curriculum reform, financial support, experiential learning, digital integration, sustainability promotion, and robust program evaluation. Therefore, by implementing these measures, Nigeria can harness the full potential of ceramics SMEs, contributing to economic diversification, gross domestic product, employment creation, improved national income, and sustainable development of the economy.

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