



10th World Research & Strategic Development Conference

4th - 6th June, 2025

CONFERENCE PROCEEDINGS

Theme

Advancing Sustainable Development Strategies
Under Current World Crisis Conditions

Kenyatta University International Conference Center (KUICC), Nairobi

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10TH WORLD RESEARCH AND STRATEGIC DEVELOPMENT CONFERENCE

VENUE: KENYATTA UNIVERSITY, NAIROBI - KENYA

THEME

Advancing Sustainable Development Strategies Under Current World Crisis Conditions

DATE: Wednesday 4th - Friday 6th June, 2025

TIME: 10:00am (GMT+1)

CONFERENCE LOC

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Kenyatta University,
Nairobi

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10TH WORLD RESEARCH AND STRATEGIC DEVELOPMENT CONFERENCE

VENUE: KENYATTA UNIVERSITY, NAIROBI - KENYA

CONFERENCE PROGRAMME

DAY ONE – Wednesday 4th June, 2025

- Arrival of Conferees & Delegates

DAY TWO – Thursday 5th June, 2025

OPENING SESSION/PLENARY

Conference Registration	- 9:00am – 10:00am
Opening Prayer/Welcome Remark	- 10:00am – 10:15am
Institutional Brief/Chairman's Opening Remark	- 10:15am – 10:30am
Research Training	- 10:30am – 12noon
Launch Break/Group Photograph	- 12noon – 1:00pm
Plenary Session	- 1:00pm – 4:00pm
Policy Review Session	- 4:00pm – 5:00pm

DAY THREE – Friday 6th June, 2025

OPENING SESSION/PLENARY

Conference Registration	- 9:00am – 10:00am
Opening Prayer/Welcome Remark	- 10:00am – 10:15am
Institutional Brief/Chairman's Opening Remark	- 10:15am – 10:30am
Research Training	- 10:30am – 12noon
Launch Break/Group Photograph	- 12noon – 1:00pm
Plenary Session	- 1:00pm – 4:00pm
Policy Review Session	- 4:00pm – 5:00pm

DAY FOUR – Saturday 7th June, 2025

- Departure of Conferees & Delegates



Welcome to

Kenyatta University, Nairobi

History of Kenyatta University:

The history of Kenyatta University dates back to 1965, when the British Government handed over the Templer Barracks in Kahawa to the Government of Kenya. These barracks were converted into an educational institution named Kenyatta College, which initially offered Secondary and Teacher Training Education, leading to the award of Secondary Teacher 1 (S1) and Secondary Teacher Advanced Level (SA) certificates.

In 1970, following an Act of Parliament, Kenyatta College became a constituent college of the University of Nairobi, and its name changed to Kenyatta University College. The institution admitted its first batch of 200 students in 1972 to pursue studies leading to the Bachelor of Education degree awarded by the University of Nairobi. A significant milestone occurred in July 1978, when the Faculty of Education of the University of Nairobi was transferred to Kenyatta University College. This move made the institution the only one in the country at the time offering teacher education at both undergraduate and postgraduate levels. Kenyatta University College attained full university status on August 23, 1985, and the establishing Act became operational on September 1, 1985. The University was inaugurated in December 1985 with three foundational faculties: Education, Science, and Arts.

When you come to Kenyatta University, you discover that you have arrived at a special place. The University's Main Campus is set on over 1,000 acres with a pleasant and serene surrounding conducive to academic and intellectual growth. Kenyatta University is home to some of the world's top scholars, researchers and experts in diverse fields. We pride ourselves in providing high quality programmes that attract individuals who wish to be globally competitive. To achieve this, we have invested heavily in infrastructure and facilities to offer our students the best experience in quality academic programmes under a nurturing environment in which our students learn and grow. Kenyatta University is one of the leading universities in Kenya judging by the quality of our graduates. Our aim is not only to maintain this position, but to improve further and attain our vision of becoming a world-class university that is committed to quality and relevance.

What gives graduates of Kenyatta University a cutting edge over their peers is the University's emphasis on practical hands-on knowledge and the skills training imparted to its students. Towards this noble end, Kenyatta University has established meaningful links with industrial partners, who guide the University on practical, professional requirements which need to be built into programmes at Kenyatta University. As a result, the University's courses give our graduates a distinct advantage in the workplace. Already, many of our graduates are exposed to new employment opportunities by accessing industrial attachments during their study, or through course related placements.

Source: <https://www.ku.ac.ke/index.php/about-ku/ku-profile>

Timeline for Manuscript Corrections and Journal Publication

The timeline for manuscript assessment and publication is as outlined below:

1. The Plenary/Technical session is compulsory for all conferees. You are advised to note the comments pointed out by the Chairman of the Technical Session and other members of the plenary group. This will help you effect corrections as expected.
2. Corrections of manuscript(s) (full papers) must be effected and submitted within 2 weeks after the conference. All submissions must be made to:
conferenceseries01@gmail.com
3. The Conference Professional Peer Review Editorial Panel (CPPREP) will meet 2 weeks after the league conference to review papers. This usually takes one week, after which the papers are forwarded to Google Scholar International Standard Peer Review Research Council for professional and disciplinary blind peer review and plagiarism check. Usually this takes about 3 weeks.
4. Letter of Papers Acceptance and Journal Publication will be issued to author(s) on the 6th week after the conference. Acceptance will be in three forms:
 - a. After peer review, papers with less than 50% accuracy level will be rejected. Author(s) will be required to re-write the paper based on observations.
 - b. Secondly, papers with 51 – 80% accuracy level will be accepted for publication, but with minor corrections effected by the institute.
 - c. Finally, papers with 81 – 95% accuracy level will be accepted for publication with minor corrections effected by the institute.
5. On acceptance of paper for publication, author(s) will be required to make PAYMENT for paper publication/ pagination (hard print and online) and courier. Payment must be done within 2 weeks of notification of acceptance. Authors will receive their published journals within 10 weeks after the conference.
6. Accepted papers will be published in International Scientific Disciplinary Research Journals with high level Impact Factor (in hard print and e-version). Published journals will be indexed in Google Scholar and other online research directories.

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References

The reference style should be APA format.

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BOOK OF PROCEEDINGS



10TH WORLD RESEARCH AND STRATEGIC DEVELOPMENT CONFERENCE

VENUE: KENYATTA UNIVERSITY, NAIROBI - KENYA

A POSITIONAL PAPER ON DRIVING THE FUTURE OF TVET IN NIGERIA: THE IMPERATIVE OF GENDER EQUALITY AND SOCIAL INCLUSION

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Abstract

The future of Technical and Vocational Education and Training (TVET) in Nigeria is closely tied to the promotion of gender equality and social inclusion. By addressing the challenges facing TVET and implementing targeted solutions, Nigeria can foster a skilled workforce that contributes to the nation's economic growth and development. To improve their socioeconomic standing, people from diverse backgrounds, including those with limited access to formal education, can utilize alternative avenues provided by TVET to acquire the necessary skills and knowledge. By providing practical, hands-on training, TVET can empower girls and women to pursue careers in various industries, thereby promoting gender equality in the workforce and addressing the gender gap in education. By encouraging men and women to pursue careers in non-traditional fields, TVET helps break down gender stereotypes and foster an inclusive workforce. TVET equips learners with entrepreneurial skills, enabling marginalized groups and women to become self-employed and promote economic independence, contributing to social inclusion. Raising awareness about gender equality and social inclusion through targeted campaigns, workshops, and events held at TVET institutions can help address issues such as gender stereotypes, workplace harassment, and equal opportunities. Collaborating with local organizations and community leaders can help TVET institutions identify the unique needs of various communities, fostering community engagement and a more inclusive environment. In conclusion, driving the future of TVET in Nigeria requires a focus on gender equality and social inclusion. By addressing the challenges facing the sector and implementing targeted solutions, Nigeria can create a skilled workforce that contributes to economic growth and development while promoting fairness and equality for all.

Keywords: TVET, Social Inclusion, Gender Equality, SDG 5

Introduction

Technical, Vocational Education and Training (TVET) has long been recognized as a key component of Human Resource Development (HRD) and a vital tool for socio-economic development (UNESCO 2018). More recently, the TVET sector has been identified for its potential to advance the SDGs on the African continent, as well as to achieve Agenda 2063. Indeed, it is seen as crucial to achieving these goals (African Development Bank, 2021). Technical and Vocational Education and Training (TVET) is designed to provide a population with knowledge and skills that will allow them to secure and retain their jobs successfully. TVET is seen as a mixture of formal, informal, and non-formal learning that provides youths with the knowledge and skills they require for employment. According to the United Nations Organisation for Educational, Scientific, and Cultural Organisation (UNESCO), TVET is considered a value-added portion of a general education that integrates technology, sciences, practical skills, attitudes, understanding, and information relating to employment in different economic and social sectors. TVET organizations are big 'workplace suppliers' that will be in the workforce and will be at the forefront of dealing directly with sustainable issues (Paryono, 2017).

Technical Vocational Education and Training (TVET) is education and training that offers knowledge and skills for employment. UNESCO (2006) defines TVET as an educational process characterised, in addition to general education, by the study of technology and related sciences, practical skills acquisition, attitudes, understanding, and knowledge relevant to occupations in various economic sectors and social life. Technical and vocational education is an educational process that involves, in addition to general education, the study of technologies and related sciences and the acquisition of practical skills, attitudes, understanding, and knowledge relevant to occupations in various sectors of economic and social life (Okoye & Arimonu, 2016). Over the years, TVET has received recognition worldwide as a major driving force in both socio-economic growth and development in technology. For instance, during the United Nations Educational, Scientific, and Cultural Organization (UNESCO) third International Congress on TVET in Shanghai, China in 2012, the representatives present concluded that transforming TVET should be a top priority in the need to build greener societies and tackle global unemployment. Emphasis was placed on updating and developing mechanisms and tools to identify current and future skills needs, to ensure the relevance of TVET programmes to rapidly changing labour markets, economies, and societies (Bukit, 2012).

The concept of social exclusion is used in very different ways, as will be discussed in the following section. For some, it is synonymous with poverty. Others emphasize inadequate social participation, lack of social integration, and lack of power. While related to poverty, social exclusion is a quite distinct concept that is also linked to the important notion of social capital. Social capital can be defined as the networks of social relations that are characterized by norms of trust and reciprocity that facilitate cooperative behaviour (Stone, 2001) and build a cohesive society (Winter, 2000). Social disadvantage has been linked in a recent Australian study to lower levels of social trust and higher levels of crime (Cameron, 2005).

Despite the international campaigns for gender equality and equity in higher education, studies conducted in several countries continue to show that women are underrepresented in TVET institutions as students, staff, and managers. The participation of women in TVET education as students is uneven across national, disciplinary, and institutional boundaries in both developed and developing countries. UNESCO (2003:81) concluded that, although there are variations between and within different regions, there is a pattern whereby female participation in higher education tends to

diminish as one moves from secondary to higher education, especially in science and technology-oriented technical programs. Gender disparities are also apparent in fields or subjects of study with women (UNESCO 2003). Morley and Lugg (2009) observe that since academic identity is often constructed and enacted via disciplinary choice and location, gendering of disciplinary choices in TVET serves to track students into different types of occupations and social hierarchies, hence contributing to gender inequalities in society.

TVET has been hailed as “the answer to the skills shortage and skills mismatch in Africa” and “the missing link for the training and integration of youth in the labour market”. TVET no doubt holds tremendous potential for increasing employment, economic development, and ultimately economic empowerment for young Africans in particular. In particular, we draw attention to the ways that gender disparities generate obstacles and conditions in the TVET sector that, given their close connection to the workplace, directly affect women's ability to enter and remain in the labour force, as well as their long-term economic security and empowerment. According to the literature, TVET institutions may tend to reproduce patriarchal dynamics rather than transform them if gender-responsive reforms based on an understanding of how "gender regimes" function and persist are not implemented. Despite this, TVET has the potential to help the African continent achieve its development goals.

Objectives of TVET

The objective of Technical and Vocational Education and Training (TVET) is to provide individuals with the necessary skills, knowledge, and competencies required for employment and entrepreneurship in various industries. TVET aims to equip learners with practical, hands-on expertise, enabling them to contribute effectively to the economy and society, while also fostering personal growth and development. The main goals of TVET include:

- i. **Enhancing employability:** TVET programs help students acquire the skills needed to enter the workforce or advance in their chosen careers.
- ii. **Promoting entrepreneurship:** TVET encourages learners to develop the skills and confidence to start their businesses or become self-employed.
- iii. **Bridging the skills gap:** TVET addresses the growing demand for skilled workers in various industries, helping to fill the gap between the supply of labor and the demand for specialized skills.
- iv. **Boosting economic growth:** By providing a skilled workforce, TVET contributes to the overall economic development of a country, as well as the competitiveness of its industries.
- v. **Encouraging lifelong learning:** TVET emphasizes the importance of continuous learning and skill development throughout one's life, promoting adaptability and resilience in the face of changing job markets and technological advancements.
- vi. **Fostering social inclusion and gender equality:** TVET offers opportunities for individuals from diverse backgrounds, including those who may have faced barriers to education, to gain valuable skills and improve their socio-economic status.
- vii. **Strengthening national development:** By equipping citizens with relevant skills, TVET contributes to the overall development of a nation, addressing issues such as poverty, unemployment, and social inequality.

Review of the Literature

When thinking about what TVET is all about, it is worthwhile to first take a look around the room where we sit. From the seat on which people are sitting to the laptop they are holding, to the projector

screen, to the building, and other things, are all partly or completely the product of TVET. No wonder Thompson (2012) said that TVET, if properly understood, is not a career but the application of skills to support life. TVET refers to those aspects of educational processes involving, in addition to general education, the study of technologies and related sciences, as well as the acquisition of practical skills, attitudes, understandings, and knowledge relating to occupations in various sectors of economic and social life (FRN, 2004). TEVT is meant to impart knowledge and skills for increased efficiency in the world of work, sustainable livelihoods, personal empowerment, and socio-economic development, which enhances proper adjustment in knowledge economies and rapidly changing work environments. Thus, TVET is an all-embedded comprehensive education and training program, involving lifelong learning, responsible citizenship, and the promotion of environmentally sound development and social transformation. Former President Olusegun Obasanjo stated that TVET, with its relevant practical training component, holds the key to Nigeria becoming technologically relevant and internationally competitive in the world market. He continued that TVET is also the most effective means of empowering the citizenry to stimulate sustainable national development, enhance employment, improve the quality of life, reduce poverty, limit the incidence of social vices due to joblessness, and promote a culture of peace, freedom, and democracy (Federal Ministry of Education-FME, 2000).

Definitions of TVET by UNESCO

Given the long history of UNESCO's global involvement in the development of TVET, reviewing her definitions may reveal the global conceptions of TVET that have shaped the global development of TVET. UNESCO-UNEVOC TVETipedia (2017) defines TVET as “education concerned with the acquisition of knowledge and skills for the world of work”; a definition that restricts itself to the role of TVET in transitioning learners from school to work. The encyclopaedia however notes that many terms have been used in the past to refer to TVET. These include Apprenticeship Training, Occupational Education (OE), Technical Education (TE), Vocational Education (VE), Technical and Vocational Education (TVE), Vocational Education and Training (VET), Professional and Vocational Education (PVE), Career and Technical Education (CTE), Workplace Education (WE) and Workforce Education (WE) among others. The use of the terms is more common in some regions than in others. Maclean & Lai (2011) make similar observations. For example, the US government opted to use the term Career and Technical Education (CTE) in favour of VET in 2006 (Cedefop, 2020).

Benefits of TVET

New research suggests that TVET is on the whole beneficial to learners. In a systematic review of the literature, (Tripney & Hombrados (2013) found small positive and significant impacts on paid employment, formal employment, and monthly earnings from various forms of vocational education in low-income and middle-income countries. Self-employment and number of hours worked per week were however not significantly improved. Earlier, Hoeckel (2008) reviewed the literature on the benefits of vocational education in the OECD and found that vocational education provides multiple benefits for individuals and society. In the short term, individuals received improved employment chances and earning levels, while employers received higher productivity. The society received saved expenses. In the long term, individual employees became more flexible and had higher chances of lifelong learning. Employers experienced lower staff turnovers and the society received net gains due to increased tax income and externalities from improved productivity.

Status of equality and inclusion in Nigeria

According to the National Gender and Equality Commission (2016), Equality in education implies securing education as a right for all learners and supporting the learners to exploit their full potential and aspirations, regardless of their socio-economic backgrounds. It also involves implementing and institutionalizing interventions and arrangements towards achieving the set goals. Inclusion in education refers to the extent to which education service delivery responds to the diversity of needs and learners, according to the UN Girls Education Initiative (UNGEI). Specifically, UNGEI defines 'inclusion' to entail "providing all learners at all levels, including those with significant disabilities, equitable opportunities to receive effective educational services, with the needed supplementary aids and support services, in age-appropriate classrooms in their neighborhoods, to prepare students for productive lives as full members of society".

Inclusion also means increasing access to and participation in learning, cultures, and communities, and reducing exclusion from and within education. This process may involve changes in education content, approaches, structures, interventions, and strategies. At the centre of inclusion is the human right (UNGEI 2010). Equality in education implies securing education as a right for all learners and supporting the learners to exploit their full potential and aspirations, regardless of their socio-economic backgrounds. It also involves implementing and institutionalizing interventions and arrangements towards achieving the set goals. All levels of education have multiple outcomes, such as cognitive achievement (what do the pupils know/achieve), affective achievement (attitudes such as whether the pupils like going to school or like subjects such as science, reading, or mathematics), and behavioral values (such as civic responsibility and good moral values such as respect and social work). Other aspects of focus were gender dimensions, including access to all levels of schooling, and whether it is boys or girls who perform better. Gender dimensions also focused on education management (education managers and management boards) and teaching (teachers), among others. The aspects of inclusion and equality discussed above form the fundamental principles of the Education for All (EFA) commitment of 1990, and SDG No. 4 on quality education.

Challenges of Technical and Vocational Education (TVET) in Nigeria

Like many other aspects of the Nigerian educational system, TVE is beset by many surmountable challenges. These challenges have rendered it ineffective, inaccessible to the majority, and unproductive. Nwosu and Micah (2017) provide the following as the challenges of TVET in Nigeria:

- i. **Reluctance in Policies and Recommendations Implementation:** Sadly, many of these policies are merely on paper and receive little to no attention, even though there are numerous policies in place to propel TVE's progressive development at all levels and make it the envy of all. Numerous individuals have contended that inadequate implementation of educational policy is a challenge facing both TVE and the Nigerian educational system as a whole.
- ii. **Public Negative Perception:** Of all the challenges facing TVET, negative public perception is responsible for low patronage among Nigerian students. Social sciences, arts, and general sciences are taking. From the secondary level, parent abhor seeing their children attend technical schools/colleges and at the tertiary level majority prefer law, accounting, business administration, medicine, and so on to technology education, creative arts, home management, hospitality, agriculture, and related sciences. With a chunk of students gaining admission into these other preferred courses, TVET, unfortunately, is at the bottom of the food chain.

- iii. **Man-power Deficiency:** One of the nagging challenges of TVE in Nigeria is the endemic shortage of manpower in these few available Technical Institutions or colleges. Out of the few available teachers or lecturers, many lacks the requisite qualification, training, skill, or capacity to appropriately inculcate practical and theoretical knowledge. Apart from that, many workshops/laboratories do not have technologists or laboratory attendants to oversee practical activities.
- iv. **Institutional and Infrastructural Inadequacy:** Despite all that is said about the importance of TVE as an important machinery in the process of national development, there is a general shortage across the board in the number of institutions that offer courses in TVE. From secondary level to tertiary level.
- v. **Budgetary and Subvention Deficit:** Another challenge that has plagued all TVE institutions, both at the federal and state levels, is the challenge of funding. TVE is an expensive venture but with outstandingly matchless economic developmental benefits. With the issue of underfunding and inappropriate or poor subvention, many of these institutions rely heavily on theoretical instructional methodology, and rote learning is the order of the day.

Driving the future of the TVET in Nigeria

To drive the future of Technical and Vocational Education and Training (TVET) through the lens of the blue economy, we must focus on the following key areas:

- i. **Developing relevant and specialized skills:** The blue economy, which encompasses marine resources and activities, requires a skilled workforce with expertise in areas such as fisheries management, aquaculture, maritime transportation, and ocean energy. TVET institutions should collaborate with industry stakeholders to design and update curricula that cater to these emerging sectors.
- ii. **Encouraging innovation and research:** Investing in research and development will help TVET institutions stay up-to-date with the latest advancements in the blue economy. This can be achieved by fostering partnerships between academic institutions, research organizations, and industry players to work on cutting-edge projects and technologies.
- iii. **Promoting entrepreneurship and job creation:** TVET programs should encourage students to become entrepreneurs by providing them with the necessary skills and knowledge to start their own businesses in the blue economy. This will not only create job opportunities but also stimulate economic growth in the sector.
- iv. **Addressing gender disparities and social exclusion:** The blue economy offers numerous opportunities for women, yet they are often underrepresented in these sectors. TVET institutions must work towards promoting gender equality by designing inclusive programs and creating a supportive environment for female students.
- v. **Enhancing workforce mobility:** As the blue economy expands globally, there will be a need for skilled workers to move between countries and regions. TVET institutions can play a vital role in preparing students for this mobility by incorporating international perspectives and standards into their curricula and fostering international partnerships.
- vi. **Emphasizing sustainability:** The blue economy relies on the responsible use of marine resources, and TVET programs should instill sustainable practices in their students. This includes teaching about environmental conservation, resource management, and the importance of minimizing the negative impacts of human activities on marine ecosystems.
- vii. **Strengthening links with industry:** TVET institutions should collaborate closely with industry stakeholders to ensure that their programs align with the needs of the blue economy. This can

be achieved through internships, apprenticeships, and other forms of work-integrated learning that provide students with practical experience and industry exposure.

Challenges of TVET

UNESCO launches new strategy for TVET 2022-2029 at international conference

UNESCO is actively engaged in shaping the future development of TVET. On 25 and 26 October, 2020, at the UNESCO-UNEVOC International Centre for TVET in Bonn, Germany, UNESCO is hosting a hybrid international conference and the launch of its new strategy for TVET for the period 2022-2029. The strategy takes into consideration the present and future priorities of individuals, economies, and societies. Its title, “Transforming Technical and Vocational Education and Training for successful and just transition”, further captures UNESCO’s expectation that TVET is critical for promoting a path to recovery and resilience building in the post-COVID-19 pandemic era, and for accelerating progress towards Sustainable Development Goals 4 and 8 and other related SDGs over the next eight years. The Strategy is aligned with the global process for the transformation of education and its Summit, convened by the UN Secretary-General in September 2022, which provided the political capital we need to change the course, generating national commitments from 130 countries.

The new strategy is focused on three main lines of action

- i. Develop skills for all individuals to learn, work and live:** To support flexible lifelong learning pathways, the key focus is on inclusion and targeted measures and technical assistance to mitigate the impact of technology and climate change on gender equality, marginalized communities, and those dependent on informal economies and subsistence agriculture.
- ii. Develop skills for inclusive and sustainable economies:** To support job growth, private sector participation and effective skills anticipation, the key focus is on the transition towards a digital and green economy, STEM and 21st century skills, innovation, and strong governance and investment.
- iii. Develop skills for inclusive and peaceful societies:** To supporting rights-based education for sustainable development, the key focus is on global and participatory citizenship education and TVET for social integration and cohesion.
- iv.** These priorities seek to inspire a renewed ambition for TVET in Member States in a way that responds to their needs and ever-changing labour markets, economies, and societies. As such, it was developed in alignment with UNESCO's 2021 Futures of Education report, calling for a new social contract to repair injustices, solve the skills deficits affecting labour market, and further learning and career progression for both youth and adults.

Influence of TVET on Social Inclusion and Gender Equality

Inclusive TVET involves taking into cognizance the unemployed, dropouts, physically challenged, marginalized groups, rural dwellers, and retirees, and equipping them with the necessary skills needed for wealth creation. The focus is centered on the provision of requisite skills to all interested persons without discrimination. Empirical facts have shown that the provision of skills through TVET brings additional benefits to people and thus enhances their employability status. For instance, Edokpolor and Owenbiugie (2017) conducted research and found that TVET can equip people with skills for job creation and sustainable development of the economy. According to Oladejo (2021), TVET has great prospects for tackling poverty, enhancing employability through skill acquisition, and boosting sustainable development. The role of inclusive TVET in equipping individuals with the

requisite skills that could enable them to effectively participate in social, economic, and technological innovation processes cannot be neglected. Inclusive Technical, Vocational Education and Training (TVET) has been observed as one of the ways to achieve participation and inclusion of most Nigerians in legal and meaningful profit-oriented activities to earn their living, eradicate poverty, reduce social vices, and combat insecurity. Igniting avenues for creating jobs, and generating and sustaining wealth in the nation through inclusive TVET could lead many people out of poverty and thereby reduce social vices and insecurity in Nigeria. It therefore becomes imperative to discuss feasible options for implementing inclusive TVET to reduce or eliminate insecurity in Nigeria.

The World Summit for Social Development in Copenhagen in 1995 defined an inclusive society as “a society for all, in which every individual, each with rights and responsibilities, has an active role to play (United Nations, 1995). Such an inclusive society is equipped with mechanisms that accommodate diversity and facilitate/enable people's active participation in their political, economic, and social lives. As such, it overrides differences of race, gender, class, generation, and geography, and ensures equal opportunities for all to achieve full potential in life, regardless of origin. Such a society fosters, at the same time, emanates from the well-being of each individual, mutual trust, a sense of belonging, and interconnectedness.

The goal of social integration is to create “a more stable, safe and just society for all”, in which every individual, each with rights and responsibilities, has an active role to play. Such an inclusive society must be based on the principles of embracing, not coercing or forcing, diversity and using participatory processes that involve all stakeholders in the decision-making that affects their lives. **Social inclusion** is the process by which efforts are made to ensure equal opportunities, that everyone, regardless of their background, can achieve their full potential in life. Such efforts include policies and actions that promote equal access to (public) services as well as enable citizens' participation in the decision-making processes that affect their lives.

Social cohesion is a related concept that parallels that of social integration in many respects. A socially cohesive society is one where all groups have a sense of belonging, participation, inclusion, recognition, and legitimacy. Such societies are not necessarily demographically homogeneous. Rather, by respecting diversity, they harness the potential residing in their societal diversity (in terms of ideas, opinions, skills, etc.). Therefore, they are less prone to slip into destructive patterns of tension and conflict when different interests collide.

SDG 5: Empowering women and girls to take control of their bodies and lives is crucial for solving our biggest social and environmental crises. Gender inequality is one of the main drivers of high fertility rates. Not a single country has yet achieved full equality, and the worst gender-based injustices and crimes continue to be widespread. According to the UN, ending gender-based violence, harmful practices (including child marriage and FGM), preventable maternal deaths, and unmet family planning needs is affordable and within reach, but it still suffers from a severe funding shortage. In the meantime, the number of women and girls subjected to harmful practices is increasing due to slow progress and population growth.

“The proportion of women and girls subjected to FGM is decreasing overall, but the number of women and girls subjected to it is growing because of population growth. That number could grow from 4.1 million in 2020 to 4.6 million in the year by 2030, since the cohort of girls in many high-prevalence countries is growing.”



Conclusion

In conclusion, TVET plays a vital role in promoting social inclusion and gender equality within the context of the Blue Economy. By providing equal opportunities for individuals from diverse backgrounds and genders, TVET programs contribute to a more equitable distribution of benefits and responsibilities in ocean-related industries. This fosters a more inclusive and sustainable growth of the Blue Economy, ensuring that the advantages of ocean resource development are shared among all members of society.

Furthermore, TVET institutions often prioritize gender-responsive education and training, which helps to break down traditional gender barriers in the workforce. This can lead to increased participation of women in ocean-related professions, thereby enhancing their economic opportunities and empowering them to contribute to the sustainable management of marine resources.

Way Forward

Technical and Vocational Education and Training (TVET) plays a significant role in promoting social inclusion and gender equality by providing equal opportunities for individuals from diverse backgrounds and fostering an environment that values and supports the participation of both genders. Here are some ways TVET contributes to social inclusion and gender equality:

- i. **Skills Development for Underprivileged Groups:** TVET offers a platform for individuals from disadvantaged backgrounds, including those with limited access to formal education, to acquire relevant skills and knowledge. This enables them to secure decent employment opportunities and improve their socio-economic status.
- ii. **Addressing Gender Inequality in Education:** TVET can help bridge the gender gap in education by offering alternative pathways for girls and women who may not have had equal access to traditional academic education. By providing practical, hands-on training, TVET can empower girls and women to pursue careers in various industries, thereby promoting gender equality in the workforce.
- iii. **Encouraging Non-traditional Occupations:** TVET can break down gender stereotypes by promoting the participation of both men and women in non-traditional occupations. For instance, women can be encouraged to pursue careers in fields such as construction, engineering, and automotive repair, while men can be encouraged to explore opportunities in healthcare, childcare, and teaching.

- iv. **Developing Entrepreneurial Skills:** TVET equips learners with the necessary skills and knowledge to become self-employed, which can be particularly beneficial for marginalized groups and women who may face barriers to employment. By promoting entrepreneurship, TVET fosters economic independence and contributes to social inclusion.
- v. **Creating Awareness and Promoting Equality:** TVET institutions can play a role in raising awareness about gender equality and social inclusion through targeted campaigns, workshops, and events that address issues such as gender stereotypes, workplace harassment, and equal opportunities.
- vi. **Strengthening Community Engagement:** TVET can contribute to social inclusion by fostering community engagement and collaboration. By working with local organizations and community leaders, TVET institutions can identify the unique needs of various.
- vii. **Industry Collaboration:** Strengthening partnerships between TVET institutions and industry players can help ensure that training programs are aligned with the needs of the labor market. This can be achieved through the establishment of industry advisory boards, internships, and apprenticeships. Collaboration with industry can also facilitate the provision of modern equipment and resources for TVET institutions.
- viii. **Government Support and Policy Implementation:** The Nigerian government should prioritize TVET by allocating sufficient funding and implementing policies that support the sector. This includes providing incentives for private sector investment in TVET, as well as developing a comprehensive national TVET policy that addresses the challenges facing the sector.

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10TH WORLD RESEARCH AND STRATEGIC DEVELOPMENT CONFERENCE

VENUE: KENYATTA UNIVERSITY, NAIROBI - KENYA

SECURING GLOBAL CITIES: BEST PRACTICES, INNOVATION, AND THE PATH AHEAD

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Abstract

Today, more than half of the world's population lives in cities. Over the next 30 years, that figure will likely increase to 66 percent. This breakneck pace of urban development, coupled with globalization and increased access to information, is changing geopolitics and global economic development. Increasingly, cities are at the center of the world's economic activity. In the United States, for example, the largest 100 metropolitan areas account for three-quarters of U.S. GDP and two-thirds of the country's population. Integrated global networks, financial systems, and markets are dramatically changing how cities will develop in the future.

Keywords: *Securing, Global cities, Best practices, Innovation*

Introduction

Connections among cities across the world are deepening through the flow of goods, people, technology, and ideas, bringing increased economic opportunity. Cities are also becoming more interconnected through international diasporas, multinational companies and supply chains, and worldwide communications and travel networks. As one indication, the aggregate amount of transnational investment, services, and trade in goods increased globally from \$5 trillion in 1990 to \$30 trillion in 2014 (growing from 24 to 39 percent of world GDP). The interconnectedness of citizens, both physically and electronically, leads to ripple effects: what happens in one locale can quickly affect a distant locale too. While these movements of people, goods, and ideas create new opportunities and have positive implications, they also create vulnerabilities. Cities in the United States and around the world find themselves at the nexus of society's most pressing issues, including terrorism, transnational violence, civil and ethnic unrest, organized crime, and technology-based crime, such as cyber threats. Securing cities may be emerging as the central challenge of our day. Security for the

individuals, communities, businesses, infrastructure, and institutions making up urban areas is crucial in its own right. It is also fundamentally important for economic growth and for cities to thrive. Some places can advance economically even while experiencing sustained high levels of violence, at least to a degree. But it is difficult to entice investors, inspire innovators, and keep mobile workforces content without a basic degree of safety.

It is these realities that have driven us to focus on the intersection of economic growth, security, and stability, building on the Global Cities Initiative, a joint project of Brookings and JPMorgan Chase. Through conversations with hundreds of practitioners, academics, civic leaders, and government officials over the course of the past year, dialogues that took place in a dozen cities in five countries—we have identified several best practices and principles that should inform the urban security mission.

Major Findings

Continue to refine Community Policing

Community policing is foundational in the urban security enterprise. It has helped drive major reductions in crime rates not only in many U.S. cities, but also in other countries from Latin America to Europe and beyond. It is also crucial in the fight against transnational crime and terrorism, largely for the intelligence it can provide when communities feel engaged in helping ensure their own safety. The concept includes methods such as: decentralized organization of police with delegation of authority; stable assignments of officers in certain beats and neighborhoods, to foster relationships and communications; an emphasis on crime prevention rather than response (for example, patrolling more heavily in places and at times when crime is otherwise most likely to occur); analytics designed to identify and highlight patterns of crime, allowing for targeted strategies at the local level to address high-risk areas; and encouragement of assistance from the broader community, including local businesses, in identifying dangers as well as solutions to crime. Other simple tactical innovations have helped too, such as enhancing confidence and safety in public places like parks. Close cooperation between police and prosecutors is also important for ensuring that the latter are invested in cases, and that the former understand what kinds of evidence will hold up in court. Finally, sentencing as well as prison conditions need to be designed with the goal of lowering future crime rates. Ultimately, community policing and related activities need to shore up the rule of law and citizen security as preeminent concerns.

Break down Stovepipes

Collaboration is needed to share intelligence and to address cross-jurisdictional threats, particularly for the purposes of stopping terrorism, but also for taking on organized crime and transnational criminal networks. Police forces need to work closely with national-level intelligence or security agencies, like MI5 in the United Kingdom and the FBI and CIA in the United States. This means, for example, determining which agencies take the lead on surveillance and on arrests, which are responsible for tracking any given suspect, how to obtain security clearances for some police officers, and how regular beat-patrol policemen can help provide information about suspected terrorists through their normal jobs, even without extensive specialized training. Information sharing also requires compatible and secure cyber systems across different agencies, necessarily imposing further demands on resource requirements for the public safety mission. In a number of countries, a recent history of terrorist attacks has motivated authorities to cut through bureaucratic resistance and demand cooperation in these ways. Sometimes, however, authorities have acted even in the absence of a major catastrophic experience, though this takes decisiveness and foresight, and excellent

leadership. Either way, once established, collaborative mechanisms and patterns of behavior need to be institutionalized and perpetuated.

Establish clear strategies against organized crime

In dealing with narcotics traffickers and other sophisticated, often transnational, criminal organizations, priorities are needed to sustainably reduce violence. Authorities can preferentially target those gangs, groups, or organizations that are the most violent. This latter tactic can weaken the worst of the worst, while also deterring the excessive use of violence by other organizations. Another key choice in attacking criminal networks and terrorist organizations is whether to target just the top leadership of these organizations, or instead to develop a more patient strategy emphasizing action against mid-level operatives. Evidence suggests that the latter approach is usually more effective. There can be times when removing one key leader makes a big difference (arguably this was true for Pablo Escobar in Colombia, the Shining Path movement in Peru, and to some extent al-Qaida). But it is generally important to extend targeting down a layer or two in an organization.

Exploit new Opportunities from Technology

Technology can aid criminals in protecting the content of their communications from authorities. Technology also creates new vulnerabilities, notably in the cyber realm. But it offers great advantages to police forces and other security organizations too. Helpful technologies include inexpensive closed-circuit TV, facial recognition technology, license-plate readers, smart phones and GPS trackers for police cars, acoustic gunshot detection systems and other advanced sensors, and unmanned aerial vehicles. Yet where technology has been effectively deployed, it has not been at the expense of officers on patrol. We found no examples of cities that were successful in fighting crime and terrorism unless they simultaneously maintained or increased police personnel and focused intensively on the quality and training of those personnel.

Promote Social Cohesion

To gain support from communities and address the root causes of crime and terrorism, authorities must promote social cohesion as a central element, not an afterthought, of the urban security effort. The neighborhoods and demographic groups most affected by crime and violence must be treated as essential allies. Moreover, education and employment opportunities must be expanded in urban areas suffering from lack of opportunity and hope in order to address the root causes of crime. Our research has uncovered several creative ideas, for example, using fire departments or national army outreach efforts in places where police departments may not be easily trusted, and engaging formerly incarcerated individuals or rehabilitated former members of violent gangs or groups to reach out to disenfranchised communities. The private sector can make inclusion a priority in hiring and retention policies. Public-private partnerships can also help steer private funds and energies to programs that promote inclusion.

Prepare for “black swan” events

Beyond dealing with omnipresent threats, it is crucial to be as ready as possible for one-time catastrophes. Most cities may never experience truly horrific events, but it is important not to take solace in such probabilities, and to prepare for disasters before they occur. Those catastrophes could be purely natural. They could also become complex emergencies that superimpose themselves upon, or help to create, violent or anarchic security conditions. They could take place in cities already suffering significant violence; they could also produce shocks that create a breakdown in order. Given the

growth of megacities, they could also easily affect 10 times as many people in a single incident as have been directly threatened by the world's 21st century natural catastrophes to date. The private sector can have a role here too, as in Manila in the Philippines, where a consortium of utilities and other companies has organized to help authorities in emergencies, with a single point of contact and clear coordination channels.

Conclusion

Enhancing public-private partnerships is so central to the findings of this study that it is interwoven throughout all six of the above principles, and hard to separate out from any of them. This paper attests to many examples of where it is working already and argues strongly for expanding such efforts in the future. The importance of public-private collaboration bears emphasis in any summary of the core principles of the urban security enterprise.

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10TH WORLD RESEARCH AND STRATEGIC DEVELOPMENT CONFERENCE

VENUE: KENYATTA UNIVERSITY, NAIROBI - KENYA

AFRICA GRAPPLES WITH HUGE DISPARITIES IN EDUCATION

Zipporah Musau

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Abstract

At the dawn of independence, incoming African leaders were quick to prioritize education on their development agendas. Attaining universal primary education, they maintained, would help post-independence Africa lift itself out of abject poverty. As governments began to build schools and post teachers even to the farthest corners of the continent, with help from religious organizations and other partners, children began to fill the classrooms and basic education was underway. This article aims to examine the challenges and prospects of education in Africa.

Keywords: *Education, Government, Disparity, Development*

Background to the Study

Africa's current primary school enrolment rate is above 80% on average, with the continent recording some of the biggest increases in elementary school enrolment globally in the last few decades, according to the United Nations Educational, Scientific and Cultural Organization (UNESCO), which is tasked with coordinating international cooperation in education, science, culture, and communication. More children in Africa are going to school than ever before. Yet despite the successes in primary school enrolment, inequalities and inefficiencies remain in this critical sector.

According to the African Union (AU), the recent expansion in enrolments “masks huge disparities and system dysfunctionalities and inefficiencies” in education subsectors such as preprimary, technical, vocational, and informal education, which are severely underdeveloped. It is widely accepted that most of Africa's education and training programs suffer from low-quality teaching and learning, as well as inequalities and exclusion at all levels. Even with a substantial increase in the number of children with access to basic education, a large number remain out of school.

Challenges affecting Education in Africa

A newly released report by the United Nations Development Programme (UNDP), Income Inequality

Trends in sub-Saharan Africa: Divergence, Determinants, and Consequences, identifies the unequal distribution of essential facilities, such as schools, as one of the drivers of wide income disparities. Ayodele Odusola, the lead editor of the report and UNDP's chief economist, makes the following point: "Quality education is key to social mobility and can thus help reduce poverty, although it may not necessarily reduce [income] inequality."

To address education inequality, he says, governments must invest heavily in child and youth development through appropriate education and health policies and programmes. Higher-quality education, he says, improves the distribution of skilled workers, and state authorities can use this increased supply to build a fairer society in which all people, rich or poor, have equal opportunities. As it is now, only the elites benefit from quality education. "Wealthy leaders in Africa send their children to study in the best universities abroad, such as Harvard. After studies, they come back to rule their countries, while those from poor families who went to public schools would be lucky to get a job even in the public sector," notes Mr. Odusola.

Another challenge facing policymakers and pedagogues is low secondary and tertiary enrolment. Angela Lusigi, one of the authors of the UNDP report, says that while Africa has made significant advances in closing the gap in primary-level enrolments, both secondary and tertiary enrolments lag. Only four out of every 100 children in Africa are expected to enter a graduate and postgraduate institution, compared to 36 out of 100 in Latin America and 14 out of 100 in South and West Asia. "Only 30 to 50% of secondary-school-aged children are attending school, while only 7 to 23% of tertiary-school-aged youth are enrolled. This varies by subregion, with the lowest levels being in Central and Eastern Africa and the highest enrolment levels in Southern and North Africa," Ms. Lusigi, who is also the strategic advisor for UNDP Africa, told Africa Renewal.

According to Ms. Lusigi, many factors account for the low transition from primary to secondary and tertiary education. The first is limited household incomes, which limit children's access to education. A lack of government investment to create equal access to education also plays a part. "The big push that led to much higher primary enrolment in Africa was subsidized schooling financed by both public resources and development assistance," she said. "This has not yet transitioned to providing free access to secondary- and tertiary-level education."

Another barrier to advancing from primary to secondary education is the inability of national institutions in Africa to ensure equity across geographical and gender boundaries. Disabled children are particularly disadvantaged. "Often in Africa, decisions to educate children are made within the context of discriminatory social institutions and cultural norms that may prevent young girls or boys from attending school," says Ms. Lusigi.

Regarding gender equality in education, large gaps exist in access, learning achievement, and advanced studies, most often at the expense of girls, although in some regions boys may be the ones at a disadvantage. UNESCO's Institute for Statistics reports that more girls than boys remain out of school in sub-Saharan Africa, where a girl can expect to receive only about nine years of schooling while boys can expect 10 years (including some time spent repeating classes).

More girls than boys drop out of school before completing secondary or tertiary education in Africa. Globally, women account for two-thirds of the 750 million adults without basic literacy skills. Then

there is the additional challenge of Africa's poorly resourced education systems, the difficulties ranging from the lack of basic school infrastructure to poor-quality instruction. According to the Learning Barometer of the Brookings Institution, a US-based think tank, up to 50% of the students in some countries are not learning effectively.

Results from regional assessments by the UN indicate “poor learning outcomes in sub-Saharan Africa, despite an upward trend in average learning achievements.” Many children who are currently in school will not learn enough to acquire the basic skills needed to lead successful and productive lives. Some will leave school without a basic grasp of reading and mathematics.

Overcoming the Challenges

The drivers of inequality in education are many and complex, yet the response to these challenges revolves around simple and sound policies for inclusive growth, the eradication of poverty and exclusion, increased investment in education and human development, and good governance to ensure a fairer distribution of assets.

With an estimated 364 million Africans between the ages of 15 and 35, the continent has the world's youngest population, which offers an immense opportunity for investing in the next generation of African leaders and entrepreneurs. Countries can start to build and upgrade education facilities and provide safe, non-violent, inclusive, and effective learning environments for all.

The AU, keeping in mind that the continent's population will double in the next 25 years, is seeking through its Continental Education Strategy for Africa 2016–2025 to expand access not just to quality education, but also to education that is relevant to the needs of the continent. The AU Commission deputy chairperson, Thomas Kwesi Quartey, says governments must address the need for good education and appropriate skills training to stem rising unemployment. Institutions of higher learning in Africa, he says, need to review and diversify their systems of education and expand the level of skills to make themselves relevant to the demands of the labour market “Our institutions are churning out thousands of graduates each year, but these graduates cannot find jobs because the education systems are traditionally focused on preparing graduates for white-collar jobs, with little regard to the demands of the private sector, for innovation or entrepreneurship,” said Mr. Quartey during the opening of the European Union–Africa Business Forum in Brussels, Belgium, in June 2017.

He noted that if African youths are not adequately prepared for the job market, “Growth in technical fields that support industrialization, manufacturing, and development in the value chains will remain stunted.” Inequality's inclusion among the Sustainable Development Goals (SDG 10: Reduced Inequalities) serves as an important reminder to leaders in Africa to take the issue seriously.

Conclusion

For a start, access to early childhood development programmes, especially for children from disadvantaged backgrounds, can help reduce inequality by ensuring that all children begin formal schooling with strong foundations. The UNDP, through its new strategic plan (for 2018 through 2021), will work to deliver development solutions for diverse contexts and a range of development priorities, including poverty eradication, jobs and livelihoods, governance and institutional capacity and disaster preparedness and management.

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10TH WORLD RESEARCH AND STRATEGIC DEVELOPMENT CONFERENCE

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CLIMATE CHANGE AND FORCED DISPLACEMENT: ANALYSING POLICY RESPONSES TO CLIMATE- INDUCED REFUGEES IN SUB-SAHARAN AFRICA

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Abstract

This study examines the policy responses to climate-induced displacement in sub-Saharan Africa, a region disproportionately affected by the impacts of climate change. Environmental disruptions such as droughts, floods, and desertification have exacerbated vulnerabilities, forcing millions to migrate in search of safety and livelihoods. Utilizing a qualitative research design, the study employs document analysis to explore the strengths, gaps, and opportunities within existing frameworks. Key findings highlight significant policy implementation challenges, limited regional coordination, and inadequate strategies to address cross-border displacement. Despite the adoption of initiatives such as the Kampala Convention and National Adaptation Programmes of Action (NAPAs), weak institutional capacities and resource constraints undermine their effectiveness. The study identifies promising strategies, including community-based adaptation programs and regional initiatives like the Great Green Wall. However, scalability and sustainability remain critical concerns. Recommendations include strengthening policy implementation through enhanced resource allocation, fostering regional collaboration to address cross-border displacement, and scaling up community-driven adaptation initiatives. These findings underscore the urgency of integrating localized strategies with global best practices to mitigate the impacts of climate-induced displacement. By addressing these challenges, sub-Saharan Africa can enhance resilience, protect vulnerable populations, and contribute to global efforts in managing climate-related migration. This study provides actionable insights for policymakers, researchers, and stakeholders.

Keywords: *Climate Change, Environmental disruptions, Forced Displacement, Climate-Induced Refugees*

JEL Classification Codes: *Q56, Q54, F43, L71, D24*

Introduction

Climate change has emerged as a significant driver of displacement globally, with sub-Saharan Africa standing out as one of the most vulnerable regions due to its environmental fragility and socio-economic challenges. The region has witnessed an increase in extreme weather events, such as prolonged droughts, severe floods, and desertification, which have drastically undermined livelihoods and exacerbated food insecurity. These climatic disruptions have directly led to forced displacement, as communities are compelled to migrate in search of better living conditions (Nicholson, 2013).

One of the starkest examples of climate-induced displacement in sub-Saharan Africa is the dramatic shrinkage of Lake Chad. Over the past six decades, the lake has lost over 90% of its water volume, primarily due to the impacts of climate change and unsustainable water usage (Okpara, Stringer, & Dougill, 2016). This environmental degradation has destabilized the livelihoods of millions who depend on the lake for fishing, farming, and other activities, triggering mass migrations and increasing competition for dwindling resources. Such scenarios illustrate the intersection of environmental, socio-economic, and migration challenges in the region.

The limited adaptive capacity of sub-Saharan Africa further compounds the effects of climate change on displacement. Many communities lack the necessary resources to adapt to changing environmental conditions, leaving them highly vulnerable to climatic shocks. Poverty, weak governance, and inadequate infrastructure exacerbate these vulnerabilities, making displacement a survival strategy rather than a choice (UNHCR, 2024). In addition, the socio-economic strain on both displaced populations and host communities often leads to conflicts over scarce resources, deepening the humanitarian crisis. Policy responses to climate-induced displacement in sub-Saharan Africa have been multifaceted but remain insufficient. Initiatives such as National Adaptation Programmes of Action (NAPAs) aim to address urgent adaptation needs in climate-vulnerable sectors like agriculture and water resources (United Nations Development Programme [UNDP], n.d.). Similarly, the African Union's Kampala Convention provides a legal framework for protecting and assisting internally displaced persons (African Union [AU], 2009). While these efforts represent significant strides, their implementation is often hindered by resource constraints, weak institutional capacities, and fragmented coordination (Kelly & Ketu, 2024).

International efforts to address climate-induced displacement, such as the United Nations Framework Convention on Climate Change (UNFCCC), have emphasized the need for resilience-building and climate adaptation in vulnerable regions. However, these global initiatives often lack the specificity and urgency required to tackle the unique challenges of displacement in sub-Saharan Africa. Limited financial support, coupled with inadequate legal protections for climate-induced migrants, further complicates efforts to develop sustainable solutions (Verkooijen, 2024). Analyzing policy responses to climate-induced displacement in sub-Saharan Africa is essential to addressing this growing crisis. Evaluating the effectiveness of existing frameworks and identifying gaps can provide critical insights for developing more robust and coordinated strategies. As climate change intensifies, the frequency and scale of forced displacement are likely to increase, underscoring the urgency for comprehensive and adaptive policy responses tailored to the region's unique vulnerabilities.

Research Question

The research question for the study is;

"How effective are current policy responses in addressing climate-induced displacement in sub-Saharan Africa, and what strategies can enhance protection and support for climate-induced refugees?"

Research Objectives

Based on the research question, the study is guided by the following objectives;

- i. To evaluate the effectiveness of existing policy frameworks in addressing climate-induced displacement in sub-Saharan Africa.
- ii. To identify strategies and propose policy recommendations for improving the protection and support mechanisms for climate-induced refugees in the region.

Significance of the Study

The significance of this study lies in its potential to address a critical and growing humanitarian and policy challenge in sub-Saharan Africa: climate-induced displacement. As climate change intensifies, it exacerbates vulnerabilities, displaces communities, and disrupts livelihoods, particularly in a region already facing socio-economic and environmental challenges. This study provides valuable insights into the effectiveness of existing policy frameworks and highlights gaps that hinder the protection and support of displaced populations.

By examining policy responses, this research contributes to the discourse on climate resilience and displacement, offering practical recommendations to improve policy design and implementation. The findings could inform policymakers, international organizations, and stakeholders on strategies to mitigate the impacts of climate change on vulnerable populations and enhance their adaptive capacity. Additionally, the study underscores the urgency of addressing climate-induced displacement as a pressing global issue, positioning sub-Saharan Africa at the center of efforts to develop inclusive and sustainable solutions.

Section II: Literature

Conceptual Clarification

Climate Change

Climate change refers to long-term alterations in temperature, precipitation, wind patterns, and other atmospheric conditions on Earth. It is driven by natural factors, such as volcanic eruptions and solar radiation, as well as anthropogenic factors, including greenhouse gas emissions and deforestation (IPCC, 2021). The impacts of climate change have become increasingly pronounced, manifesting through rising global temperatures, melting polar ice, sea-level rise, and increased frequency of extreme weather events. These changes disrupt ecosystems, threaten biodiversity, and pose significant risks to human societies (United Nations Framework Convention on Climate Change [UNFCCC], 2023).

In sub-Saharan Africa, climate change has exacerbated existing vulnerabilities, such as food insecurity, water scarcity, and poverty. The region's reliance on rain-fed agriculture and natural resources makes it particularly susceptible to climatic variations, leading to reduced agricultural productivity and heightened economic instability (UNDP, 2022). These environmental stressors have a direct impact on human mobility, with communities often forced to migrate in search of more stable living conditions.

Forced Displacement

Forced displacement occurs when individuals or groups are compelled to leave their homes or habitual residences due to threats to their safety, security, or livelihoods. These threats can arise from conflict, persecution, natural disasters, or climate-induced factors (UNHCR, 2022). Unlike voluntary migration, forced displacement is characterized by the absence of choice, as individuals flee to escape untenable conditions.

Climate-induced forced displacement has gained prominence as a critical global challenge. Extreme weather events, such as floods, droughts, and cyclones, displace millions annually. Additionally, slow-onset events like desertification and sea-level rise create conditions that render areas uninhabitable over time (International Organization for Migration [IOM], 2022). In sub-Saharan Africa, these dynamics are particularly pronounced, as communities in environmentally fragile regions often lack the resources to adapt, leaving migration as their only viable option (Okpara, Stringer, & Dougill, 2016). The legal and policy landscape for addressing forced displacement remains fragmented, especially for climate-induced migrants. While frameworks like the UN Refugee Convention provide protections for those fleeing persecution, they do not explicitly cover those displaced by environmental factors. This has led to debates about the recognition and rights of climate-induced refugees within international law (McAdam, 2012).

Climate Change and Migration Nexus

The climate change and migration nexus examines the intricate relationship between environmental changes resulting from climate change and human mobility. This connection has garnered increasing attention as climate change intensifies, leading to rising temperatures, more frequent extreme weather events, and sea-level rise. These environmental shifts disrupt livelihoods, deplete natural resources, and often compel individuals or entire communities to migrate in search of safety, stability, and better opportunities (Black et al., 2011).

Migration driven by climate change is multifaceted, encompassing both direct and indirect movements. Direct displacement occurs due to sudden-onset events such as floods, hurricanes, or wildfires that render areas uninhabitable, forcing people to flee urgently. Conversely, slow-onset phenomena, such as desertification and sea-level rise, erode the viability of ecosystems over time, prompting migration as a longer-term adaptation strategy (Warner et al., 2013). These migration patterns are not uniform, as decisions to move are influenced by socio-economic conditions, access to resources, and governance structures. Migration often emerges as both a response to vulnerability and a strategy for resilience (Adger et al., 2014).

One key aspect of the nexus is distinguishing between voluntary and forced migration. While some individuals proactively migrate to adapt to environmental changes, others are compelled to leave due to immediate threats to their survival. This distinction is further complicated by the lack of formal recognition for climate-induced migrants within international law, as the 1951 Refugee Convention does not extend its protections to those displaced by environmental factors (McAdam, 2012). This legal gap raises significant challenges in ensuring adequate protection and support for those affected by climate-induced displacement. Migration is increasingly recognized not only as a consequence of climate change but also as a potential adaptation strategy. Supported and planned migration can enhance resilience by enabling individuals to diversify their livelihoods, reduce dependency on degraded environments, and secure better opportunities. However, migration rarely occurs in

isolation; it interacts with other factors such as economic pressures, social conflicts, and political instability, further complicating the dynamics of displacement (Burrows & Kinney, 2016).

In sub-Saharan Africa, the complexities of the climate change and migration nexus are particularly pronounced. The region's dependence on climate-sensitive livelihoods, such as agriculture and pastoralism, heightens its vulnerability to climate variability. Environmental challenges like the drying of Lake Chad and recurring droughts in the Sahel have driven large-scale population movements, often involving rural-to-urban migration or cross-border displacement (Okpara et al., 2016). These migrations create socio-economic and political challenges for both displaced populations and host communities, underscoring the need for integrated and effective policy responses. The climate change and migration nexus, therefore, represents a critical area of inquiry for understanding how environmental changes reshape human mobility patterns and for developing strategies that mitigate the adverse impacts while leveraging migration as an adaptive tool. Exploring this nexus in the context of sub-Saharan Africa highlights the importance of coordinated efforts to address the region's unique vulnerabilities and challenges.

Theoretical Framework

Push-Pull Theory

Push-Pull Theory, developed by Lee (1966), provides a foundational framework for understanding migration by identifying factors that "push" individuals out of their origin areas and "pull" them toward destination areas. In the context of environmental displacement, push factors include environmental degradation such as droughts, floods, desertification, and other climate-related events that render areas uninhabitable or economically unviable. Pull factors, on the other hand, are the perceived benefits and opportunities in destination areas, such as access to employment, better living conditions, and improved infrastructure.

The theory emphasizes that migration is not solely the result of environmental pressures but involves individual perceptions and decision-making processes. Migrants weigh the benefits of moving against the costs, including the risks of displacement and the challenges of integrating into new areas. Push-pull theory also accounts for "intervening obstacles," such as financial constraints, political barriers, or physical distances, which may delay or hinder migration (Lee, 1966). Push-pull dynamics are evident in sub-Saharan Africa, where environmental changes such as prolonged droughts in the Sahel and the drying of Lake Chad have acted as powerful push factors. For instance, communities dependent on agriculture and fishing in these regions have been forced to migrate due to shrinking water resources and declining agricultural yields (Okpara, Stringer, & Dougill, 2016). Urban centers often serve as pull factors, attracting displaced populations with promises of employment, social services, and improved living conditions. However, this migration often overwhelms urban infrastructure, leading to the emergence of informal settlements and heightened socio-economic challenges.

Political Ecology Perspective

The political ecology perspective examines forced migration and environmental displacement through the lens of power dynamics, socio-political structures, and inequalities. Unlike deterministic approaches that attribute migration solely to environmental factors, political ecology highlights how environmental changes interact with existing vulnerabilities, governance systems, and economic structures to drive displacement. Marginalized communities, who often have limited access to resources and decision-making power, are disproportionately affected by environmental crises (Robbins, 2011).

This theory emphasizes that environmental degradation and displacement are not merely natural phenomena but are shaped by historical and systemic inequalities. For example, poor land management policies, corruption, and lack of infrastructure exacerbate the impacts of climate change, making some communities more vulnerable than others. Political ecology thus advocates for addressing the root causes of vulnerability, such as poverty and governance failures, to reduce the risk of displacement (Adger et al., 2014). Political ecology provides a comprehensive framework for understanding the multifaceted drivers of displacement in sub-Saharan Africa. The region's history of colonial land exploitation, combined with contemporary governance challenges, has left many communities vulnerable to environmental shocks. For example, pastoralist communities in the Sahel region face not only climate-induced pressures such as desertification but also competition over scarce resources due to weak land management policies (Okpara et al., 2016). The political ecology perspective underscores the need for inclusive and equitable governance systems to address these vulnerabilities and reduce displacement risks.

Application to Sub-Saharan Africa

When integrated, the Push-Pull Theory and Political Ecology Perspective offer a nuanced understanding of environmental displacement in sub-Saharan Africa. Push-pull theory explains the immediate drivers of migration, such as environmental degradation and urban opportunities, while political ecology reveals the underlying socio-political and economic structures that exacerbate displacement. For example, the drying of Lake Chad has forced millions to migrate (a push factor), but the root causes—poor water governance, political instability, and inadequate investment in adaptation strategies—highlight the relevance of the political ecology perspective (Okpara et al., 2016). Together, these theories provide actionable insights for policymakers. Addressing push factors, such as improving water management and agricultural resilience, can reduce displacement. Simultaneously, addressing structural vulnerabilities through equitable governance and inclusive policies can empower communities to adapt to environmental changes, reducing the need for migration as a survival strategy.

The Push-Pull Theory and Political Ecology Perspective are complementary frameworks for understanding forced migration and environmental displacement. While push-pull theory focuses on the immediate drivers and decision-making processes, political ecology examines the broader systemic factors that influence displacement. Their application to sub-Saharan Africa highlights the interplay between environmental challenges and socio-political vulnerabilities, emphasizing the need for holistic policies that address both immediate and structural causes of displacement.

Section III: Research Methodology

Research Design

This study employs a qualitative research design, utilizing document analysis to explore climate-induced displacement and policy responses in sub-Saharan Africa. Qualitative research is well-suited for examining complex social phenomena, allowing for an in-depth understanding of the processes, meanings, and contexts surrounding forced displacement (Creswell & Poth, 2018). Document analysis involves systematically reviewing and interpreting existing policy frameworks, reports, and migration studies, providing insights into historical and contemporary trends while identifying patterns and gaps in policy responses (Bowen, 2009). This approach enables the researcher to analyze textual data critically, facilitating a comprehensive understanding of the subject matter.

Study Area

The study focuses on sub-Saharan Africa, a region highly vulnerable to the impacts of climate change due to its environmental fragility and socio-economic challenges. Climate change has led to increased temperatures, altered precipitation patterns, and more frequent extreme weather events in the region, exacerbating food and water insecurity and threatening human health and safety (UNFCCC, 2020). Projections indicate that sub-Saharan Africa could experience significant internal climate migration, with estimates suggesting up to 71 million internal climate migrants by 2050 under pessimistic scenarios (Schulte, 2021). The region's reliance on rain-fed agriculture and natural resources further heightens its sensitivity to climate variability, making it a critical area for studying climate-induced migration and the effectiveness of policy responses.

Data Collection Methods

The study employs document analysis as the primary method of data collection, a qualitative technique that involves systematically examining and interpreting textual data to derive meaningful insights. Document analysis is particularly suitable for this study as it allows for a comprehensive review of existing policies, migration studies, and institutional reports related to climate-induced displacement in sub-Saharan Africa. Sources for analysis include publications from reputable organizations such as the United Nations High Commissioner for Refugees (UNHCR), United Nations Framework Convention on Climate Change (UNFCCC), and the African Union, alongside academic articles and government policy documents.

To ensure data quality, inclusion criteria for the documents are rigorously defined, focusing on recent publications (within the past decade), relevance to climate-induced migration, and credibility of the source. These criteria help maintain the integrity and accuracy of the findings. By identifying recurring themes and patterns in the data, document analysis facilitates a deeper understanding of policy responses and gaps in addressing climate-induced displacement. This approach is widely recognized for its ability to contextualize historical and contemporary trends, making it invaluable for studies involving policy evaluation (Bowen, 2009; Schreier, 2012).

Data Analysis Techniques

Thematic analysis is the chosen method for analyzing the collected data, as it provides a structured approach to identifying, organizing, and interpreting patterns or themes within qualitative data. Thematic analysis involves familiarizing oneself with the data, coding relevant sections of text, and grouping these codes into broader themes that align with the research objectives (Braun & Clarke, 2006). Themes such as “policy implementation gaps,” “regional coordination challenges,” and “climate adaptation strategies” are identified and refined during this process. This method ensures that the analysis remains data-driven while aligning with the study's objectives, allowing for a nuanced understanding of policy responses to climate-induced displacement (Clarke & Braun, 2014). The iterative nature of thematic analysis also allows for flexibility in accommodating new insights as the analysis progresses. This adaptability ensures that emerging issues, such as the interplay between national policies and international frameworks, are adequately explored. Tools such as NVivo are used to enhance the organization and rigor of the analysis, ensuring consistency and transparency in coding and theme development (Castleberry & Nolen, 2018).

Ethical Considerations

The study adheres to strict ethical guidelines to ensure credibility and reliability. Ethical

considerations begin with the selection of high-quality and credible data sources, prioritizing documents from well-established organizations and peer-reviewed publications. Transparency is maintained by citing all sources and clearly explaining how the data is used and interpreted, which aligns with academic integrity standards (Creswell & Poth, 2018). Care is taken to avoid misrepresentation or bias in interpreting the data, ensuring that findings reflect the content's intended meaning.

The study also respects intellectual property rights through proper citation and avoids plagiarism by consistently attributing ideas to their original authors (Miles et al., 2014). Researcher reflexivity is emphasized to minimize bias, as the researcher critically reflects on their own influence on the data interpretation process. Ethical use of secondary data is maintained by ensuring that the analysis does not misappropriate sensitive or confidential information, especially when examining policy documents from governmental or international bodies. By integrating these ethical safeguards, the study maintains its credibility and contributes to the broader discourse on climate-induced displacement with integrity and rigor.

Section IV: Analysis and Discussion

The study provides a comprehensive examination of the findings derived from document analysis, exploring the policy responses to climate-induced displacement in sub-Saharan Africa. It critically assesses the strengths, limitations, and gaps in existing frameworks, with a focus on thematic areas that align with the study's objectives. By delving into policy implementation gaps, regional coordination challenges, and climate adaptation and resilience strategies, this section highlights the multidimensional nature of the issue and its implications for displaced populations. Through a comparative lens, the discussion integrates insights from global frameworks and best practices to contextualize the regional challenges and opportunities in addressing climate-induced displacement. The analysis not only identifies areas requiring urgent attention but also underscores the potential for innovative and tailored strategies to enhance resilience and mitigate displacement risks. This section serves as a bridge between the findings and actionable recommendations, providing a foundation for practical and policy-oriented solutions.

Theme 1: Policy Implementation Gaps

Policy implementation gaps are a significant barrier to addressing climate-induced displacement in sub-Saharan Africa. While many countries have established frameworks, such as National Adaptation Programmes of Action (NAPAs), the execution of these policies often falls short due to resource limitations, institutional weaknesses, and inadequate political commitment (UNFCCC, 2020). For instance, in Sudan and Chad, despite recognizing the importance of addressing displacement within their adaptation plans, poor coordination and insufficient funding hinder progress (UNDP, 2022; IOM, 2022). The lack of integration between national policies and local-level implementation further exacerbates these challenges. Studies indicate that while national strategies may outline comprehensive responses, local governments often lack the capacity or resources to execute these plans effectively (Schulte, 2021). Moreover, reliance on international donor funding creates uncertainty, as these external sources are often inconsistent and subject to competing global priorities. These gaps undermine the potential of existing frameworks to mitigate the impacts of climate-induced displacement effectively.

Theme 2: Regional Coordination Challenges

Regional coordination remains a critical challenge in addressing climate-induced displacement in sub-Saharan Africa. Initiatives such as the African Union's Kampala Convention provide a legal framework for protecting internally displaced persons, including those displaced by climate change (AU, 2009). However, the lack of uniform commitment among member states and disparities in capacity hinder its effective implementation. For example, while countries like Nigeria have domesticated the convention, others lag behind due to legal, political, and resource-related constraints (Schulte, 2021).

Cross-border displacement, a growing issue in the region, highlights the inadequacies of existing regional frameworks. The analysis reveals that there are limited mechanisms to address cross-border movements caused by environmental changes, leaving many displaced populations without adequate legal protection or support (IOM, 2022). Furthermore, fragmented efforts between regional bodies, such as ECOWAS and the African Union, create duplications and inefficiencies, weakening the overall impact of collective responses. Strengthening regional collaboration and harmonizing efforts across institutions are essential to addressing these coordination challenges.

Theme 3: Climate Adaptation and Resilience Strategies

Climate adaptation and resilience strategies are pivotal in addressing climate-induced displacement in sub-Saharan Africa. Document analysis highlights the increasing integration of climate adaptation into national and regional development plans. For example, the Great Green Wall Initiative, which aims to combat desertification in the Sahel, demonstrates the potential of large-scale, nature-based solutions to enhance resilience and reduce displacement risks (UNCCD, 2021). Additionally, community-based adaptation programs, such as those implemented in Ethiopia and Senegal, empower local communities to develop sustainable livelihoods while addressing climate vulnerabilities (Niang et al., 2014). Despite these promising strategies, challenges such as inadequate funding, limited scalability, and insufficient stakeholder engagement persist. The analysis underscores the importance of fostering partnerships between governments, international organizations, and local communities to strengthen adaptation measures. Effective resilience strategies require not only financial investment but also capacity-building and the inclusion of displaced populations in decision-making processes to ensure long-term sustainability and equitable outcomes (World Bank, 2021).

Comparative Insights

A comparative analysis of policy responses in sub-Saharan Africa and global frameworks reveals significant gaps and opportunities for improvement. International frameworks, such as the United Nations Framework Convention on Climate Change (UNFCCC), emphasize the importance of climate adaptation and displacement management through global initiatives like the Warsaw International Mechanism for Loss and Damage (UNFCCC, 2020). While these frameworks provide a foundational approach, sub-Saharan Africa faces unique challenges that require tailored solutions. Compared to global best practices, such as Europe's robust mechanisms for cross-border migration and adaptation funding through the Green Climate Fund, African policies often lack sufficient financial backing and regional coherence. For instance, while regional initiatives like the African Union's Kampala Convention address internal displacement, they fall short of providing adequate support for cross-border movements, a critical issue in sub-Saharan Africa (AU, 2009; Schulte, 2021). Adopting elements from successful global models, such as early warning systems for climate risks and streamlined legal

frameworks for displaced populations, can enhance the region's capacity to address climate-induced displacement. Additionally, integrating African-specific strategies, such as community-based resilience programs and regional collaboration, into global frameworks can foster more effective, localized responses.

Document Analysis Findings

The document analysis reveals several critical insights into the policy responses to climate-induced displacement in sub-Saharan Africa. The findings are organized into key themes, reflecting gaps, challenges, and emerging strategies within the region's policy frameworks.

Policy Implementation Gaps

A recurring issue across analyzed documents is the inconsistency between policy formulation and implementation. Many countries in sub-Saharan Africa have adopted climate action plans, such as National Adaptation Programmes of Action (NAPAs), which identify climate-induced displacement as a pressing concern (UNFCCC, 2020). However, limited financial resources, weak governance structures, and inadequate institutional capacities undermine the effective execution of these policies. For example, in countries like Chad and Sudan, while frameworks for addressing displacement exist, implementation lags due to poor coordination and resource constraints (UNDP, 2022; IOM, 2022).

Regional Coordination Challenges

Regional initiatives such as the African Union's Kampala Convention provide a legal framework for protecting internally displaced persons (IDPs), including those displaced by climate change (AU, 2009). However, the analysis highlights a lack of cohesion and coordination among member states, which hampers collective action. Documents reveal fragmented efforts, with varying levels of commitment and capacity among countries to operationalize these agreements (Schulte, 2021). Additionally, cross-border displacement, a significant consequence of climate-induced migration, is insufficiently addressed by existing policies, leaving gaps in legal protections for those forced to migrate internationally.

Climate Adaptation and Resilience Strategies

Several documents emphasize the importance of integrating climate adaptation into development policies as a means of reducing displacement risks. Programs such as the Great Green Wall Initiative demonstrate promising approaches to combating desertification and enhancing community resilience in the Sahel region (UNCCD, 2021). However, these initiatives face significant challenges, including inadequate funding and limited scalability, which restrict their overall impact. Best practices, such as community-based adaptation projects in Ethiopia and Senegal, are identified as scalable models for reducing vulnerabilities and mitigating displacement risks (Niang et al., 2014).

Emerging Trends and Opportunities

The findings also highlight emerging trends, including the increasing use of technology and data-driven approaches to monitor and address displacement. Satellite-based early warning systems and mobile platforms for displaced persons are gaining traction in some countries, offering innovative solutions to the challenges of climate-induced migration (World Bank, 2021). These developments underscore the potential for leveraging technology to enhance policy effectiveness and resilience-building.

The document analysis underscores the urgent need for more robust and coordinated policy responses to address climate-induced displacement in sub-Saharan Africa. While significant progress has been made in recognizing the issue and formulating frameworks, gaps in implementation, regional coordination, and resource allocation persist. Strengthening institutional capacities, scaling up successful adaptation strategies, and integrating innovative technologies are critical to enhancing the region's resilience to climate-induced displacement.

Conclusion and Recommendation

This study has explored the policy responses to climate-induced displacement in sub-Saharan Africa, highlighting critical gaps and opportunities. The findings reveal that while significant progress has been made in recognizing the issue and establishing frameworks such as the African Union's Kampala Convention and National Adaptation Programmes of Action (NAPAs), challenges persist in their implementation. Resource limitations, weak institutional capacities, and fragmented regional coordination have hindered the effectiveness of these responses. Moreover, the lack of comprehensive strategies to address cross-border displacement and limited scalability of community-based adaptation programs remain pressing concerns. The analysis underscores the need for tailored, context-specific solutions that address the unique vulnerabilities of sub-Saharan Africa. By integrating global best practices with localized strategies, the region can strengthen its resilience to climate change and better protect displaced populations. This study contributes to the growing discourse on climate-induced displacement, emphasizing the importance of bridging policy gaps and enhancing implementation to ensure sustainable outcomes.

Recommendations

Strengthening Policy Implementation and Resource Allocation

Governments in sub-Saharan Africa should prioritize the operationalization of existing policies, such as NAPAs and the Kampala Convention, by addressing resource and capacity constraints. This requires increased budgetary allocations for climate adaptation and displacement management. Partnerships with international organizations, such as the UNFCCC and the Green Climate Fund, should be expanded to secure consistent funding. Additionally, robust monitoring and evaluation mechanisms must be established to ensure accountability and effectiveness in policy implementation.

Enhancing Regional Collaboration and Legal Protections

Regional organizations such as the African Union and ECOWAS should strengthen their collaboration to address cross-border displacement, which is inadequately covered under current frameworks. A unified legal framework that extends protections to cross-border climate-induced migrants is essential. This framework should align with international conventions while reflecting the specific needs of the region. Enhanced regional cooperation can also facilitate the sharing of resources, knowledge, and best practices, fostering more coordinated and effective responses.

Scaling Up Community-Based Adaptation Programs

Community-based adaptation programs have proven effective in enhancing resilience to climate change and reducing displacement risks. Governments and development partners should scale up these initiatives by providing technical and financial support to vulnerable communities. Programs such as the Great Green Wall Initiative and localized adaptation projects in Ethiopia and Senegal can serve as models for expansion. Engaging displaced populations and local stakeholders in the design and implementation of these programs ensures their relevance and sustainability, empowering communities to proactively address climate challenges.

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MODES OF BEING: ASTONISHMENT AND OPENNESS IN ENTREPRENEURSHIP EDUCATION

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Abstract

This paper stems from a two-year phenomenological action research project named Innovative and Entrepreneurial Formation (Bildung) in Professional Bachelor Education. The paper explores an entrepreneurial teaching experiment aimed at combining educational ideals of entrepreneurship education with educational ideals necessary to become a professional nurse. The educational ideals aimed for is sensitivity, imagination and courage to act. Through phenomenological analysis of one teacher's lived experience description and a phenomenological interview with a student participating in the teaching experiment, the paper inquiries into modes of Being among students participating in the experiment from an ontological perspective. Furthermore, the paper investigates how these modes of Being can relate to entrepreneurial as well as professional purposes. By that, the teaching experiment is an example of a cross-fertilization between entrepreneurship education and professional education that allows both to grow. The analysis reveals astonishment as a central existential experience of Being, while participating in the specific teaching experiment. The study also shows a phenomenological association between astonishment and openness, which entrepreneurship educators have searched for pedagogies to establish.

Keywords: Entrepreneurship Education, Lived Experience, Existential, Being, Nursing

Background to the Study

What happens when entrepreneurship education is integrated in the curriculum of a professional education? Which modes of Being comes to presence through entrepreneurship education in practical professions? Moreover, how can we methodologically grasp and describe the Being of students of practical professions, such as nursing, participating in entrepreneurship education? These

questions initiated a phenomenological action research project focusing on modes of Being among entrepreneurship education students. We use Being inspired by and in line with Heidegger (1962), who uses capital letter to indicate a difference between ontic being an ontological Being, the latter referring to ways human Being can be called forth while being engaged in the world. The action research project had both development and research objectives (Lewin, 1946; Reason, 2015), and involved several professional welfare educations (nursing, pre-school teaching and diacony). The tradition of entrepreneurship education for nurses is thin, and despite the research of Neergaard (2021), Neergaard et al. (2022), Salminen et al. (2014) and Boore and Porter (2011) there is relatively sparse literature on entrepreneurship education within nursing. Hence, nursing is the particular case for this paper. The didactical and pedagogical development objectives were to enhance sensitivity, imagination, and courage to act as educational ideals through a number of teaching experiments. These ideals are difficult to grasp and formalize in education, but also key, both in entrepreneurship and nursing (Herholdt-Lomholdt, 2022).

As part of this overall project, the research objective of the present paper is to examine modes of Being among students, taking part in teaching experiments where educational ideals as sensitivity, imagination, and courage to act are unfolded in the “classroom”. We suggest that such an approach is highly needed, when entrepreneurship education is broadened into new disciplines that may question the purpose of learning entrepreneurship. We also propose that the significant role of experience-based pedagogies and lived experience learning calls for an existential understanding of the role of Being in entrepreneurship education. This paper identifies and explores modes of Being arising from one teaching experiment and investigates how it relates to entrepreneurial and professional ways of Being in the understanding of Being basically relates back to philosophy and has been dealt with by a number of philosophers, such as Heraclitus, Kierkegaard, Sartre and Heidegger; the latter the most influential on entrepreneurship and entrepreneurship education (Johannisson, 2018; Spinosa et al., 1997; Thrane et al., 2016). The approach to Being in this project, relies on Heidegger's (1962) ontological foundation of existential phenomenology, in which Being can be understood as a way in which humans are in the world. Being is, in this sense, linked to conditions in which we as humans find ourselves while being embedded in the world and in specific situations. By doing so, the paper takes an existential and ontological stance, instead of the more functional approaches to entrepreneurship education, that focus on how mindset, competencies, skills, knowledge, or identity building can be developed as an outcome of entrepreneurship education (Donellon et al., 2014; Hytti & Heinonen, 2013; Lackeus, 2014). Our ontological approach also differs from individual and psychological approaches to the existential dimensions of entrepreneurship education, by focusing on Being as an ontological way humans are intertwined with their world. This paper aims to add to this field by examining ways in which students' “Being in the world” are called forth in entrepreneurship education. The central research questions are: Which modes of Being comes to presence, when student nurses participate in experience-based entrepreneurship education placed in the ordinary curriculum? Moreover, how can these modes of Being relate to entrepreneurial as well as professional purposes?

Theoretical Framing

In this paragraph we introduce three streams of literature which the paper relates to and builds upon. First, we show how a broadening of entrepreneurship calls for new re-reflections on both purpose and learning formats of entrepreneurship education. Second, we relate the paper to the experienced based learning tradition in entrepreneurship education and the recently introduced notion of lived

experience in entrepreneurship education. Finally, we position the paper against previous existentially oriented research inspired by an ontological approach, which already exists in entrepreneurship research, but is rarely unfolded in entrepreneurship education research.

The Broadening of Entrepreneurship Education

Entrepreneurship education has over the years broadened in at least two dimensions. First, with respect to disciplines and professions it has spread horizontally from being seen primarily as a topic for economics, business, and engineering students (Iacobucci & Micozzi, 2012; Jones & Matlay, 2011), to be considered of value to almost any discipline and profession (Gibb, 2002; Ramsgaard & Blenker, 2021). This means that entrepreneurship education today is considered of value within education targeted at traditional public sector jobs, for example, nursing, preschool teaching, and social work. Consequently, research on entrepreneurship education also occurs within educational contexts other than traditional universities, for example, universities of and applied sciences, where welfare professions and professional bachelor-level education often are placed (Ramsgaard & Blenker, 2021).

Second, entrepreneurship education has broadened vertically. From being targeted primarily at higher education, it has spread to far more educational levels, all the way from kindergarten, over primary school to higher education (Hoppe et al., 2017; Liguori et al., 2019), accentuating new purposes for entrepreneurship education which are quite different than mere venture creation. Such broadening of entrepreneurship education from being primarily a business topic to other professions and disciplines, and the transfer of entrepreneurship education to a full range of educational levels have consequences when it comes to question of which purposes, ideals, and practices entrepreneurship education and the research that studies it should focus on. The broadening has also opened for new and fruitful critique of entrepreneurship education for promoting masculine ideals, creating social injustice and climate problems, for basing itself on a neoliberal agenda based on extreme individualism and over-homogenized approaches to teaching (Berglund et al., 2021), leading to a McDonaldisation (Hytti, 2018) of the discipline. Thus, in the best cases this broadening and critique also brings constructive and sustainable hope to the table (Dodd et al., 2022). In this way context matters in entrepreneurship education and research because it shapes understanding and influences learning (Thomassen et al., 2019; Welter, 2011). The dual broadening process has also led to a need for clarification when it comes to purposes and processes of entrepreneurship education, where both didactics and pedagogy needs to be reconsidered when different kinds of students are to be served (Blenker et al., 2012; Gibb, 2002; Lackeus, 2015). Hence, this development has led researchers to distinguish between a narrow understanding of entrepreneurship education aiming at new venture creation and a broad enterprise education understanding, focusing on enhancing broader forms of entrepreneurial life skills, or even rather general life skills, sometimes labelled as enterprising behavior or entrepreneurial mindset (Hoppe et al., 2017; Hytti & O'Gorman, 2004; Jones & Iredale, 2010; Komulainen et al., 2011). This paper positions itself within such a broad approach to enterprise education, by being focused on the education of welfare professionals that are not oriented towards new venture start up. The price of broadness seems to be a fragmented research field with lack of consensus on content and purpose (Fayolle, 2013; Hagg & Gabrielsson, 2020; Pittaway & Cope, 2007). Experience Based Learning and the Notion of Lived Experience. Despite disagreement, elements of convergence appear in entrepreneurship education. When it comes to basic learning approach there seems to be a consensus, often inspired by Dewey (1938) and Kolb (2014) that experience based learning is central for entrepreneurship education, or perhaps is the guiding light of entrepreneurship education (Hagg & Kurczewska, 2020). Pedagogical development in entrepreneurship education

seems highly inspired by the combination of action and experiences, often leading to the conclusion that students must get out of the classroom and learn through practical doing to gain real-world experiences (Motta & Galina, 2023). However, while most educational entrepreneurship tends to arrange for external projects and action, and focus on experiences outside the classroom, we must assume that learning experiences also are created within the classroom. This paper focuses on experiences taking place inside the classroom and within the student's ordinary professional-focused curriculum.

With in the experienced based learning approach to entrepreneurship education, particularly the notion of “lived experience” has gained traction (Berglund, 2007; Cope Watts, 2000; Hagg” & Gabrielsson, 2020). When it comes to experience-based learning, this paper agrees with these positions considering lived experiences as important gateways to learning, especially when the learning, as in this case, touches existence.

Hagg” & Kurczewska (2020) suggest relying on an empirical phenomenological approach to promote educational interplays between primary and secondary experience, as phenomenology “focuses on understanding the essence of experiences as they manifest themselves in the consciousness” (p. 141). We also agree that phenomenology has much to offer when it comes to educational practices that focus on reflection on experience.

Ontology and Being in Entrepreneurship Education

There are many ways to a broad and experience-based approach to entrepreneurship education, and thus need for a focused differentiation and positioning the paper. The following will position the paper within research focusing on existential aspects of entrepreneurship education, and particularly those that study the ontological dimensions of Being in entrepreneurship education.

Within learning theory, we find a tradition of existential learning research not focusing on what the teacher and the school finds important. Instead, this tradition seeks non-instrumentally (Ronkainen et al., 2021) to train students to develop their own particular approach to life (Frick, 1987). This approach has found its way into entrepreneurship education, focusing on how personal meaning and growth can emerge from experiences with heightened awareness. Neergaard and Robinson (2020) have studied how an existential approach to entrepreneurship education can support the agency of entrepreneurship students through significant learning experiences and self-reflection. This tradition is dominated by a social-psychological approach to existence and learning. Others, both within general management (Scharmer, 2009), social innovation (Kahane, 2004), entrepreneurship research in general (Johannisson, 2018; Spinosa et al., 1997) and entrepreneurship education specifically (Thrane et al., 2016) have established an existential approach more oriented to the ontological question of entrepreneurship as a way of Being.

Spinosa, Flores and Dreyfus's book “Disclosing New Worlds: Entrepreneurship, Democratic Action, and the Cultivation of Solidarity” (Spinosa et al., 1997) is pivotal in establishing this tradition. Inspired by Heidegger they take an ontological turn on entrepreneurship, suggesting that entrepreneurship is a particular form of Being, where we encounter the world as practices that are either immediately meaningful or dis-harmonious. Entrepreneurs have a way of being sensitive, and openly hold-on-to and dwell on anomalies in our ways of organizing and living our lives. This form of entrepreneurial disclosive Being is not analytical, detached and passive, but a process of personal involvement and

practical experimentation from which entrepreneurs can offer new ways to think and act. Ontological dimensions of Being are at the center of this approach.

In a later work Dreyfus and Kelly (2011) elaborate on situations of Being where experiences are meaningful in themselves, described as moments where 'all things are shining' and call upon us as human beings. This opening aspect of the entrepreneurial discloser is elaborated as a Being-open towards a call from life itself and it involves a receiving and listening attitude, letting the situation reveal its own meaning and letting meaning call action forth. In entrepreneurship research Spinoza et al. (1997) have inspired Johannisson (2018) to study entrepreneurship through an ontology of becoming an entrepreneur by "living it", letting it under the skin and embodying it. Johannisson suggests the term 'enactive research' when researchers "come out" as activists and "adopt the being of an entrepreneur" (p193) and use this experience for experimentation and 'dwelling' re-flection on the field. Popp and Holt (2013) use Spinoza, Flores and Dreyfus' idea of disclosing for a discussion of entrepreneurial opportunities and creative imagination to portray entrepreneurial situations where you find "yourself and the world anew" (p. 19). The fields of entrepreneurship education and learning have found inspiration in the disclosing approach. Hjorth and Johannisson (2007) use it to stress the role of openness towards becoming and personal transformation in entrepreneurial learning processes. Thrane et al. (2016) uses the approach didactically to construct a framework for entrepreneurship education where students work on disharmonies from their own everyday practice, and through involved experimentation, seek entrepreneurial projects closely related to the student's own knowledge, interests, and beliefs.

In this quite varied research on ontology and being in entrepreneurship education we see a dialectic between the active disclosing aspect on the one hand and the receiver of a call from the world itself on the other hand. Entrepreneurial action happens through a dialectical movement between a call coming from the world, a specific situation or from other people and a world discloser who listens, participates, and engages in the creation of meaningful action. Nevertheless, where former research in entrepreneurship education has been focusing on the disclosing and action side of this dialectic, this paper and its teaching experiments focus mainly on the other side, namely the world-receiver.

Following the three lines of thought outlined above, the paper will lean on a broad understanding of entrepreneurship oriented towards non-business students in welfare studies. The paper also positions itself within an experience-based learning approach to entrepreneurship education, accepting that experiences also take place within the classroom. Finally, the paper position itself within, and seek to contribute to the relatively sparse literature on ontology and being in entrepreneurship education by focusing on what happens when modes of Being related to sensitivity, imagination, and courage to act are being trained in the classroom.

Project Design

In the following we contextualize the paper, by describing the research setting and educational context. Within our specific context of welfare educations, entrepreneurship education is typically offered as an extra-curricular activity targeting a few particularly interested students. Neergaard et al. (2022) showed in their study of a three-day entrepreneurship camp in nursing education, that student nurses have limited knowledge of entrepreneurship and have difficulties seeing meaningful connections between entrepreneurship and nursing. A finding confirmed by other studies among students as well as graduated nurses throughout the last decade (Boore & Porter, 2011; Herholdt-

Lomholdt, 2018). As researchers and educators in nursing education, we have been challenged by the trends and political demands to teach entrepreneurship to young people - mainly girls - who have chosen to become nurses. The gap between traditional purposes of entrepreneurship such as venture creation on the one hand and the hopes and dreams for future jobs that exist among the nursing students are enormous. As educators our primary obligation is to enhance nursing students' knowledge and practice in nursing – that is, to strengthen the development of knowledge, skills and values related to caring for patients. At the same time, we are obliged to offer teaching activities aimed at entrepreneurship, which neither we nor the nursing students have considered immediately relevant. Nevertheless, as educators and researchers we also acknowledge that the skills and attitudes connected to and described by researchers positioned in a broad approach to entrepreneurship education, could have great value and is most needed to improve care (Çulha et al., 2017). On that basis, and with a wish to offer relevant entrepreneurship education we initiated a two-year phenomenological action research project named: Innovative and Entrepreneurial Formation (Bildung) in Professional Bachelor Education, which had both development and research objectives (Lewin, 1946; Reason, 2015). Overall, the project involved several professional welfare education programs (nursing, pre-school teaching and diacony), but in this paper we focus on nursing education. The teaching experiments behind this paper focus on entrepreneurial educational ideals needed within the nursing profession, since the main purpose of offering and experimenting with entrepreneurship education is to support all nursing students in their development as both entrepreneurial professionals and as nurses. Different objectives of entrepreneurship education can be identified, but the objectives in this project are mainly ontological, focusing on spaces for students to be in the world in an entrepreneurial way. The teaching experiments, which will be further described later, aimed at stimulating students' entrepreneurial approach to the world rather than on learning certain methods or techniques as Neck and Greene (2011) suggest. Both the general project and the current paper, experiments with and inquiries into learning activities which train students' sensitivity, imagination, and courage to act, and the involved teachers' creation of educational spaces where these ideals could come into play.

Methodological Approach

In this section, we show how the paper integrates in an overall action research project and how the specific methodology combines this action research logic with a phenomenological approach, where lived experiences of a teacher and a student are established as research data. Secondly, we introduce how the analysis is carried out. This project leans on a combination of existential phenomenology and action research. From existential phenomenology, we rely on phenomenological attitudes of openness, approaches concerned with lived experience descriptions as data sources, and phenomenological analysis as a non-method-driven, but thoughtful way of seeing into the heart of meaningful experiences (Hansen, 2015; Hansen & Sorrel Dinkins, 2016; McGuirk, 2017; Van Manen, 1990, 2014, 2017). The phenomenological methodology is chosen, as it has a special sensitivity for research concerned with ontological perspectives on Being (Van Manen, 1990, 2014, 2017, Van Manen & Van Manen 2021). The specific phenomenological approach is informed by the work of Max van Manen, who is a widely respected founder of the phenomenology of practice.

From action research, we rely on the principles of doing research with (not about) the involved teachers in an interwoven process of development and research through different learning phases (Bradbury, 2015; Coghlan & Brannick, 2010; Lewin, 1946; Reason, 2015), where the purpose is both thoughtful educational development and entrepreneurship education research. Action research was

chosen, as the purpose of the project was twofold: (1) Developing entrepreneurship education in traditional welfare educations and (2) Inquiring into the Being of students participating in the developed teaching experiments. The action research process has developed through three phases in which an action group of eight teachers from three different educational contexts at a University of Applied Science in Denmark participated as co-researchers in cooperation with two researchers. In this paper we concentrate on an experiment taking place at a nursing education. The teacher from nursing education had more than five years of teaching experience. Both researchers were also engaged in nursing education.

The three phases of the action research process, which all involve development and research, are illustrated in Figure 1 and further described in the following.

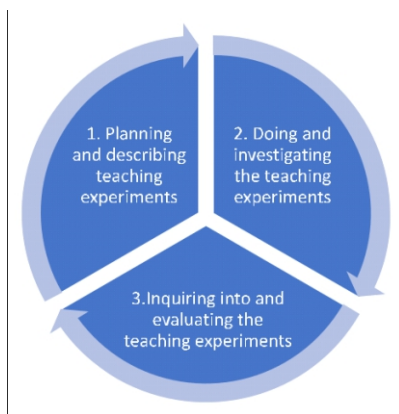


Figure 1. The action research process

Phase 1: Planning and Describing the Teaching Experiments

In phase one, all teachers planned and described one teaching experiment each, placed in the students' ordinary curriculum. Every teaching experiment aimed at the educational ideals of sensitivity, imagination, and courage to act. In this phase, teachers found inspiration in entrepreneurship literature, pedagogical literature, philosophies of teaching, their own experience, and dialogues with the rest of the group. The planning phase was documented in written descriptions of the experiments, their purposes, theoretical and experiential backgrounds, and expected outcomes and reactions from the students. The experiment used as case in this paper, is a 4-h long lesson on Lave and Wenger's theory of social learning (Lave & Wenger, 1991). Lessons which are a part of the ordinary curriculum of nursing education. Instead of giving a traditional lecture on the topic, the teacher invited the students to participate in a social learning activity, where students in groups learned, tried out and later developed yoga exercises. The lessons ended with common reflections on the topic, the process, and the students' experiences of participation in the experiment.

Phase 2: Doing and Investigating the Teaching Experiments

In phase two, all teachers tried out their teaching experiment. The teaching experiments were observed by a researcher. After the experiment, the teacher, and the researcher each wrote a phenomenological lived experience description (van Manen, 1984, 1990) of impressions from the experiment. These lived experience descriptions, as well as phenomenological interviews with one to four students from each teaching experiment, are the empirical material of the overall project.

In this paper we concentrate on a teacher-student pair, by focusing on a dataset involving one lived experience description, written by the teacher developing the yoga experiment and one phenomenological interview with a student participating in the experiment. This particular experiment was chosen as a strong single case because of the impression it made on both the teacher, the students, the observer, the action group as a whole, and us as researchers. Moreover, it was chosen as it was phenomenologically deep and raised issues of Being, which were recognizable in other experiments as well. In preparing and conducting the interview with the student, Kvale and Brinkman's (2015) descriptions of the semi-structured life world interview inspired us. We develop a semi-structured interview guide and asked questions about the lived experience of being a student in the experiment. As an example, the student was asked: "Please tell me about a situation from the lessons that made an impression on you?"

Phase 3: Inquiring into and Evaluating the Teaching Experiments

In phase 3, a phenomenological analysis as well as evaluations and reflections on the experiments were carried out in the group. The analysis presented in the following sections unfolds as a phenomenological unpacking of the teacher's lived experience description and the phenomenological interview with a participating student.

Analytical Approach

The analytical process unfolds in four phenomenological steps inspired by van Manens' (1984, 1990, 2014) recommendations for writing and analyzing phenomenologically. Van Manen suggests that: The human science researcher is not just a writer, someone who writes up the research report. Rather, the researcher is an author who writes from the midst of life experience where meaning resonates and reverberates with reflective being. Sensitive phenomenological texts reflect on life while reflecting life.

Therefore, first, a lived experience description from a teacher's perspective of the chosen teaching experiment is constructed in its whole. Second, the analysis went through an initial reflection. As the overall research question was: Which modes of Being comes to presence, when student nurses participate in experience-based entrepreneurship education placed in the ordinary curriculum? The second analytical step concentrated on identification of modes of Being arising through the experiment. In this second analytical step astonishment and openness was identified as findings in the study, as they rose as ways of Being, coming to presence through the teaching experiment.

Since astonishment and openness in the initial analysis arose as ways of Being, the third step of the analysis was a phenomenological and thoughtful dwelling on main characteristics of the specific experiences of Being. As required in phenomenological studies, this analytical part deepens the findings of astonishment and openness as ways of Being, by asking the following analytical questions: What is it like to be astonished? And how can we describe the possible connection between Being astonished and Being open as it comes to presence through this specific teaching experiment?

Fourth, the analytical phase ended with a phenomenological inspired discussion of the characteristics and possible values and limitations of astonishment in entrepreneurship education situations. In this part, we returned to a discussion on the overall research question: How can these identified modes of Being relate to entrepreneurial as well as professional purposes? In this way the full analytical process was documented, not just the main findings. This is where phenomenology differs as a method, as the text, loaded with evocative examples and both present and latent meanings, is a central part of the findings.

Results of the Phenomenological Analysis

In the following the four steps of the phenomenological analysis will be presented. First a lived experience description, written by the teacher involved in the yoga experiment, will be presented. Secondly an initial analytical reflection follows, aiming at identification of modes of Being raising among the students participating in the experiment. Thirdly a phenomenological analysis of the characteristics of the identified modes of Being is carried out. The fourth part of the analysis unfolds by putting the identified modes of Being in perspective to phenomenological literature.

Walking through the door in astonishment

In the following, a lived experience description is constructed in its whole, as the first part of the phenomenological analysis. The lived experience description is written by the teacher in charge of the chosen teaching experiment.

It's an early Wednesday morning at the beginning of November. I open my eyes after only a few hours of sleep. For the whole night, I feared not hearing the alarm. My thoughts wander: How will the students react to today's teaching? On my drive to campus, I can feel butterflies in my stomach. Step by step, I imagine how the 36 students will react. I am excited and hope to create a good experience full of learning.

Today's teaching will take place in a movement hall instead of in normal auditoriums. The setting is not familiar to the nursing students and me. My thoughts center on didactical and pedagogical planning. I hope the students will trust that today's learning objectives can be reached in ways other than those with which they are familiar.

Arriving at campus, there are only a few cars. I walk through an empty and quiet campus and lock myself into the movement hall. It's a big, empty, and oblong room with bright wooden floors. It smells a bit like a gym. The floor looks nice and clean. I quickly spot a big mat next to the door. A sign indicates that no shoes are allowed here. On the walls, I see different posters illustrating the human body: muscles, tendons, and ligaments. I imagine how the room can invite and motivate students to give themselves to learning in a new way. I turn on some peaceful piano music. I hope to create a calm and positive atmosphere. My shoulders lower immediately. It's exactly the atmosphere I hoped for.

The first couple of students arrive. They look amazed and surprised. Some of them ask, "Is this the right room?"

I welcome them and ask them to take a seat on a yoga mat. The students walk calmly and curiously around, investigating, until they finally take a seat on a mat. This entrance repeats with each student. More students excitedly ask what is going to happen. More students walk around with curiosity. The first arriving students shout to the later arriving students to take off their shoes. I begin by introducing the plan. Today, the students will complete four small exercises inspired by the world of yoga. Some students laugh, others smile, and several look at me with a curious and investigating glance. A few of them look rather skeptical.

I have their full attention.

I give the students a small pep talk. We discuss multiple ways of learning, and I try to convince the students that the learning objectives for today regarding situated learning in communities of practice

can possibly be reached through exercises instead of traditional teaching with a blackboard. I challenge the students to break with norms when it comes to the practices of learning. I emphasize that everyone has relevant experiences, prerequi-sites, and competences that can be of value during the day. Some students nod and smile. The atmosphere is, in a way, redemptive.

I divide the students into groups of three. The groups are composed by considering the students' yoga level: beginner, lower intermediate, and experienced. I hope the small groups and random composition call forth a desire to challenge routines and habitual thinking. I hope the students will do experiments and that they will learn from each other in small fellowships. As an inspiration, I show the students a couple of yoga exercises. The students look at me with curiosity while repeating the exercise. A few laughs and smile back to me. Wow... this is really happening! Surprisingly, I find it natural to act like a yoga teacher.

With inspiration from a PowerPoint presentation with different yoga exercises, the groups are given some time to practice different kinds of exercises. Each group finds a small area in the hall. In a minute, they all try out different yoga exercises. I sense a bright and playful atmosphere. At the same time, piano music adds ease and elegance. I walk around carefully and observe the groups. The students seem calm, curious, and careful toward each other. Many of the students learn possible yoga positions from each other, and they show openness when it comes to learning from fellow students. It's fantastic. Some groups need inspiration to continue, and I support them so that they can help each other enhance the yoga level of the group. Then, I ask the groups to develop a little yoga series wherein all the members of the group are active. They are challenged to give the series a headline. This is for use when they later show the yoga series to their fellow students.

I sense a hiss going through the hall when I mention "the show!" I tell them that there is no right way to do this and that they are more than welcome to break the norms for yoga exercises. One by one, the students throw themselves into the exercises in a playful way. The students hold their heads high and show great courage. It is as if they find this exercise transgressive—but in a good and exciting manner. I continue to observe and visit the groups, and I challenge them to do experiments, use humor, and break norms for yoga. At the same time, I praise and acknowledge their good work. I sense a relaxed and safe atmosphere. The students are curious and creative and give 100% of themselves.

It's time for the show. Most of the students sit on their mats—ready and waiting. One of the groups asks me to play the music louder. I give a sign; they can begin by presenting the headings of their yoga series and thereafter show their series to their fellow students. With pride, the groups present their headings and yoga series. Both spectators and practitioners laugh at each other in a loving way. After every presentation, everyone applauds. What a culmination. I am filled with joy and pride.

Identifying Modes of Being

As a second step in the phenomenological analysis, the analytical question raised here was: Which kinds of Being come to presence through this lived experience description of the teaching experiment? Remembering, that Being in this project is understood ontologically and refers to the way in which the students Being are called forth, while participating in the teaching experiment. In the following section, the words are given to the lived experience description. Later a voice from one participating student will be added.

The first thing this teacher noticed is the way in which the students enter the movement hall. The students all stop at the doorstep, looking a bit surprised or even doubtful, as if they think: Is this really the right place? Some of the students ask by words. Other students just stop for a short while, looking skeptically at the room, the teacher and their fellow students already placed on yoga mats without shoes on. This stop in the door might not be for more than a second, but it seems to repeat itself while the students arrive. Through the above description, the teacher uses different words to describe the student's entrance. The teacher uses words such as hesitating, amazed, doubtful, and surprised. Later, in a dialogue with the teacher, she tries to capture the students' stoppage in the door by using the word astonished. All the small signs of curiosity, skepticism and doubt are gathered by the teacher in this one experience of being astonished. The way in which all the students make a sudden stoppage in the door, the overall skepticism about whether this is the right room, the hesitation when it comes to crossing the doorstep is described by the teacher as signs which altogether can be comprehended as signs of astonishment. In the Cambridge dictionary, astonishment is linked to words such as surprise, shock, and hesitation, similar to the words used by the teacher in her lived experience description. As the observer of the teaching experiment also recognized this description of the students, astonishment seems to be an interesting way to frame the students Being while entering the movement hall and teaching experiment.

Secondly, the teacher wonders about the changes happening to the students through the teaching experiment. The teacher describes how the students at first transform from standing skeptical in the door, to be the ones sitting on the yoga mats welcoming the next students into the room and guiding them to take off their shoes. Later again the teacher realizes that the students change once again as they throw themselves into the unfamiliar yoga exercises with laughter and play. At this point, the teacher even writes that the students give themselves 100% and that they all seem to open up towards each other, towards possibilities of learning with- and from each other, towards the strange yoga experiment, and to the present teaching and learning moment as such. This movement from skepticism and doubt at the doorstep to an overwhelming openness towards the absolutely unfamiliar yoga experiment is a source of joy and pride for the teacher. At the same time, it's a movement which both the teacher and we as researchers deeply wonder about. How did it happen? And could there be a link between the student's sudden stoppage in the door, being surprised, and their following openness towards the teaching experiment?

Phenomenological insights: What is it like to be astonished?

In the following, a third step into the phenomenological analysis will be taken. In this part, the aim is to take a step deeper into the experience of Being in the above teaching experiment, by asking: What is it like to be astonished? And how can we describe the possible connection between Being astonished and Being open as it comes to presence through this specific teaching experiment? When attending to these questions, we built on the findings from the initial phenomenological analysis and from there we revisit the two empirical sources, from which this paper stems. Through this third step of the analysis, four areas connected to experiences of Being astonished and a possible connection between Being astonished and Being open will be shown. These are:

- i. Astonishment as a cleaning of the imaginary blackboard,
- ii. Astonishment leads to an arousal of senses,
- iii. Astonishment balance between fear and excitement,
- iv. Astonishment can be followed by an openness towards the present moment and the still unknown.

Next, these phenomenological insights are described and deepened.

Astonishment as a Cleaning of the Imaginary Blackboard. In the above lived experience description, we read about students stopping at the door and questioning whether the room is the right place. We also read about students who, just for a short while, were brought out of their comfort zones by the change of setting. In this sense, astonishment seems to be connected to a rupture with what the students are used to. In an interview with one participating student, this rupture was expressed in the following way:

Interviewer: What did you think while entering the movement hall?

Student: Oh... what am I doing here? Has something gone wrong? Isn't it possible to get a room where I can charge my computer? That was my very first thought: How on earth am I going to take notes... I really don't know. (Interview with participating student)

During the continuing interview, the student reflects on the experience of rupture as a sense of not knowing how to act or behave. Specifically, the student did not know how to take notes. During the interview, the student also reflects on the strengths of her habits, on how she was used to sitting behind a computer, receiving the words of a teacher, and taking notes. In this experiment, the students' habits were challenged from the very beginning by something as ordinary as another room without chairs, tables, and computer charging capacity. The student reflected on this experience by saying, "I think that your imaginary blackboard was cleaned" (Interview with participating student). Because of the very different setting, this student did not know how to behave. Normality was challenged, and along with this, many of her habitual imaginations disappeared. Thus, being astonished can, as expressed by the words of this student, be described as a sudden cleaning of "imaginary blackboards," leading to silent questions such as: "How on earth am I going to ...". The sudden cleaning of 'imaginary blackboards' means that most habitual thinking and acting are experienced as insufficient and therefore must be put aside. Suddenly, the student did not know what to do or how to behave in a seemingly ordinary lesson.

Astonishment Leads to an Arousal of Senses. Astonishment can also be described as a sensory experience. While entering the door, the students at first stopped. Shortly thereafter, the students moved around in a new and unexpected world in a sensible, curious, and careful way. All senses seemed to be sharpened as the students started to engage with the room, the mats, the teacher, and each other. The teacher writes about having the students' full attention. Moreover, the teacher shows how the surroundings in the movement hall also have the students' full attention. Relying on these experiences, astonishment seems to be accompanied by a body that awakens. While at first holding their breath at the doorstep, the students enter the room and at that point, it seems like skepticism is replaced by curiosity. What is this place really? What is going on here? How is the feeling of this mattress? How does it feel to walk on the floor without shoes? Astonishment, starting with a stoppage, seems to be accompanied by a sharpening of all the senses and of an attentive, curious, investi-gating, or even wondering approach to a fascinating and unknown world.

Astonishment Balance Between Fear and Excitement. However, the new world is not solely fascinating. It is also frightening. The sharpening of all senses, which seems to be at stake while being astonished, is placed on an edge between fear on the one hand, and excitement on the other hand. The unknown and strange world in the movement hall seems to be both alluring and seductive and frightening, maybe even appalling. The students showed this by being extremely careful and

hesitating while entering the movement hall as if they needed a great deal of courage and to take a deep breath to enter the room. It is like something pulls them forward and entices them to go in. At the same time, something holds the students back, making them cautious. As if the students, in the second they stand at the doorstep, consider whether they should pass or flee. As if the students need to dress with courage to enter the room and join the lesson. In that sense, astonishment can connect to an experience of being allured and frightened at the same time, like being pulled toward the room while considering the option of escape. Astonishment seems to happen just there, on the edge of being allured and frightened, on a line dance between fear and excitement.

Astonishment Can Lead to Openness toward the Present Moment and the Still Unknown. In the above lived experience description and following dialogues, the teacher wonders about a possible connection between astonishment and openness because she senses an openness among the students in the movement hall, which is unusual to her. In the interview with the participating student, the student also points to an experience of a connection between Being astonished and being open. The student said:

When I entered the movement hall... it was like... your attention or arousal was awakened in a different way... so it ... it starts maybe in a quite confusing way ... oh ... you had to be awake in another way. I became more open towards that, which is to come ... and to be ... just present in the moment ... And to be aware, that you are pending, because you have no preconceptions on what is going to happen. You are forced to think out of the box and maybe be a bit more pending ... more listening ... (Interview with student)

What we find so interesting in this quote is the way in which the student shows that while stopping at the doorstep something happens. At first the student experiences an awakening of all senses. Then, while entering the room, this awakening is followed by an openness, which goes in different directions. The student talks about being open for the present moment and for something which she still doesn't know, something which is coming to her. The student even tells us that to receive what is coming, she needs to be pending – to listen – and from there, something she could not imagine beforehand arises. Later in the interview, the student said that on that particular day, she deeply learned, “That it is okay not to know the answers from the beginning” (Interview with student). On that specific day the student realized that it could be okay to enter an unknown territory without knowing what to do or how to behave, because she experiences, that it is possible to pend and listen and by that, it becomes possible to get around in an unknown territory. In this way, astonishment in an educational setting seems to enhance an openness, to which neither the student nor the teacher was accustomed. An openness toward “not knowing all the answers,” of not even knowing how to act or behave, of not knowing what is to happen. An openness that made the students attentive, listening, and present, trying to sense how to be on this earth and in this room in the present moment.

Phenomenological Perspectives on Astonishment and Openness

So far, our phenomenological description and analysis have established four central characteristics of experiences of Being astonished as they arise within a specific entrepreneurial teaching experiment in nursing education. We have found that astonishment can be experienced as a cleaning of an “imaginary blackboard,” characterized by an arousal of senses, balances on the edge between fear and excitement, and can be associated with an openness towards the present moment and the hitherto unknown.

The fourth part of the phenomenological analysis is a theoretically enlightened discussion. We bring in the phenomenological philosophers Løgstrup, Hansen, and Heidegger to broaden our perspectives on astonishment in general and on the relationship between astonishment and openness in particular. The Danish phenomenologist Løgstrup (1995) is relevant because of his phenomenological philosophy on astonishment in general and his reflections on the possibilities and limitations of astonishment with respect to openness, while both Hansen and Heidegger add to the philosophy of Løgstrup, by their deep descriptions of differences between astonishment and other kinds of openness as e.g., wonder. On astonishment Løgstrup writes: “To be astonished is something sudden. It is a shock. Something unexpected happens; it is almost like an electric shock for the chest—and in this astonished shock, our eyes become wide open”. (Løgstrup, 1995, p. 65, authors' translation)

According to Løgstrup, astonishment is uneasy, like a shock, but at the same time, it is associated with enjoyment. On one hand, astonishment is experienced as a sense of worry, something we do not understand and cannot grasp. For the student participating in the experiment, this unease led to questions of “How on earth am I going to...”. In this way, astonishment is followed by a loss of orientation. The normal “imaginary blackboard” was not of much help, as the students put it. This loss of orientation made the students fully attentive. As the students needed to reorient, they tried to sense the room and expectations in a new way, and by doing so, they became even more fully attentive. On the other hand, Løgstrup describes astonishment as associated with enjoyment. He even goes as far as to point to modern people as spiritually nourished by astonishment. As human beings, we love surprises and search for situations and news that can bring us to astonishment. This joy is seen in the lived experience description as the laughter and cheerfulness emerging among the students. Astonishment seems to live right there, on the edge between a sense of unease and a sense of joy.

This sense of a connection between openness and astonishment, as established in the analysis, is a key point in Løgstrup's work. He writes that when the shock of astonishment occurs, our eyes 'open wide' (Løgstrup, 1995, p. 65). The shock, balancing excitement and fear, unease, and joy, seems to be an entranceway into openness and bring forth a sense of not knowing. A sense of a clean “imaginary blackboard,” as the student put it. Relying on Løgstrup's phenomenology of astonishment and the above analysis, educational spaces where astonishment is a possible experience of Being, could be of value, when entrepreneurship educators, wish to break common practices and thoughts and pave the way for openness.

However, according to Løgstrup the big challenge is that astonishment itself is fleeting. Quickly, the unusual things that brought us into astonishment become the new normal. If the teacher brought the same students into the same hall the next day, it would already be trivial to them. The question, then, is: Should this teacher let the students jump between different rooms to create rooms for astonishment every day? Should we, as entrepreneurship educators, chase experiences of astonishment? Of course not, Løgstrup would say. The critical point is that astonishment itself is volatile. Further and more important with respect to entrepreneurship education, astonishment per se is not the purpose. It might just be a valuable doorstep in entrepreneurial learning processes. Instead, entrepreneurship educators (and perhaps even educators in general) search for ways to establish the openness that astonishment brings to the foreground. The openness to stay in an unknown territory, trying to listen and find a way through - an openness to “that, which is to come”, as the student puts it. In the teacher's lived experience description, she describes how astonishment is very quickly replaced by curiosity and an investigative approach among the students. Stopping at the doorstep, here promoted by astonishment, leads somewhere else. It leads to an openness, which could also be described as wonder.

Løgstrup (1995) describes astonishment as a sudden shout. When the shout has left, astonishment dies as well. However, in its dying, astonishment can be replaced by openness or even wonder. What entrepreneurship educators search for is the wonder that can follow from astonishment. According to Løgstrup, wonder is characterized by being ever growing, while astonishment is always dying. Where does this lead us? Are the experiences of astonishment worthless in themselves? The teacher's lived experience and the student interview indicate that astonishment is certainly not worthless. It holds an experience of Being. However, if the teacher and students only chase astonishment, they do not learn from it. Rather, it is the openness and wonder that rise as an extension, which carries educational value.

The Danish philosopher Finn Thorbjørn Hansen elaborates on the difference between astonishment, openness, and wonder (Hansen, 2007, 2012, 2019). Like Løgstrup, Hansen suggests that wonder contains more depth than astonishment, not only because of the short lifespan of astonishment, but also because of how we as humans relate to the world. When we are in what Hansen calls 'true philosophical wonder', our relationship to the world changes existentially and ontologically. When in wonder, we change from being outside of the situation to being embedded in it. Moreover, when we are in wonder, we experience being open to what calls upon us within this present moment (Hansen, 2018; Hansen et al., 2007).

Hansen's distinction leans on Heidegger. In *Basic Questions of Philosophy*, Heidegger et al. (1994) differentiates wonder from astonishment by the way in which the world stands out. Astonishment is characterized by the unusual becoming present in the everyday and customary. Wonder, Heidegger writes, is different. In true wonder, everydayness opens and shows its unusualness. When we are in wonder, the trivial thing in life shows us how unusual, horrible, or wonderful it actually is. Going back to the lived experience description, we can comprehend the students' stoppage at the doorstep, as called forth by the unusual setting. This stoppage could be an expression of astonishment. Later, the students walk carefully around the room with their senses open. Both the student and teacher describe how attention is raised and how senses are open toward the mattresses, the floor, the exercises, and the teacher. That could be an expression of the students being in a wonder-based openness toward the unusualness of the usual. Even a yoga mat or some bare feet stands out as extraordinary.

The point is that although astonishment *per se* may not be of value in entrepreneurship education, it serves as an entrance into wonder, which again is a particular form of openness. The cleaning of the "imaginary blackboard", characterizing astonishment, may pave the way for a turn away from students passively positioned outside the teaching activities to students being actively embedded within the teaching activities. At the same time, astonishment can support a turn from students feeling in control to students letting go of control. Astonishment, thus, holds a potential in entrepreneurship education, by the way in which it can pave a way for openness.

Discussion

In the following, we discuss how the ontological perspective on openness established above relates more specifically to entrepreneurship education, and welfare educations, such as nursing. We do this by reading an ontological understanding of openness into established studies of entrepreneurship education (Hagg & Kurczewska, 2020; Lackeus, 2014; Neck & Greene, 2011) and nursing (Benner et al., 2011; Delmar, 2018; Martinsen, 2000, 2018, 2020).

Lackeus' (2014), found a relationship between uncertainty and ambiguity in the learning environment and the development of entrepreneurial skills. This is supported by Neck and Greene (2011), who conclude that an important purpose of entrepreneurship education is to support students' ability to excel in "highly uncertain environments" (p. 55). Also, in nursing education research, the ability to excel in environments characterized by uncertainty is underlined as important. Both Scandinavian (Delmar, 2018; Martinsen, 2000, 2018, 2020) and American (Benner et al., 2011) nursing theorists, show how nursing typically is delivered in unpredictable situations and therefore first and foremost depends on nurses' openness and sensitivity towards the patient and the present situation. The ontological understanding of openness constructed in our analysis supplements these suggestions from both entrepreneurship education by Lackeus, Neck and Greene and nursing theorists as Martinsen, Delmar and Benner as it explains how openness can be enhanced in educational settings. Sudden shocks can give rise to astonishment - and astonishment can lead to students letting go of control and being openly embedded in the learning activities. Placing 'sudden shocks' in curriculums must, however, be done carefully. Lackeus' (2014) states: "Infusing uncertainty and ambiguity in learning environments can however be counter-intuitive for teachers, since it often results in complexity, student discomfort and institutional demands for more structure" (p. 390). We recognize the hesitation in the lived experience description where the teacher was very nervous beforehand. Thus, it is a challenge in educational settings, to endure—but also balance—students' possible discomfort, when they lose their footing, and their "imaginary blackboard" is cleaned.

At the same time, another obstacle must be discussed. Can we be sure that experiences of astonishment and openness among students in the classroom will be grasped as a valuable learning experience? If students are to learn from and value their experiences of openness and transform these experiences to learning outcome valuable outside the classroom, it is important to reflect on them directly. As Hagg" & Kurczewska (2020) stress, learning by experience only happens when meaning is extracted from experience through afterthought. Therefore, an educational experience of losing a foothold, must be explicitly reflected upon and discussed to be of any learning value. Following a German philosophical tradition of distinguishing between *erlebnis* (as an in-the-moment experience) and *erfahrung* (as a learning from the experience through reflective thinking), Hagg" & Kurczewska (2020) emphasize: "When only addressing the aspect of primary experience, we are left with just our instant sense of the experience and do not grasp the essential understanding of what we have experienced. To understand the possible consequences of what we have experienced, we have to add the element of thought, which is actualized through the use of reflective inquiry" (p. 135).

Hagg" and Kurczewska suggest approaching the experience-based learning tradition in entrepreneurship education as an interplay and synthesis between primary (*erlebnis*) and secondary (*erfahrung*) experiences, with the purpose of challenging established knowledge "by inputs from new experiences" knowledge and reflections (2020, p. 139). The mediator between primary and secondary experiences is, according to Hagg" and Kurczewska, reflection. In the present study, we consider this reflection part in the teaching experiments to be too vague, mainly arising from the interviews we had with the participating students.

Up till now, the discussion has focused on openness as a valuable learning outcome in experience-based entrepreneurship education. A learning outcome initiated by a sudden shock in the learning environment, which gives rise to astonishment. Nevertheless, openness in entrepreneurship

education can be considered as more than an outcome. Considering the movement from a shock, over astonishment towards openness in the classroom, it is also possible to say, that openness as a way of Being in entrepreneurship education, is a necessary condition for students to move from being outside the learning activities to being embedded and involved. In other words, openness arising as a way of Being in the classroom as entrepreneurship education unfolds, can be considered as necessary for students giving themselves to - and involve themselves in the experiments. Following that line of thought, being open is both a possible ontological outcome - and an ontological condition for experience-based entrepreneurship education. To reach that kind of openness, astonishment as 'sudden shocks' placed and balanced in the curriculum, seems promising.

Conclusion and Further Perspectives

Throughout the last decade, entrepreneurship education has spread into disciplines that question its value and relevance. Nursing education is one of these educations with only sparse or no traditions for entrepreneurship education. Nevertheless, nursing, as well as other welfare professions today meet not only a political demand, but perhaps also a pedagogical obligation, to offer its own version of entrepreneurship education. This obligation calls for contextualization (Welter, 2011), through local re-thinking and 're-pedagogization' of entrepreneurship education (Ramsgaard & Blenker, 2021; Thomassen et al., 2019), that enables it to integrate with the purposes and values of the professions. This paper exemplifies how contextualizing can take place in nursing education. It describes a specific experience-based teaching experiment aimed to enhance ways of Being, which are considered valuable in both an entrepreneurship and a nursing tradition. The teaching experiment is an example of cross-fertilization between entrepreneurship education and professional education – allowing both to grow instead of letting one tradition colonize the other. Such contextualization of entrepreneurship education is a central task for future entrepreneurship education research development, not only considering nursing but also other disciplines with sparse interest or even resistance towards entrepreneurship education.

The specific teaching experiment, from which this paper stems, focused on the students' Being and was studied through a phenomenological and ontological inquiry. This paper showed that sudden shocks, placed with consideration in the curriculum can give rise to astonishment as a way of Being. Astonishment was further shown to be characterized by an experience of a sudden cleaning of the 'imaginary blackboard', a sense of standing on an edge between fear and excitement and as arousing the senses.

Moreover, the paper showed astonishment as volatile and primarily of pedagogical interest for its ability to pave the way for deeper forms of Being – named openness or wonder. Openness - towards others, the moment and the unknown – was, however, argued to be quintessential for both entrepreneurship and nursing education. This paper shows a phenomenological movement from 'sudden shocks' placed in the curriculum, through astonishment, to openness as a way of Being that entrepreneurship education research has often claimed as central for entrepreneurial learning and have been searching for pedagogies to establish in the classroom. The relationship between sudden shocks, astonishment, and openness in entrepreneurship education needs further exploration. In particular there is a need for further conceptual research to relate these forms of Being to both entrepreneurship and educational research.

Although it is tempting to describe this as a didactical one-way-street from shock through astonishment to openness, this is by far so simple. As sudden shocks in the learning process easily may

give rise to negative emotions, these experiences need pedagogical scaffolding of student's reflection processes, in order to be transformed into valuable learning experiences (Crosina et al., 2023). These more normative questions of how to didactically structure the movement from shock through astonishment to openness, and how pedagogically to support reflective learning processes is an interesting challenge for further pedagogical practice development and empirical entrepreneurship education research.

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10TH WORLD RESEARCH AND STRATEGIC DEVELOPMENT CONFERENCE

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EFFECT OF BIMODAL VOTER ACCREDITATION SYSTEM (BVAS) ON THE CREDIBILITY OF 2023 GENERAL ELECTION IN NASARAWA STATE, NIGERIA

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Abstract

The credibility of electoral processes is fundamental to democratic consolidation, and the adoption of the Bimodal Voter Accreditation System (BVAS) in Nigeria's 2023 general election aimed to enhance electoral transparency and integrity. Thus, this study assesses the effect of the Bimodal Voter Accreditation System (BVAS) on the credibility of the 2023 general election in Nasarawa State, Nigeria. The study is anchored on the Accountability Theory, which emphasizes mechanisms that hold public officials and institutions accountable for their actions. The survey method was employed as the research design. The target population comprised all residents of Nasarawa State, which, as of April 2025, was estimated at 2,931,724. This figure includes all categories of eligible voters and electoral stakeholders, such as staff of the Independent National Electoral Commission (INEC). Using the Taro Yamane (1967) formula, a representative sample of 400 respondents was selected. Questionnaires were administered to capture the perspectives of election officials, political party representatives, accredited voters, and civil society organizations—groups directly involved in or impacted by the electoral process. Findings from the study revealed that the biometric and facial recognition features of BVAS significantly reduced voter impersonation, enhancing the credibility of the 2023 election in Nasarawa State. Additionally, the system's role in the real-time transmission of election results increased transparency and boosted public confidence in the electoral process, although some technical challenges were noted. Based on these findings, the study recommends that INEC should invest in upgrading biometric technologies and regularly train electoral staff to ensure smooth and accurate voter verification. It also recommends improving internet infrastructure and integrating technical support systems to enhance the effectiveness of real-time result transmission and address delays that undermine electoral transparency. These recommendations, if implemented, will further strengthen the credibility and integrity of future elections in Nigeria.

Keywords: *Bimodal Voter Accreditation System, Election Credibility, Electoral Transparency, Voter Accreditation, Nigeria, Electoral Reforms.*

Introduction

Elections around the world are being quietly but rapidly re-engineered by digital identity technologies. Recent data compiled by the International Institute for Democracy and Electoral Assistance show that roughly one-third of the 177 countries it surveyed now capture voters' biometric data at registration, while 30 per cent use biometrics to identify voters at the polling station an evolution meant to tackle multiple voting, ghost voters and ballot stuffing. Yet scholars and policy analysts caution that technology alone cannot manufacture legitimacy; when embedded in weak institutions, electronic devices may simply “under-deliver” on inflated promises and even create new vulnerabilities such as hacking or selective malfunction. As Ifeanyi-Ajufo and Hoffmann (2023) observe, the credibility gains from election tech depend less on the device itself than on the legal safeguards, logistical planning and public communication that surround its deployment.

Across Africa, the results have been mixed but instructive. Kenya's 2022 general election provides a useful antecedent: the country rolled out the Kenya Integrated Electronic Management System (KIEMS) nationwide, enabling biometric authentication and image-based result uploads. Post-election audits credited KIEMS with reducing violence and manual tampering, yet observers also documented 238 polling stations where kits failed and had to revert to manual registers, reminding reformers that backup measures remain indispensable. Ghana, Somaliland and, most recently, Jamaica have reported similar trade-offs, underlining a continental trend in which biometric tools enhance transparency only when buttressed by connectivity, training and rapid troubleshooting.

Nigeria entered this conversation under intense domestic and international scrutiny. The 2022 Electoral Act legally entrenched the Bimodal Voter Accreditation System (BVAS) a handheld tablet that biometrically authenticates voters and transmits photographed results to the INEC Result Viewing (IREV) portal. INEC supplied more than 200,000 units for the 2023 polls and advertised BVAS as a “game-changer” for the country's 93 million registered voters. Observer missions agreed, in principle: the EU Election Observation Mission hailed BVAS as a major step towards integrity, while the NDI/IRI delegation praised faster and more accurate accreditation. Nonetheless, delayed uploads to IREV and uneven staff competence diluted public confidence and contributed to Nigeria's record-low 29 per cent turnout, signalling that technological innovation did not, by itself, reverse scepticism.

Post-electoral assessments have sharpened this ambivalence. The Commonwealth Observer Group concluded in April 2024 that BVAS “significantly improved accreditation” but that inadequate stress-testing and weak network coverage “tainted overall credibility”. A GIGA Focus study similarly characterised the 2023 presidential race as a lesson in “over-promising and under-delivering,” pointing to BVAS breakdowns during peak hours and the political fallout of late result uploads. These verdicts reveal a national picture in which BVAS simultaneously constrained certain traditional fraud tactics and exposed fresh logistical fault-lines.

Yet election technology is ultimately experienced, and contested, in specific localities. In Nasarawa State an ethnically diverse battleground whose governorship was litigated up to the Supreme Court preliminary academic work offers divergent readings. Egey (2024) reports that BVAS “eradicated overvoting/double voting” and boosted citizen trust in Lafia and Keffi, whereas Akah et al. (2024) find

that accreditation gains were offset by result-transmission failures that reopened old grievances. No study to date, however, has systematically triangulated voter surveys, BVAS machine logs and observer reports to quantify how far the device shaped each dimension of electoral credibility in the state. Addressing this gap, the present research sets out to assess the effect of BVAS on the integrity, transparency and perceived legitimacy of the 2023 general election in Nasarawa State through three specific objectives: measuring its impact on biometric voter authentication, evaluating its role in real-time result transmission and determining its effectiveness in curbing electoral irregularities. Thus, the general objective of this study is to assess the effect of Bimodal Voter Accreditation System (BVAS) on the Credibility of 2023 General Election in Nasarawa State, Nigeria. Specifically, the study aims to:

- i. To assess the effect of biometric and facial recognition features of BVAS on voter authentication and its contribution to the integrity of the 2023 general election in Nasarawa State.
- ii. To evaluate the role of BVAS in the real-time transmission of results and its effect on transparency and public confidence in the 2023 general election in Nasarawa State.
- iii. To determine the effectiveness of BVAS in reducing electoral irregularities and enhancing the overall credibility of the 2023 general election in Nasarawa State.

Statement of Hypotheses

- H01:** There is no significant relationship between the biometric and facial recognition features of BVAS and the integrity of the 2023 general election in Nasarawa State.
- H02:** The use of BVAS for real-time transmission of election results has no significant effect on the transparency and public confidence in the 2023 general election in Nasarawa State.
- H03:** The deployment of BVAS did not significantly reduce electoral irregularities nor enhance the overall credibility of the 2023 general election in Nasarawa state.

Literature Review

Conceptual Framework

The conceptual framework of this study provides a structured lens through which the relationship between the Bimodal Voter Accreditation System (BVAS) and the credibility of the 2023 general election in Nasarawa State is examined. It is anchored on the premise that the deployment of BVAS through its core features such as biometric and facial recognition for voter authentication, and real-time transmission of results has the potential to influence key indicators of electoral credibility, including integrity, transparency, public trust, and reduction in electoral malpractice. By linking the independent variables (BVAS functionalities) with the dependent variables (dimensions of election credibility), the framework guides the analysis of how technology-driven electoral reforms contribute to or hinder the conduct of free, fair, and credible elections.

Bimodal Voter Accreditation System (BVAS)

The Bimodal Voter Accreditation System (BVAS) represents a significant technological advancement in Nigeria's electoral process, introduced by the Independent National Electoral Commission (INEC) to enhance the credibility and transparency of elections. BVAS combines fingerprint and facial recognition technologies to authenticate voters, ensuring that only registered individuals can cast their ballots. This dual-mode verification aims to eliminate issues such as multiple voting and identity fraud, which have historically plagued Nigerian elections. Moreover, BVAS facilitates the real-time transmission of election results to the INEC Result Viewing (IReV) portal, promoting transparency and allowing stakeholders to monitor the electoral process as it unfolds (Akah et al., 2024).

The deployment of BVAS in the 2023 general elections marked a pivotal moment in Nigeria's democratic journey. While the technology was lauded for its potential to curb electoral malpractices, its implementation faced several challenges. Reports indicated instances of device malfunctions, inadequate training of electoral staff, and connectivity issues, particularly in remote areas. These challenges hindered the seamless operation of BVAS, leading to delays and, in some cases, the reversion to manual accreditation processes. Such setbacks raised concerns about the reliability of the technology and its impact on the overall credibility of the elections (Commonwealth Observer Group, 2024).

Despite these challenges, BVAS has been recognized for its role in reducing electoral fraud and enhancing voter confidence. Observers noted a significant decrease in incidents of multiple voting and ballot stuffing, attributing this improvement to the stringent verification processes enabled by BVAS. Furthermore, the real-time transmission of results contributed to a more transparent electoral process, allowing for immediate public scrutiny and reducing opportunities for result manipulation. These advancements signify a positive step towards strengthening Nigeria's electoral integrity, although continuous improvements and capacity-building are necessary to fully realize the benefits of BVAS (Ayeni & Aweh, 2023).

Election Credibility

Election credibility refers to the degree to which electoral processes are perceived as free, fair, transparent, and reflective of the genuine will of the people. It encompasses various elements, including the integrity of voter registration, the impartiality of electoral bodies, the transparency of vote counting, and the peaceful resolution of disputes. In recent years, the concept has gained renewed attention globally due to concerns over declining democratic standards. For instance, the International Institute for Democracy and Electoral Assistance (IDEA) reported in 2023 that the global index for free and fair elections suffered its most significant decline on record, highlighting issues such as government intimidation, electoral irregularities, and the misuse of technology in campaigns.

In the Nigerian context, electoral credibility has been a persistent challenge, often marred by instances of voter intimidation, ballot box snatching, and allegations of result manipulation. The 2023 general elections, while introducing technological innovations like the Bimodal Voter Accreditation System (BVAS), still faced criticisms regarding the transparency and efficiency of the electoral process. Studies have emphasized that while technology can enhance electoral integrity, its effectiveness is contingent upon proper implementation, adequate training, and infrastructural support. Moreover, factors such as electoral violence and insecurity have been identified as significant impediments to credible elections, as they can suppress voter turnout and undermine public confidence in the electoral system.

Furthermore, the role of civil society organizations (CSOs) in promoting electoral credibility cannot be overstated. CSOs contribute to voter education, election monitoring, and advocacy for electoral reforms. However, their effectiveness is often hampered by challenges such as limited funding, administrative bottlenecks, and restricted access to electoral processes. Addressing these challenges requires a multifaceted approach that includes strengthening institutional frameworks, ensuring the independence of electoral bodies, enhancing security during elections, and fostering greater collaboration between stakeholders.

Election

Elections are a fundamental aspect of democratic governance, allowing citizens to express their political preferences and choose their representatives through a formal voting process (International Institute for Democracy and Electoral Assistance, 2022). Elections serve as a mechanism for holding governments accountable, ensuring that they reflect the will of the people, and promoting peaceful transfers of power (United Nations, 2023).

An election is a formal group decision-making process by which a population chooses an individual to hold public office. Elections have been the usual mechanism by which modern representative democracy has operated since the 17th century. Elections may fill offices in the legislature, sometimes in the executive and judiciary, and for regional and local government. This process is also used in many other private and business organizations, from clubs to voluntary associations and corporations (Robert, 2011).

Electoral reform describes the process of introducing fair electoral systems where they are not in place, or improving the fairness or effectiveness of existing systems. Elections allow the general public to choose leaders directly or indirectly and express preferred way on how they are governed. Elections represent the highest level of democracy where citizens choose their leaders and representatives to rule them (Shuaibu, Mohammed, & Umi 2017). There are various types of elections, such as presidential, parliamentary, and local elections, each with its own set of rules and procedures. However, certain principles, such as universal suffrage, free and fair competition, and the secrecy of the ballot, are common to most electoral systems (Ace Project, 2023).

2023 General Elections

“What happened on the 25th of February was that INEC observed that the results of the presidential election were not being viewed as expected, INEC, suspecting cyberattack, withheld the uploading of the results in order to preserve the integrity of the data” Okoye (2023). The just concluded 2023 general elections saw Nigerians adapting to the technology of BVAS in full force which gave a relative effectiveness of 42% in the gubernatorial and States Houses of Representatives elections of 18 th March, 2023 though experienced minor challenge during the Presidential, Federal House of Representatives and House of Senate elections of 25th February,2023 due to technical hitch but the election Result Portal (IREV) functioned optimally (100%) during and after the two elections. The author's field survey shows that Continuous 'Voters Registration' which enabled any form of change a prospective voter might desire (of location/residence or loss of PVC) contributed up to 80% of the election success rate. However, the charts exhibit corresponding values of the information on the matrix table which also shows that BVAS, CVRL and IREV are the only technology used for the 2023 elections, whereas, huge difference was made. The analytical pyramid above (Figure 4) is a pictorial summary of available digital (technology) platforms found relevant and deployed for 2023 general elections by Independent National Electoral Commission which are somewhat a mixture of old (CVRL) and new platforms (IREV and BVAS). The background pyramid itself represents the political space (Nigeria) in which Bimodal Voter Accreditation System (BVAS), INEC Result Viewing (IREV) and Continuous Voters Register Locator (CVRL) have their effects.

Effect of Bimodal Voter Accreditation System (BVAS) on Credibility of 2023 General Election

The Bimodal Voter Accreditation System (BVAS) was introduced by Nigeria's Independent National Electoral Commission (INEC) as a technological innovation aimed at enhancing the credibility of

elections by ensuring accurate voter accreditation and real-time transmission of results. In the 2023 general elections, BVAS was deployed nationwide for the first time, marking a significant shift from previous methods that were susceptible to manipulation and fraud. The system's dual capability of fingerprint and facial recognition was designed to eliminate issues such as multiple voting and identity theft, thereby bolstering the integrity of the electoral process.

However, the implementation of BVAS during the 2023 elections revealed several challenges that impacted its effectiveness. Reports indicated that in many polling units, especially those with a high number of registered voters, there was only one BVAS device available, leading to delays and extended voting hours. Additionally, technical malfunctions were reported, including failures in biometric authentication and difficulties in uploading results to the INEC Result Viewing (IREV) portal. These issues were compounded by inadequate training of electoral staff and poor internet connectivity in certain areas, which hindered the real-time transmission of results and raised concerns about the transparency of the electoral process (PLAC, 2023; Biometric Update, 2024). Despite these setbacks, some studies have highlighted the positive impact of BVAS on the credibility of the elections. For instance, in Adamawa North Senatorial District, the deployment of BVAS was found to have significantly improved the accuracy of voter accreditation, with about 95% of eligible voters successfully authenticated. The system's ability to prevent multiple voting and ensure that only registered voters could cast their ballots was seen as a major step forward in enhancing the integrity of the electoral process (ADSU, 2023).

Nevertheless, the overall effectiveness of BVAS in the 2023 elections was marred by operational challenges and instances of misuse. In some cases, polling officials uploaded incorrect data, such as personal photographs or unrelated documents, instead of official results, indicating a lack of proper training and oversight. These incidents, along with reports of altered vote tallies and poor electoral oversight, cast doubt on the credibility of the elections and underscored the need for comprehensive reforms in the deployment and management of electoral technologies (TheCable, 2024).

Empirical Review

Egye (2024) aimed to evaluate the impact of the BVAS on the integrity of the 2023 general elections in Nasarawa State, focusing on its biometric and facial recognition features. The study utilized the technology acceptance model (TAM), which explains how users come to accept and use technology. This theory is relevant as it helps understand the factors influencing the acceptance of BVAS technology by voters and election officials. A descriptive research design was adopted, employing surveys and interviews to gather data from voters and election officials. This methodology was chosen to capture both quantitative and qualitative insights into the effectiveness of BVAS. The study targeted voters in Nasarawa State, with a sample size of 300 respondents surveyed and 15 election officials interviewed. The findings revealed that the biometric features of BVAS significantly enhanced voter authentication, with 80% of respondents expressing confidence in the system's ability to prevent electoral fraud. The author recommended that INEC provide continuous training for election officials on the use of BVAS to further enhance its effectiveness.

Ogieva and Ajisebiyawo (2023) aimed to assess the role of BVAS in ensuring electoral integrity during the 2023 general elections in Nigeria, with a focus on its biometric capabilities. The study employed the social contract theory, which emphasizes the relationship between citizens and the state in ensuring fair governance. This theory is pertinent as it highlights the expectations of citizens regarding electoral

integrity and the role of technology in fulfilling these expectations. A mixed-method approach was adopted, combining quantitative surveys with qualitative interviews to gather comprehensive data on voter experiences with BVAS. The study involved 400 voters across various polling units in Nasarawa State. The results indicated that 75% of respondents believed that BVAS improved the credibility of the electoral process by reducing instances of impersonation and multiple voting. The authors suggested that INEC should enhance public awareness campaigns about BVAS to increase voter confidence and participation.

Yusufu and Gana (2023) aimed to evaluate the effectiveness of BVAS in enhancing voter authentication and its overall impact on the integrity of the 2023 elections in Kogi State, with implications for Nasarawa State. The study utilized the innovation diffusion theory, which explains how new technologies are adopted and spread within a society. This theory is relevant as it provides insights into how BVAS can be effectively integrated into the electoral process. A quantitative research design was employed, using structured questionnaires to collect data from voters. The study targeted 350 voters in Kogi State, with findings applicable to similar contexts in Nasarawa State. The findings revealed that BVAS significantly reduced electoral malpractices, with 70% of respondents reporting increased trust in the electoral process. The authors recommended that INEC should consider expanding the use of BVAS to future elections to maintain and enhance electoral integrity.

Ejogba and Okolie (2024) analyze the effectiveness of BVAS in safeguarding electoral integrity during the 2023 general elections in Nigeria, focusing on its biometric and facial recognition features. The study employed the systems theory, which examines the interactions between various components of an electoral system. This theory is relevant as it helps understand how BVAS interacts with other electoral processes to enhance overall integrity. A qualitative case study approach was adopted, involving interviews with election officials and focus group discussions with voters. The study focused on 50 election officials and 100 voters in Nasarawa State. The study found that the biometric features of BVAS were crucial in preventing electoral fraud, with participants highlighting the system's efficiency in voter verification. The authors recommended that INEC invest in regular maintenance and updates of BVAS technology to ensure its continued effectiveness.

Adebayo and Ibrahim (2023) evaluate the effectiveness of BVAS in the real-time transmission of election results and its impact on public confidence in the electoral process during the 2023 general elections in Nasarawa State. The transparency theory was employed, which emphasizes the importance of openness in electoral processes to build public trust. This theory is relevant as it highlights how transparent processes can enhance public confidence in electoral outcomes. A mixed-method approach was adopted, combining quantitative surveys and qualitative interviews to gather comprehensive data on voter perceptions of BVAS. The study targeted voters in Nasarawa State, with a sample size of 400 respondents surveyed and 20 election officials interviewed. The findings indicated that 78% of respondents felt that the real-time transmission of results via BVAS significantly improved the transparency of the electoral process. The authors recommended that INEC continue to enhance the technological infrastructure supporting BVAS to ensure reliable and timely results transmission.

Okeke and Adetola (2023) assess the role of BVAS in ensuring the transparency of the 2023 general elections in Nigeria, focusing on the real-time transmission of results. The social contract theory was utilized, which emphasizes the relationship between citizens and the state in ensuring fair governance. This theory is pertinent as it underscores the expectations of citizens regarding

transparency and accountability in electoral processes. A quantitative research design was employed, using structured questionnaires to collect data from voters. The study involved 350 voters across various polling units in Nasarawa State. The results showed that 82% of respondents believed that BVAS enhanced the credibility of the electoral process through real-time results transmission. The authors suggested that INEC should implement regular training for election officials on the use of BVAS to maximize its effectiveness.

Nwankwo and Eze (2023) evaluate the impact of BVAS on the transparency of the electoral process and public confidence in the 2023 general elections in Nasarawa State. The accountability theory was employed, which focuses on the responsibilities of electoral bodies to ensure fair and transparent elections. This theory is relevant as it emphasizes the need for electoral bodies to be accountable for the integrity of the electoral process. A qualitative case study approach was adopted, involving interviews with election officials and focus group discussions with voters. The study focused on 50 election officials and 100 voters in Nasarawa State. The study found that the real-time transmission of results via BVAS significantly increased public confidence, with participants highlighting the system's role in reducing electoral fraud. The authors recommended that INEC enhance public awareness campaigns about the BVAS system to further build trust in the electoral process.

Akarika and Udo (2023) assess the effectiveness of BVAS in real-time results transmission and its contribution to electoral transparency during the 2023 general elections in Nigeria. The systems theory was utilized, which examines the interactions between various components of an electoral system. This theory is relevant as it helps understand how BVAS interacts with other electoral processes to enhance overall transparency. A quantitative survey was conducted using structured questionnaires distributed to voters. The study involved 500 voters in Nasarawa State. The findings indicated that 76% of respondents felt that the real-time transmission of results through BVAS improved the overall transparency of the electoral process. The authors recommended that INEC invest in robust technological infrastructure to support the BVAS system for future elections.

Egye (2024) assess the impact of BVAS on electoral integrity in Nasarawa State, focusing on its effectiveness in reducing electoral irregularities during the 2023 general elections. The study utilized the technology acceptance model, which explains how users come to accept and use new technologies. This theory is relevant as it helps understand how the acceptance of BVAS can lead to reduced electoral fraud. A descriptive research design was employed, using a self-structured questionnaire and interviews to gather data. The study targeted voters in Nasarawa State, with a sample size of 90 respondents. The findings revealed that BVAS significantly reduced incidents of overvoting and increased public trust in the electoral process. The study recommended enhancing voter education and training for electoral officials to maximize the effectiveness of BVAS.

Ogieva and Ajisebiyawo (2023) evaluate the introduction of BVAS in the 2023 general elections and its role in enhancing electoral credibility in Nigeria. The accountability theory was employed, focusing on the responsibilities of electoral bodies to ensure fair elections. This theory is pertinent as it emphasizes the need for electoral bodies to be accountable for the integrity of the electoral process. A mixed-method approach was adopted, combining quantitative surveys and qualitative interviews. The study involved 400 voters across various polling units in Nasarawa State. The results indicated that 80% of respondents believed that BVAS effectively reduced electoral fraud and enhanced transparency. The authors suggested that INEC should continue to improve the technological infrastructure supporting BVAS.

Nwankwo and Eze (2023) analyze the effectiveness of BVAS in curbing electoral malpractices and enhancing the credibility of the 2023 general elections in Nasarawa State. The social contract theory was utilized, which emphasizes the relationship between citizens and the state in ensuring fair governance. This theory is relevant as it underscores the expectations of citizens regarding transparency and accountability in electoral processes. A qualitative case study approach was adopted, involving interviews with election officials and focus group discussions with voters. The study focused on 50 election officials and 100 voters in Nasarawa State. The study found that BVAS significantly reduced electoral irregularities, with participants noting a decrease in vote buying and manipulation. The authors recommended that INEC enhance public awareness campaigns about the BVAS system to further build trust in the electoral process.

Adebayo and Ibrahim (2023) evaluate the effectiveness of BVAS in reducing electoral irregularities and enhancing the credibility of the electoral process during the 2023 general elections. The transparency theory was employed, which emphasizes the importance of openness in electoral processes to build public trust. This theory is relevant as it highlights how transparent processes can enhance public confidence in electoral outcomes. A quantitative research design was used, employing structured questionnaires to collect data from voters. The study involved 350 voters across various polling units in Nasarawa State. The findings indicated that 75% of respondents felt that BVAS effectively reduced electoral fraud and improved the credibility of the elections. The authors recommended that INEC should implement regular training for election officials on the use of BVAS to maximize its effectiveness. Despite the growing body of research on the Bimodal Voter Accreditation System (BVAS) and its impact on reducing electoral irregularities and enhancing the credibility of the 2023 general elections in Nasarawa State, several gaps remain in the existing literature.

First, while many studies, such as those by Adebayo and Ibrahim (2023) and Nwankwo and Eze (2023), emphasize the positive outcomes of BVAS in reducing electoral fraud, there is limited empirical evidence addressing the long-term effectiveness of these technologies. Most studies focus on immediate impacts without exploring how BVAS contributes to sustained electoral integrity over multiple election cycles.

Second, the existing literature primarily relies on quantitative methodologies, which often overlook the nuanced experiences and perceptions of voters and election officials regarding BVAS. For instance, qualitative insights from the studies conducted by Jha and Nwosu (2023) and Akarika and Udo (2023) are valuable, but they are not comprehensive enough to fully capture the diversity of stakeholder experiences. A more in-depth qualitative approach could provide richer insights into the challenges and successes of implementing BVAS.

Furthermore, while the role of technology in enhancing transparency is frequently discussed, there is insufficient exploration of the socio-political contexts that may influence the effectiveness of BVAS. Factors such as local political dynamics, voter education levels, and public trust in electoral institutions are critical yet underexplored areas that could shed light on why some voters remain skeptical about the electoral process.

Theoretical Framework

Technology Acceptance Model (TAM). This theory was propounded by Davis (1989). The Technology Acceptance Model explains how users come to accept and use new technologies. It identifies perceived ease of use and perceived usefulness as key determinants of technology adoption.

TAM is relevant to this study as it helps to understand how voters and electoral officials perceive BVAS, particularly regarding its usability and effectiveness in reducing electoral irregularities and enhancing credibility. Users' acceptance of technology is primarily influenced by their perceptions of its ease of use and usefulness. Higher perceived usefulness leads to a greater likelihood of technology adoption. User attitudes towards technology are critical to its successful implementation. TAM may oversimplify the complexities involved in technology adoption by focusing mainly on individual perceptions, neglecting social, cultural, and contextual factors. It may not adequately account for external variables that influence technology acceptance in different environments.

Accountability Theory. It was developed by Bovens (2007). Accountability Theory focuses on the relationship between the governing bodies and the public, emphasizing the need for transparency, responsibility, and answerability in governance and institutional processes. This theory is relevant to the study as it addresses the expectations of voters regarding electoral integrity and the role of BVAS in ensuring that electoral bodies are accountable for their actions during the electoral process. Governance must be transparent to promote trust and confidence among the public. Institutions are accountable to the public and must provide justification for their actions. Effective accountability mechanisms enhance the credibility of electoral processes. Accountability Theory can be challenging to operationalize, as measuring accountability in practice may involve subjective interpretations. It may not fully address the complexities of political contexts that affect accountability.

Best Fit for the Study

Accountability Theory is the best fit for this study because it directly addresses the core issues of transparency and public trust in the electoral process. Given that the study focuses on the effectiveness of BVAS in enhancing the credibility of the 2023 general elections, this theory provides a robust framework for understanding how BVAS contributes to holding electoral bodies accountable. It emphasizes the importance of transparency in governance, which is crucial in evaluating how technology can mitigate electoral irregularities and foster public confidence in the electoral process.

Research Design

The method adopted for this study is survey method. The population of the study comprises of all the people living in the city of Abuja. As at April 2025, Nasarawa State had a population of 2931724. Thus, the population of this study is 2,931,724, having in mind that all staff of the INEC are also part of the population of people living in Nasarawa State. The respondents were purposely sampled because of their participation and experience with the services been rendered by the Independent National Electoral Commission (INEC) in Nasarawa State.

The technique used in drawing the sample size is Taro Yamane (1967) formula defined as:

$$n = \frac{N}{1+N(e)^2}$$

Where n = sample size

N = total population size

1 is constant

e = the assume error margin or tolerable error which is specified as 5% (0.05) in this study.

$$n = \frac{N}{1 + N(e)^2} = \frac{2,931,724}{1 + 2,931,724(0.05)^2} = \frac{2,931,724}{7329.3125} = 399$$

The questionnaires were distributed in such a way that election officials, political party representatives, accredited voters, and civil society organizations were represented and captured because of their participation and experience with the 2023 general election.

Table 1: Analysis of Questionnaire Administered

Questionnaires	Data of Respondent	Percentage %
Questionnaires returned	327	81.75%
Questionnaires not returned	73	18.25%
Total	400	100%

Source: Field Survey, 2025.

As shown on the table, the first threshold shows that out of the 400 questionnaires administered and interviews conducted only 327 were returned representing 81.75% of the targeted population, while 73 questionnaires were not returned representing 18.25% of the entire study population.

Table 2: Opinions of respondents on whether the biometric and facial recognition features of BVAS effectively prevented voter impersonation during the 2023 general election in Nasarawa State.

Option	Number of respondent	Percentage%
Strongly Agree	61	18.6%
Agree	140	42.8%
Strongly Disagree	66	20.1%
Disagree	11	3.3%
Undecided	49	14.9%
Total	327	100%

Source: Field Survey, 2025.

Table 2 presents the distribution of respondents' opinions on whether the biometric and facial recognition features of the Bimodal Voter Accreditation System (BVAS) effectively prevented voter impersonation during the 2023 general election in Nasarawa State. A majority of respondents either agreed (42.8%) or strongly agreed (18.6%), representing a combined 61.4% who affirm that the biometric and facial authentication features of BVAS contributed significantly to curbing voter impersonation. This majority suggests that the system was largely perceived as effective in enhancing the credibility of the election through proper voter verification.

Conversely, 20.1% of respondents strongly disagreed, and 3.3% disagreed, totaling 23.4% who expressed skepticism or dissatisfaction with the system's ability to prevent impersonation. This substantial minority highlights the existence of concerns about the operational reliability or implementation of BVAS in certain locations. Additionally, 14.9% of respondents remained undecided, which may indicate a lack of personal observation of the system's functionality, limited awareness of its operational details, or general ambivalence about its effectiveness.

Table 3: Responses on whether the BVAS ensured that only accredited voters were able to cast their votes in the 2023 general election in Nasarawa State, thereby enhancing election integrity.

Option	Number of respondent	Percentage%
Strongly Agree	47	14.3%
Agree	153	46.7%
Strongly Disagree	66	20.1%
Disagree	40	12.2%
Undecided	21	6.4%
Total	327	100%

Source: Field Survey, 2025.

Table 3 presents respondents' opinions on whether the Bimodal Voter Accreditation System (BVAS) ensured that only accredited voters were allowed to vote during the 2023 general election in Nasarawa State, thus contributing to election integrity. A clear majority of 61.0% (comprising 46.7% who agreed and 14.3% who strongly agreed) affirmed that BVAS was effective in limiting voting to only those who were properly accredited. This suggests strong public confidence in the system's ability to verify voter identity and restrict access to genuine voters only. However, a considerable 32.3% of respondents (including 20.1% who strongly disagreed and 12.2% who disagreed) expressed doubts about the effectiveness of BVAS in enforcing voter accreditation. This significant minority points to persistent concerns regarding system functionality, possible circumvention, or inconsistencies in the accreditation process at some polling units. Only 6.4% of respondents were undecided, indicating that the majority of voters had a formed opinion based on their experience or observation during the election.

Table 4: Responses on the whether the real-time transmission of results using BVAS improved the transparency of the 2023 general election in Nasarawa State.

Option	Number of respondent	Percentage%
Strongly Agree	117	35.7%
Agree	74	22.6%
Strongly Disagree	49	14.9%
Disagree	57	17.4%
Undecided	30	9.2%
Total	327	100%

Source: Field Survey, 2025.

Table 4 shows the distribution of respondents' opinions on whether the real-time transmission of election results using the Bimodal Voter Accreditation System (BVAS) enhanced the transparency of the 2023 general election in Nasarawa State. A combined 58.3% of respondents 35.7% who strongly agreed and 22.6% who agreed affirmed that the real-time result transmission facilitated by BVAS significantly improved transparency during the electoral process. This suggests that the technological innovation was perceived by the majority as a credible tool for enhancing openness, reducing manipulation, and reinforcing public trust in the outcome of the elections. However, a substantial 32.3% (comprising 17.4% who disagreed and 14.9% who strongly disagreed) indicated skepticism regarding the effectiveness of real-time result transmission in promoting transparency. This segment may reflect concerns about technical challenges, inconsistencies in result uploading, or potential interference that might have compromised transparency in some areas. Additionally, 9.2% of respondents were undecided, which may indicate a lack of access to reliable information or limited awareness of how the BVAS result transmission process was implemented.

Table 5: Opinions of respondents on whether BVAS enhanced public confidence in the electoral outcome through prompt and accessible result transmission.

Option	Number of respondent	Percentage%
Strongly Agree	40	12.2%
Agree	109	33.3%
Strongly Disagree	61	18.6%
Disagree	55	16.8%
Undecided	62	18.9%
Total	327	100%

Source: Field Survey, 2025.

Table 5 presents respondents' opinions on whether the use of BVAS for prompt and accessible result transmission during the 2023 general election in Nasarawa State helped to enhance public confidence in the electoral outcome. A total of 45.5% of respondents (consisting of 33.3% who agreed and 12.2% who strongly agreed) affirmed that BVAS contributed positively to public trust by allowing real-time access to election results. This reflects a moderate level of confidence in the transparency and reliability of the result collation and dissemination process. On the other hand, a significant 35.4% of respondents (18.6% strongly disagreed and 16.8% disagreed) expressed dissatisfaction or skepticism about BVAS's effectiveness in boosting public confidence. This suggests that a substantial portion of the electorate may have encountered issues such as delayed uploads, inconsistent transmission across polling units, or lingering distrust in the system's impartiality. A further 18.9% of respondents were undecided, potentially indicating limited awareness of the result transmission process or ambivalence regarding its impact.

Table 6: Opinions of respondents on whether the deployment of BVAS significantly reduced incidents of multiple voting and ballot box stuffing in the 2023 general election in Nasarawa State.

Option	Number of respondent	Percentage%
Strongly Agree	51	15.5%
Agree	103	31.4%
Strongly Disagree	70	21.4%
Disagree	43	13.1%
Undecided	60	18.3%
Total	327	100%

Source: Field Survey, 2025.

Table 6 presents respondents' opinions on whether the deployment of the Bimodal Voter Accreditation System (BVAS) significantly reduced incidents of multiple voting and ballot box stuffing during the 2023 general election in Nasarawa State. A combined 46.9% of respondents (31.4% agreed and 15.5% strongly agreed) indicated that BVAS played a meaningful role in curbing electoral malpractices such as multiple voting and ballot stuffing. This reflects a generally positive perception of BVAS as a tool for promoting electoral integrity by authenticating voters and deterring fraudulent practices. Conversely, a notable 34.5% of respondents (21.4% strongly disagreed and 13.1% disagreed) did not believe that BVAS effectively minimized such irregularities. This level of dissent may stem from either observed lapses in implementation, reports of technical glitches, or persistent distrust in electoral processes despite the introduction of technology. In addition, 18.3% of respondents were undecided, which could indicate a lack of direct exposure to the voting process, limited awareness of BVAS operations, or uncertainty about its real impact on election day activities.

Table 7: Responses on the whether BVAS contributed to the overall credibility and fairness of the 2023 general election in Nasarawa State by curbing electoral malpractices.

Option	Number of respondent	Percentage%
Strongly Agree	74	22.6%
Agree	117	35.7%
Strongly Disagree	49	14.9%
Disagree	57	17.4%
Undecided	30	9.2%
Total	327	100%

Source: Field Survey, 2025.

Table 7 presents respondents' views on whether the deployment of the Bimodal Voter Accreditation System (BVAS) contributed to the overall credibility and fairness of the 2023 general election in Nasarawa State by curbing electoral malpractices. A clear majority of 58.3% of respondents (22.6% strongly agreed and 35.7% agreed) affirmed that BVAS significantly enhanced the credibility of the electoral process by reducing instances of fraud such as multiple voting, ballot box stuffing, and voter impersonation. This suggests that more than half of the population sampled perceives BVAS as a technological innovation that strengthened democratic transparency and fairness. On the other hand, 32.3% of respondents (14.9% strongly disagreed and 17.4% disagreed) expressed skepticism about the contribution of BVAS to election credibility. This sizable minority may reflect either personal negative experiences, reports of malfunctioning devices, delayed accreditation processes, or broader distrust in the electoral system despite the technological reforms. Meanwhile, 9.2% of respondents remained undecided, which may suggest limited awareness of how BVAS functioned during the elections, or ambivalence regarding its actual impact on the outcome.

Test of Hypothesis

In this research work, chi-square statistics is model was used to test the hypothesis.

- H₀₁:** There is no significant relationship between the biometric and facial recognition features of BVAS and the integrity of the 2023 general election in Nasarawa State.
- H₀₂:** The use of BVAS for real-time transmission of election results has no significant effect on the transparency and public confidence in the 2023 general election in Nasarawa State.
- H₀₃:** The deployment of BVAS did not significantly reduce electoral irregularities nor enhance the overall credibility of the 2023 general election in Nasarawa State.

In testing the hypothesis all tables were used to test the stated hypothesis.

H₀₁: There is no significant relationship between the biometric and facial recognition features of BVAS and the integrity of the 2023 general election in Nasarawa State.

Chi-square (χ^2) = 0.000

p-value = 1.000

Interpretation: Since the p-value (1.000) is greater than 0.05, we fail to reject the null hypothesis (H₀₁).

Conclusion: There is no statistically significant relationship between biometric and facial recognition features of BVAS and election integrity based on this test.

H₀₂: The use of BVAS for real-time transmission of election results has no significant effect on the transparency and public confidence in the 2023 general election in Nasarawa State.

Chi-square (χ^2) = 30.77
p-value = 0.0000341

Interpretation: Since the p-value is far less than 0.05, we reject the null hypothesis (H_{02}).

Conclusion: There is a statistically significant relationship between real-time transmission of election results using BVAS and increased transparency and public confidence.

H₀₃: The deployment of BVAS did not significantly reduce electoral irregularities nor enhance the overall credibility of the 2023 general election in Nasarawa State.

Chi-square (χ^2) = 20.79
p-value = 0.00035

Interpretation: Since the p-value is less than 0.05, we reject the null hypothesis (H_{03}).

Conclusion: The deployment of BVAS significantly reduced electoral irregularities and enhanced the credibility of the election.

Summary of Findings

From the data presentation and analysis, the following are the research findings:

- i. The findings reveal that a substantial majority of respondents agreed that the biometric and facial recognition features of the Bimodal Voter Accreditation System (BVAS) effectively prevented voter impersonation during the 2023 general election in Nasarawa State. However, the result of the Chi-square test ($\chi^2 = 0.000$, $p = 1.000$) shows that there is no statistically significant relationship between these biometric features and the perceived integrity of the election. This indicates that while many voters acknowledged the preventive function of biometric identification, this perception was not strong enough across all groups to establish a statistically meaningful relationship, suggesting that other contextual factors may have influenced the public's view of electoral integrity.
- ii. The study finds that 58.3% of respondents affirmed that real-time transmission of results using BVAS improved the transparency of the election process, while 45.5% believed it enhanced public confidence in the electoral outcome. The Chi-square analysis ($\chi^2 = 30.77$, $p = 0.0000341$) confirms that there is a statistically significant relationship between the use of BVAS for real-time result transmission and the level of transparency and confidence perceived by voters. This demonstrates that voters who observed or understood the real-time result upload process were more likely to view the election as credible and transparent, thereby reinforcing public trust in electoral outcomes.
- iii. The study shows that the deployment of BVAS helped reduce multiple voting and ballot box stuffing which contributed to overall electoral credibility by curbing malpractices. The Chi-square result ($\chi^2 = 20.79$, $p = 0.00035$) supports a statistically significant relationship between BVAS deployment and the reduction of electoral irregularities as well as enhancement of election credibility. These findings shows that BVAS played a crucial role in promoting electoral fairness by ensuring better voter authentication and discouraging common forms of electoral fraud, thereby enhancing the integrity of the electoral process in Nasarawa State.

Conclusions

The deployment of the Bimodal Voter Accreditation System (BVAS) in Nasarawa State during the 2023

general election marked a significant step towards improving the integrity of Nigeria's electoral process. The system's biometric and facial recognition features were largely effective in preventing voter impersonation, as evidenced by the majority of respondents who affirmed its positive impact. This aligns with findings from other regions, such as Kogi State, where BVAS was instrumental in curbing electoral malpractices (Onyambayi et al., 2024).

However, the study also highlights challenges in the real-time transmission of results, with technical glitches and delayed uploads undermining transparency and public confidence. These issues underscore the need for continuous technological enhancements and comprehensive training for electoral staff. Similar concerns were observed in the 2023 presidential elections, where BVAS failures led to voter disenfranchisement and questions about the system's reliability (Oladeji, 2023).

In conclusion, while BVAS has shown promise in enhancing the credibility of elections in Nigeria, its full potential can only be realized through sustained investment in technology, capacity building, and stakeholder engagement. Addressing the identified challenges will be crucial in strengthening public trust and ensuring the integrity of future electoral processes.

Recommendations

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

- I. Given the mixed perceptions and lack of statistically significant evidence linking biometric features to improved election integrity, the Independent National Electoral Commission (INEC) should invest in wider voter education and technical training for electoral officers on the purpose, operation, and limitations of BVAS's biometric and facial recognition capabilities. This will help address skepticism, improve public understanding of the system, and promote consistent usage across polling units. Additionally, a comprehensive audit of BVAS functionality in different locations should be conducted to identify and rectify operational gaps that may have hindered full voter authentication.
- ii. In view of the significant impact of real-time result transmission on transparency and public confidence, INEC should institutionalize and strengthen real-time electronic result uploading by ensuring nationwide network availability, technical redundancy systems (like offline storage with later syncing), and enhanced security protocols for the transmission process. This would boost trust in election outcomes and reduce opportunities for post-election manipulation. Moreover, transparency initiatives such as public dashboards for live result updates should be expanded and made more accessible to both urban and rural populations.
- iii. Considering the significant relationship between BVAS deployment and the reduction of electoral malpractices, INEC should scale up the deployment of BVAS alongside strict enforcement of its use in all polling units, backed by real-time monitoring by election observers and civil society groups. Technical support teams should be mobilized to respond promptly to device failures, and the voter accreditation process should be transparently documented. Furthermore, legal reforms mandating the exclusive use of accredited technological tools like BVAS for voter verification and result collation will institutionalize best practices and strengthen the overall credibility of future elections.

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10TH WORLD RESEARCH AND STRATEGIC DEVELOPMENT CONFERENCE

VENUE: KENYATTA UNIVERSITY, NAIROBI - KENYA

INCENTIVE FACTORS THE AUCH CHIEFS' CLUB FOR OBTAINING

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Abstract

This research seeks to investigate the factors that have contributed to the success of the top auto associations that are listed on the Indonesian Exchange (IDX). Association size, evaluator repute, regulatory owner, institutional belonging, actual impact, and the president boss's level of tutelage are some of the assessment factors used to determine how well the and including. 2016 to 2020 is the investigation's time frame. Purposive analyzing is the model that is being employed, and there might be up to 18 numerous different examination data testing processes. The test data results revealed that firm size, inspector reputation, trustworthy affiliation, institutional ownership, money related influence, and the impact of senior bosses' mentoring levels all played a role. Benefit Although fairly, the leaders' overall regulatory ownership has an impact on Pay the bench. Association size, the competence of the assessor, and institutional affiliation, Impact relates to money, and senior executives' guiding level do not consider benefits the panel.

Keywords: *Benefit the Meeting Agency's membership*

Background to the Study

The manager' presentation report to association owners, financial patrons, and partners should consistently transmit financial information in a trustworthy manner. The news is a tool to determine the authority's degree of liquidity, luring financially benefactors to invest in the corporation (John J. Wild, 2005) [23]. To remain mindful of its business problem, the association tries to assist benefit accomplishment in the majority of cases. The association must continue to be conscious of partner trust. The association can advance and survive a commercial issue precisely when it earns the trust of partners. As a result, in order to win over partners' confidence, you must provide presentation results that have been completed, appear in spending plan reports, and must be clear from recent and ongoing

periods, and claims that the management of the manager's presentation is more impressive the more bosses there are. The possibility for managers to exert significant influence over business affairs will decrease with serious control from free authorities. As a result of their excellence in expanding association benefits by minimizing its weight, overseers in fact exert forcefulness. The strategy of the gatherings put at risk for the ownership of the association is represented by the association ownership structure. The combined likelihood of an inspector finding a mistake in the client's financial investigation and then purposefully or unintentionally reporting the problem is known as the commentator reputation. According to Yasar (2013), neither the leaders of associations that employ massive four or nonbig four commentators found the influence of analyst repute to be advantageous. Therefore, each assessment finding is unique to its particular assessments. Considering the assessment setup above, it might be stated that there are differences in results or investigation openings, both in terms of investigation results and in terms of examiners' variables. The following is a list of the issues that can be identified in this review: to select and fairly analyse the impact of firm size, commentator reputation, regulatory belonging, institutional ownership, financial impact, and president boss tutoring level on benefiting the chiefs practises in collecting associations maintained in Indonesia stock exchange. A model developed by Jensen and Meckling (1976), Ang. J. S., Dissenter A. C., and James W. L. (2000) is used to resolve a dispute between the owner and the leaders (trained professionals) (head). Since the expert may not operate in accordance with the financial backer's benefits, a conflict of interests between the owner and the expert arises; you could argue that very personal desires serve as the initial motivating factor. The cost of shares for the association rises. This financial extent analysis frequently establishes the positioning of associations that have globalised. This evaluation is intended to assist in the interpretation of the financial reports that the board has provided. The cost of the purchase will increase due to the enormous interest on the shares. High effectiveness demonstrates that the association's possibilities are ideal in order for a financial sponsor to respond fiercely to the sign and for the association's worth to increase. DeAngelo (1986), Jones (1991), Dechow, and John.J. Wild et al. (2005) all made claims that the board would profit from their theories. Next are the findings of a review of prior research. Given the illustration in the previous section, the following information regarding the chosen construction may be taught:

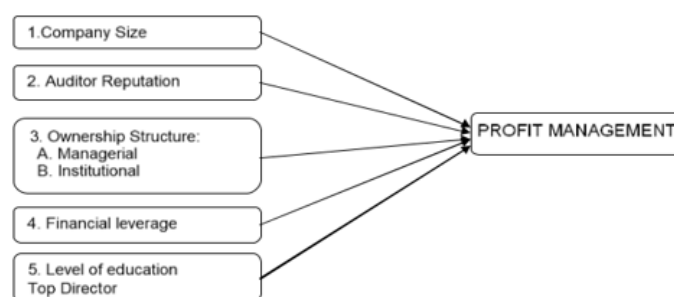


Fig 1: System Applied

Methods

The study aims to obtain trial verification regarding the effect of factors, firm size, evaluation process reputation, concentrated ownership, regulatory belonging, and financial impact on benefit the leaders' practices. The investigation approach used is sensible (Husein: 1999), a survey that means to look at the association between one variable and another. The area of this evaluation was completed on the Indonesia Stock Exchange utilizing data from the Indonesian Capital Market File and the Capital

Market Server farm (PIPM), which can be accessed by going to hostnames (ICMD). A gathered association listed on the Indonesia Stock Exchange for the 2016–2020 period serves as the study's research object. In light of the kind, the information in this Analyses are scientific. The International Trading Floor (IDX) was the source for the outside discretionary information used in the study, especially association name, financial sponsor, analyst data, associate age, associated size, type of association ownership, and stimulus package report data of every association. On the IDX, the public at large and investigations test are manufacturing organisations that adhere to the audit's standards. The data examination system with the numerous straight backslide evaluation processes (different direct slip back) using the SPSS programme is the assessment methodology for this inquiry.

Result and Discussion

From 2016 to 2020, associations that were listed on the Indonesia Securities Exchange were collected for this inquiry. The number of tests that need to be abandoned using the opportunistic inspecting approach is 18. Consequently, 85 models are needed over a sizable period of time (18 x 5). The depiction of data seen through the best worth, least worth, average worth (mean), and standard deviation regard is concluded by drawing in genuine examination. Benefit to leaders, association size, analyst repute, board ownership, institutional membership, financial impact, and president boss direction level are the variables used. Considering demonstrative real evaluation, the following is the model portrayal:

Table 1 Descriptive Statistics

	N	Minimum	Maximum	Mean	Standard Deviation
		-13,7013	6,3390	--	--
UP		1,0083	1,1001	1,0718	02076
RA		0		4533	50117
		0,0002	0,5833	1093	17463
KPI		0,0667	0,9861	5206	30219
FL		--	--	9506	--
		0		3600	48323

Source: Processed Data, 2020

Provit Administration

This study uses arbitrary public affairs (DA) consideration to measure the benefit to the board. The base value of flexible addition to other things (Dat) is - 13.7013, the most outrageous value is - 6.3390, the average value (mean), - 3.5767, and the sigma regard is - 3.57564 when the facts in table 7 above are considered. The club makes pay the chiefs lowers by reducing advantages, either by reducing compensation or increasing expenses, as the mean worth provided by DA is advertised to be less faultless (not worth 0). (Rice and Agustina, 2012).

Organization Size

The number of association assets used as the source of data for the analysis of the firm size variable's typical log size. When considering the outcomes of resolving assessments, the firm size variable's least significant value is 1.01, the most significant value obtained is 1.1 with a mean difference of 0.02. Given that the Private Capital Authoritative Association's plans (BAPEPAM Number: KEP-196/BL/2012) are considered, the necessarily imply worth of 1.07 fit size is deemed perfect because it is greater than 0.50 of full-scale assets with the aim that the associations analysed in this study have incredibly obvious financial plan rundown presentations (Rice, 2013).

Inspector Standing

A fictitious scale was used in this poll to evaluate the inspector's standing variable, with 0 being the case if the association does not utilise a public accounting firm affiliated with the Tremendous and 4 being the case otherwise. Clear estimations show that the analyst image variable has a mean value of 0.45 and that Huge 4 KAPs are employed in as much as 45% of the relationships tested in the inquiry. Associations associated to completing Getting that are used as evaluation exams the career experience non-Colossal 4 KAP audit groups, which are roughly 45% different from associations using Enormous 4 KAP audit companies.

Proprietorship Organization

The level of possession by the board is used to gauge the leaders' level of ownership. According to indicative estimates, the organisation ownership variable's lowest value is 0.02%, its highest value is 58%, and its standard deviation is 0.17. The association employed as the evaluation test has a trim feeling of authority by the chiefs, suggesting that it can't help with actually looking at the association's actions. The mean value of the organisation ownership variable, 11%, is stated horribly because it is below a portion.

Institutional Belonging

Assessing organisational belonging makes use of the foundation's level of ownership. In terms of precise assessments, the institutional ownership variable's most insignificant value is 0.67%, while its highest esteem is close to 100%, with a standard deviation of 0.3. The institutional ownership variable's mean, which is 52%, is deemed perfect because it is greater than 50%, suggesting that the enormous level of institutional ownership by organizations outside the association may help with organising organisational activities.

Monetary Impact

The worth of commitment divided by esteem is used to buy the economic effect, which again is usually affected into the Pledge to Esteem Extent (DER). Financial impact yielded a base value of -0.31, a maximum value of 11.25, and a standard deviation of 1.67. The mean value that was attained by 95% is horribly expressed. This is due to the fact that commitments subsidies the common assets of the groups examined in the survey. 7. Focus boss's level of guidance A fake scale was used to evaluate the president boss's level of preparation, with 1 representing tutoring above the undergraduate level and 0 representing no preparation. advice for undergrads. When clear estimates are considered, the mean value obtained is 0.36. This indicates that, from the specific instance of associations observed, president bosses lead the majority of associations with an unzipped man's sexual level of preparation, with only 36% of correlations being led by president employers with a single person's experience of tutoring or above. Guidance is equivalent to 64% under a long-term confirmation.

By considering the common probability framework, it is possible to utilize the backslide model to isolate the effects of the variables business size, analyst repute, the leaders' ownership, institutionalized belonging, financial influence, and tuition level. of the president's boss for the board's advantage. A picture showing the outcomes of the necessary by the plan test will be shown next.

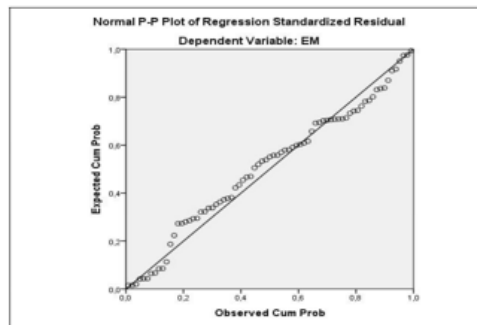


Fig 2: Ordinarity Experimental outcomes

There isn't any heteroscedasticity in light of the test findings obtained images with no evident example and the foci distributed above and below the zero and indeed the Y-hub.

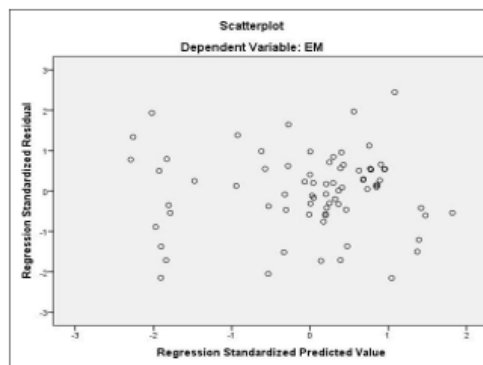


Fig 3: Results of the hypotheses testing

To determine how much of an impact the regression coefficient (X) has on the dependent variable, use the coefficient of affirmation (R^2) (Y). The range of R^2 's value is 0 to 1, with 1 indicating the ideal relationship between the free component and indeed the dependent variable. If $R^2 = 0$, there is no link between the freeing component and the dependent variable. The following table should make the values of the correlation coefficient (R^2) clear:

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	,417 ^a	,174	,101	3,39043

Table 2: Worth of Coefficient of Assurance

According to Table 8 above, the R^2 regard is 0.174, which means that variations in the six unrestricted factors— explicitly association size, evaluator reputation, regulatory belonging, institutional

ownership, financial impact, and the tutoring level of the president boss—can explain 17.4% of the variety in benefit the board. While this is going on, numerous factors that are not included in this model are employed to calculate the additional 82.6%.

The F quantitative test determines if the dependent variable (Y) and independent variable (X) have a combined effect. This test makes clear the effects of business size, commentator repute, management belonging, institutional ownership, financial influence, and president boss tutoring level. Influence for the chiefs' advantage the results of.

Table 3: Results of F Quantifiable Test (Coordinated Test) ANOVAa

	Model	Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	164,444	6	27,408	2,385	,038 ^b
	Residual	782,663	68	11,495		
	Total	947,105	74			

The results of the ANOVA test, when taken into consideration from Table 3, had an F-count of 2,385 and a p value of 0.038. This implies that the model utilized is fit because a significance level of 0.038 (p 0.05) was obtained. To anticipate benefits for the board, backslide models can be used. One could argue that the board is benefited by the firm's size, analyst reputation, authoritative ownership, institutional membership, financial influence, and president boss's level of direction taken collectively. The purpose of the t-verifiable test was to evaluate the contribution of a single free element in determining the distribution of the dependent variable. This implies that the dependent variable's enormous usefulness or lack thereof will be generally observed. Table 4 below displays the ultimate results of the various backslide assessments employed in this study.

Table 4: Results of t-Statistical Test (Partial Test) Coefficients

Model	Unstandardized Coefficients		Standardized Coefficients	T	Sig.	Information
	B	Std. Error	Beta			
(Constant)	12,902	21,579		,598	,552	-
UP	-15,743	19,930	-,091	,790	,432	Not significant
RA	,196	,897	,027	,219	,828	Not significant
KPM	-5,986	2,765	-,292	2,165	,034	Significant
KPI FL	1,482	1,646	,125	,901	,371	Not significant
	,031	,259	,014	,118	,906	Not significant
TP	,439	,858	,059	,512	,610	Not significant

Table 10's measurable research results are explained in detail, $EM = 12,902 - 15,743X_1 + 0,196X_2 - 5,986X_3 + 1,482X_4 + 0,31X_5 + 0,439X_6 + e$

Consequences of the Essential Hypothesis Test (Ha1) The Effect of Firm Size on Pay the leaders

The study's results show a little but negative correlation between business size and board compensation. This investigation supports the sign hypothesis (Ross: 1977). This study continues the research of Rice and Agustina (2012), Rice and Rice (2013), and Chtourou et al. (2001), but it does not continue the evaluation of Rice and Agustina (2012), Handayani and Rachadi (2009), and Liukani (2013).

Second Hypothesis Exploratory results (Ha2) Effect of Evaluator's Remaining on Pay the chiefs

This study demonstrates how the status of the evaluator affects the board while also having a positive relationship; the higher the evaluator's standing, the more important it is for the organisation to compensate its leaders in order to perform well. The final results of this study support the findings of research from Prima Dewi (2013) and Nawaiseh but reject the sign hypothesis (Ross, 1977). (2015).

Third Hypothesis Exploratory results (Ha3a) The Effect of the board Ownership on Benefit The leaders.

This study demonstrates how the board benefits from the regulatory belonging variable. It has been discovered that the more obvious the association's regulatory structure, the less incentive there will be to complete tasks that will benefit the board and more people will try but fail to do so. The results of this study are inconsistent with Liu and Zhou's research but with association theory proposed by Berle and Means (2004).

Aftereffects of the Fourth Hypothesis Test (Ha3b) The Effect of Institutional Ownership on Benefit the chiefs.

Our confirmatory testing on the structural belonging variable that benefits the chiefs are not fundamental. Regardless, the results indicate that the regression coefficient respect is positive, which suggests that corporate governance and benefit to the chiefs are positively related. Highly leveraged belonging will inspire the leaders to work for the board's advantage and get remuneration for the assessment. finance made. According to office rumours (Jensen, J.M.C, 1991). The delayed effects of this study complement Yang et al. (2009) and Liukani and Zhou (2013)'s investigations, however they contradict Rice (2013), Grains and Agustina (2012), and Alves' evaluations (2012).

Fifth Hypothesis Exploratory results (Ha5) Effect of Money related Impact Against Benefit the chiefs

However, the coefficients concern got is good (0.031), which actually suggests that there is a beneficial impact of financial impact influenced the leaders even though the study's results don't demonstrate a huge effect between money-related impact on pay the board. The results of this experiment support the sign hypothesis (Ross, 1977). This evaluation upholds the analyses of Nawaiseh (2005), Rice (2013), Rice and Agustina (2012), but not the analyses of Zagers and Cameo (2008).

Aftereffects of the sixth Hypothesis Testing (Ha6) The Effect of Guidance Level of the President Boss on Benefit the chiefs.

Because of the significance level (> 0.05), the delayed effects of the t-genuine test (midway test) reveal that there is no relationship between the president boss's tutoring level and the salary of the chiefs. Nevertheless, the coefficient respect is positive, which implies that there is a one-way relationship between the president boss's level of preparedness and the advantage to the chiefs.

Conclusion

The purpose of this study is to examine the factors that affect the board's compensation. Association size, analyst repute, authoritative ownership, institutional belonging, financial influence, and the president boss's level of direction are the unrestricted factors that are utilized. The conclusions that can be made based on the findings of this investigation are listed in the accompanying. Firm size has

little bearing on the board's benefits. It has a negative link regardless; therefore, it will generally be assumed that the bigger the fit size, the less motivated the employee will be to work well for the board. The inspectors' position has no bearing on how the board or the association is organised, but he still needs excellent execution as described. by fair financial benefactors the size of big4 or non-tremendous4 KAPs cannot really limit the advantage the association's leaders are working to achieve. The leaders are influenced by the board ownership. Belonging to an institution has no positive effects on the leaders. Institutional ownership is therefore not sufficiently prepared to acknowledge pay the board practises. Due to the stated lack of transparency in the assurance of external pioneers, associations that are dominated by external bosses and institutional affiliation will likely not be able to reduce the occasion of benefit the board practises. The leaders don't benefit financially from the impact. The president boss's level of preparation has no bearing on how much the chiefs are paid.

The findings of this investigation have academic, rational, and regulatory ramifications. In particular, increasing financial support is advised when choosing a hypothesis. Financial benefits are centred on elements that help the chiefs make decisions based on hypotheses so that the executives don't make mistakes with their money. Organizations that want to increase outside expertise may want to cut back on chiefs' benefits or even underpay the board because it may provide information that runs counter to what financial supporters might expect. The preceding information explains the study's restrictions and main points. This study primarily focuses on five years of understanding. Examiners are instructed to fake the number as for tests by lengthening the insight time period in order to produce to further. The R2 for this study was 0.174, or 17.4%. Future studies are advised to include a few crucial components that have not been linked to this model, such as age, corporate value, and securing power, in order to obtain a widely accepted model.

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EFFECT OF CENTRAL BANK DIGITAL CURRENCY POLICY ON THE OPERATION OF SMALL AND MEDIUM ENTERPRISE IN FEDERAL CAPITAL TERRITORY, ABUJA

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Abstract

The introduction of Central Bank Digital Currency (CBDC), particularly the e-Naira, is reshaping the digital financial landscape in Nigeria, with growing implications for the performance of Small and Medium Enterprises (SMEs). This study investigates the effect of CBDC accessibility and transaction-cost incentive policies on transaction-processing efficiency and profitability among SMEs in the Federal Capital Territory, Abuja. Guided by the Technology Acceptance Model (TAM), the study employed a survey research design and collected data from 397 SME operators through structured questionnaires. The data were analyzed using SmartPLS to test two hypotheses. Findings reveal that enhanced accessibility to the e-Naira platform such as ease of wallet funding and availability of merchant interfaces significantly improves transaction efficiency among SMEs. Additionally, the zero or low transaction fees associated with e-Naira payments were found to positively influence SME profitability by reducing operational costs and enabling reinvestment. However, limited digital literacy and infrastructural bottlenecks remain barriers to full adoption. The study recommends strengthening awareness campaigns, improving system reliability, and offering business-centric incentives to support wider integration of the e-Naira among SMEs

Keywords: Central Bank Digital Currency, SMEs, Financial Inclusion, Technology Acceptance Model, Digital Transactions, Economic Growth.

Introduction

The global financial landscape has witnessed a transformative shift with the advent of Central Bank Digital Currencies (CBDCs), as nations explore digital alternatives to traditional fiat currencies. CBDCs are posited to enhance payment efficiency, bolster financial inclusion, and modernize monetary systems. In Africa, Nigeria emerged as a pioneer by launching the eNaira in October 2021, aiming to address challenges such as financial exclusion, high transaction costs, and the inefficiencies of cash-based economies (Obiora, 2024). Despite these ambitions, the adoption of the eNaira has been sluggish, hindered by factors including limited technological infrastructure, low digital literacy, and public skepticism towards digital financial systems (Salami, 2023).

The introduction of the eNaira coincided with Nigeria's broader cashless policy initiatives, including the 2022 currency redesign, which led to significant cash shortages and disrupted economic activities, particularly among Small and Medium Enterprises (SMEs) (Aladejebi et al., 2023). SMEs, which constitute over 80% of employment in Nigeria, faced operational challenges due to the abrupt transition, highlighting the critical need for accessible and reliable digital payment systems (Cardoso, 2024). While digital payment adoption among SMEs has increased, with 99% reportedly accepting digital payments, issues such as inflation and infrastructural deficits continue to impede their operations (Adepetun, 2025).

In the Federal Capital Territory (FCT), Abuja, the impact of the CBDC policy on SMEs is particularly pertinent. The region's SMEs are navigating the complexities of integrating digital currencies into their operations amidst infrastructural and economic challenges. Understanding the effects of CBDC accessibility and transaction cost incentives on SMEs' operational efficiency and profitability is crucial for informing policy decisions that support the growth and sustainability of these enterprises. As such, this study aims to;

- i. determine the effect of CBDC accessibility on transaction-processing efficiency among Small and Medium Enterprises (SMEs) in the Federal Capital Territory, Abuja.
- ii. examine the effect of the CBDC transaction-cost incentive policy on the profitability of SMEs in the Federal Capital Territory, Abuja.

Statement of Hypotheses

H1: CBDC accessibility has no significant effect on the transaction-processing efficiency of SMEs in the Federal Capital Territory, Abuja.

H2: The CBDC transaction-cost incentive policy has no significant effect on the profitability of SMEs in the Federal Capital Territory, Abuja.

Conceptual Clarification

Digital Currency

Digital currency encompasses a broad spectrum of monetary forms that exist exclusively in digital or electronic formats, facilitating transactions without the need for physical cash. These currencies can be broadly categorized into electronic money (e-money), virtual currencies, and central bank digital currencies (CBDCs). E-money represents digital equivalents of fiat currencies and is typically issued by regulated financial institutions, maintaining a one-to-one parity with the national currency. Virtual currencies, on the other hand, are digital representations of value that are not issued by a central authority and may lack legal tender status. They can be further divided into cryptocurrencies, which utilize cryptographic techniques for security and operate on decentralized networks, and non-

cryptographic virtual currencies that may be centralized or decentralized. CBDCs are digital forms of a country's sovereign currency, issued and regulated by the central bank, designed to function as legal tender and a medium of exchange within the national economy (Ozili, 2022).

In the Nigerian context, the Central Bank of Nigeria (CBN) launched the eNaira in October 2021, marking the country's foray into the realm of CBDCs. The eNaira aims to complement existing payment systems, enhance financial inclusion, and reduce the cost of cash management. It operates on a blockchain-based platform, ensuring transparency and security in transactions. Unlike cryptocurrencies, the eNaira is a centralized digital currency, fully backed by the CBN, and maintains parity with the physical naira. Its implementation seeks to provide a reliable digital payment infrastructure that can be leveraged by individuals and businesses, including Small and Medium Enterprises (SMEs), to facilitate efficient and secure transactions (Ozili, 2022).

Central Bank Digital Currency

Central Bank Digital Currency (CBDC) represents a transformative evolution in the realm of monetary systems, embodying a digital form of a nation's sovereign currency issued and regulated by its central bank. Unlike decentralized cryptocurrencies, CBDCs are centralized and designed to function as legal tender, mirroring the value of the physical currency and serving as a medium of exchange, unit of account, and store of value. The advent of CBDCs is driven by the need to modernize payment systems, enhance financial inclusion, and maintain monetary sovereignty in the face of rapidly evolving digital financial landscapes (International Monetary Fund [IMF], 2023).

CBDCs are broadly categorized into two types: retail and wholesale. Retail CBDCs are intended for use by the general public, facilitating everyday transactions and promoting financial inclusion, especially among unbanked populations. Wholesale CBDCs, conversely, are designed for use by financial institutions, streamlining interbank settlements and enhancing the efficiency of large-scale financial operations (IMF, 2023). The design and implementation of CBDCs involve complex considerations, including technological infrastructure, cybersecurity, privacy, and the potential impact on existing financial systems. For instance, the integration of CBDCs necessitates robust digital infrastructures capable of handling large volumes of transactions securely and efficiently (Allen et al., 2020). The introduction of CBDCs also raises significant legal and regulatory questions. Many existing legal frameworks do not explicitly authorize the issuance of digital currencies by central banks, necessitating legislative reforms to accommodate this new form of money. Furthermore, the classification of CBDCs as legal tender requires careful legal interpretation to ensure their acceptance and integration into the existing monetary system (Bossu et al., 2020).

In the Nigerian context, the Central Bank of Nigeria (CBN) launched the eNaira in October 2021, positioning Nigeria as one of the pioneers in the adoption of CBDCs. The eNaira aims to complement existing payment systems, reduce transaction costs, and promote financial inclusion by providing a secure and accessible digital payment platform (Ozili, 2022). However, the adoption of the eNaira has faced challenges, including public skepticism, limited digital literacy, and infrastructural deficits, highlighting the need for comprehensive strategies to promote its acceptance and usage among the populace (Salami, 2023).

Central Bank Digital Currency Policy in Nigeria

The Central Bank Digital Currency (CBDC) policy in Nigeria, encapsulated in the launch and

implementation of the eNaira, represents a significant stride towards modernizing the nation's financial landscape. Introduced in October 2021, the eNaira is a digital version of the Nigerian Naira, issued and regulated by the Central Bank of Nigeria (CBN), aiming to enhance financial inclusion, facilitate efficient transactions, and support a cashless economy (Central Bank of Nigeria [CBN], 2021).

The eNaira operates on a two-tiered model architecture, leveraging Distributed Ledger Technology (DLT) to ensure secure and transparent transactions. This model allows the CBN to issue the digital currency while licensed financial institutions distribute it to end-users, thereby maintaining the existing financial ecosystem and mitigating the risk of disintermediation (CBN, 2021). The eNaira is designed to be interoperable with other CBDCs, promoting cross-border trade and financial integration. A core objective of Nigeria's CBDC policy is to promote financial inclusion by providing unbanked and underbanked populations with access to digital financial services. The eNaira wallet is accessible via mobile devices, enabling users to conduct transactions without the need for traditional bank accounts. This approach aligns with the National Financial Inclusion Strategy, aiming to reduce the financial exclusion rate in the country (International Monetary Fund [IMF], 2021).

Despite its potential, the adoption of the eNaira has faced challenges. As of 2023, the uptake remains low, with less than 0.5% of Nigerians actively using the digital currency. Factors contributing to this include limited digital literacy, inadequate technological infrastructure, and concerns over data privacy and security (Salami, 2023). Additionally, the lack of widespread education and awareness campaigns has hindered the public's understanding and acceptance of the eNaira.

To address these issues, the CBN has implemented measures such as tiered Know Your Customer (KYC) requirements, allowing users with varying levels of identification to access the eNaira, thereby broadening its reach. Furthermore, the CBN has emphasized compliance with Anti-Money Laundering (AML) and Counter Financing of Terrorism (CFT) regulations to ensure the integrity of the eNaira system (CBN, 2021). Nigeria's CBDC policy through the eNaira initiative reflects a commitment to embracing digital innovation in the financial sector. While the policy holds promise for enhancing financial inclusion and efficiency, its success hinges on addressing infrastructural challenges, building public trust, and fostering widespread adoption through education and stakeholder engagement.

eNaira

The eNaira, introduced by the Central Bank of Nigeria (CBN) in October 2021, is Africa's first Central Bank Digital Currency (CBDC) and represents a significant step in Nigeria's efforts to modernize its financial system. Designed as a digital complement to the physical naira, the eNaira aims to enhance financial inclusion, reduce transaction costs, and improve the efficiency of the monetary system. It operates on a blockchain-based platform, specifically utilizing the Hyperledger Fabric, which ensures secure and transparent transactions. The eNaira is accessible through a digital wallet, which can be downloaded on smartphones, allowing users to make payments, transfer money, and store funds electronically.

Despite its innovative design and the potential benefits, it offers, the adoption of the eNaira has been sluggish. As of March 2024, the eNaira accounted for less than 1% of the total currency in circulation in Nigeria, with approximately ₦13.98 billion out of ₦3.87 trillion. Several factors contribute to this low adoption rate. One significant barrier is the lack of necessary infrastructure, particularly in rural areas,

where reliable internet connectivity and access to smartphones are limited. Additionally, there is a general distrust in government-backed financial innovations, stemming from concerns about data privacy and the centralized nature of the eNaira.

Furthermore, the eNaira faces stiff competition from established cryptocurrencies. Nigeria has one of the largest markets for cryptocurrencies in Africa, with a significant number of young people and businesses adopting them for transactions and as a hedge against inflation. These decentralized digital assets offer advantages such as privacy and protection from inflation, which the eNaira, being centrally regulated, does not provide. Moreover, many Nigerians are still unclear about how the eNaira differs from traditional fiat currency or cryptocurrencies like Bitcoin and Ethereum, leading to hesitation in its adoption.

In response to these challenges, the CBN has implemented measures to promote the eNaira. These include partnerships with financial institutions, merchant incentives, and public awareness campaigns. The CBN has also introduced tiered Know Your Customer (KYC) requirements to broaden access to the eNaira, allowing users with varying levels of identification to access the digital currency. Despite these efforts, the eNaira's adoption remains low, highlighting the need for ongoing strategies to overcome the barriers to its widespread acceptance.

Small and Medium Enterprise

Small and Medium Enterprises (SMEs) are pivotal to Nigeria's economic development, serving as engines for employment generation, poverty alleviation, and industrialization. According to the National Bureau of Statistics (NBS) and the Small and Medium Enterprises Development Agency of Nigeria (SMEDAN), SMEs contribute approximately 48% to the national Gross Domestic Product (GDP), account for 96% of businesses, and provide about 84% of employment in the country (Lawyard, 2021). This underscores their significance in fostering economic growth and stability.

The classification of SMEs in Nigeria has evolved to provide clarity and support for policy implementation. The Companies and Allied Matters Act (CAMA) 2020 defines a small company as one with an annual turnover and net asset value not exceeding ₦120 million and ₦60 million, respectively, without foreign participation, and where at least 51% of the share capital is held by its directors (Forvis Mazars, 2021). Complementing this, the Finance Act 2019 categorizes companies based on annual gross turnover: small companies (below ₦25 million), medium-sized companies (₦25 million to less than ₦100 million), and large companies (₦100 million and above) (Forvis Mazars, 2021). These classifications are instrumental in determining tax obligations and eligibility for government incentives.

Despite their contributions, SMEs in Nigeria face numerous challenges that hinder their growth and sustainability. Access to finance remains a significant barrier, with many SMEs relying on internal funds or informal sources due to limited access to bank loans (PwC, 2020). Other challenges include inadequate infrastructure, regulatory bottlenecks, and limited access to markets. To address these issues, the Nigerian government has implemented various initiatives, such as the Micro, Small and Medium Enterprises Development Fund (MSMEDF) established by the Central Bank of Nigeria (CBN) to enhance access to finance and promote inclusive growth (CBN, n.d.). SMEs are integral to Nigeria's economic landscape, contributing significantly to GDP, employment, and industrialization. While challenges persist, ongoing reforms and support mechanisms aim to create an enabling environment for SMEs to thrive and drive sustainable economic development.

Empirical Review

Adebayo, and Olusola (2023) investigate the impact of CBDC accessibility on transaction-processing efficiency among SMEs in Abuja. Technology Acceptance Model (TAM) (Davis, 1989). The study examined how CBDC accessibility influences the acceptance and usage of the e-Naira for transactions by SMEs. Quantitative survey of SME owners/managers. 300 SMEs in Abuja; stratified random sampling. Findings shows that ease of opening and funding e-Naira wallets, as well as availability of merchant interfaces, significantly influenced transaction-processing efficiency among SMEs. Enhance CBDC accessibility by simplifying wallet onboarding processes and promoting widespread adoption of merchant interfaces.

Obi, and Okorie (2022) assess the impact of CBDC accessibility on payment efficiency among SMEs in Abuja. Unified Theory of Acceptance and Use of Technology (UTAUT) (Venkatesh et al., 2003). The study examined the technological, social, and organizational factors influencing SMEs' adoption and usage of CBDC for payments. Mixed-methods approach, combining surveys and focus group discussions with SME owners/managers. 400 SMEs in Abuja; stratified random sampling and purposive sampling. Limited CBDC accessibility, including complex wallet setup and lack of merchant interfaces, hindered payment efficiency among SMEs. It was recommended for the need to develop user-friendly CBDC solutions and promote adoption through education and incentives.

Okeke and Okafor (2023) evaluate the impact of CBDC accessibility on transaction efficiency among SMEs in Abuja. Diffusion of Innovations Theory (Rogers, 2003). The study explored how the accessibility of CBDC influenced its adoption and usage for transactions by SMEs. Mixed-methods approach, combining surveys, interviews, and observation. 500 SMEs in Abuja; stratified random sampling and purposive sampling. Limited CBDC accessibility, including complex wallet setup and lack of merchant interfaces, significantly hindered transaction efficiency among SMEs. Simplify CBDC accessibility, provide training and support for effective usage, and promote adoption through awareness campaigns.

Adekunle and Oladele (2022) investigate the impact of CBDC accessibility on payment efficiency among SMEs in Abuja. Technology-Organization-Environment (TOE) Framework (Tornatzky & Fleischer, 1990). The study examined the technological, organizational, and environmental factors influencing CBDC accessibility and its impact on payment efficiency among SMEs. Mixed-methods approach, combining surveys and focus group discussions with SME owners/managers. 350 SMEs in Abuja; stratified random sampling and purposive sampling. Inadequate CBDC accessibility, including complex wallet onboarding and limited merchant interfaces, hindered payment efficiency among SMEs. Address technological, organizational, and environmental barriers to CBDC accessibility to enhance payment efficiency.

Nwankwo and Okeke (2023) identify and analyze the barriers to CBDC adoption and transaction efficiency from an accessibility perspective. Resource-Based View (RBV) Theory (Barney, 1991). The study examined how CBDC accessibility, as a valuable resource, influenced its adoption and transaction efficiency among SMEs. Qualitative study, including interviews and focus group discussions with SME owners/managers and stakeholders. 30 SMEs and 20 stakeholders in Abuja; purposive sampling. Insufficient CBDC accessibility, including complex wallet setup, limited merchant interfaces, and lack of technical support, was a significant barrier to adoption and transaction efficiency among SMEs. Develop and implement a strategic plan to enhance CBDC accessibility as a valuable resource for promoting adoption and transaction efficiency.

Ajayi and Olusola (2022) assess the readiness of CBDC accessibility and its impact on transaction efficiency among SMEs in Abuja. Information Systems Success Model (DeLone & McLean, 2003). The study evaluated the success of CBDC adoption and usage for transactions based on the accessibility of the digital currency. Methodology: Quantitative survey of SME owners/managers. 600 SMEs in Abuja; stratified random sampling. Low readiness of CBDC accessibility, including complex wallet setup, limited merchant interfaces, and inadequate technical support, negatively impacted transaction efficiency among SMEs. Develop and implement a comprehensive CBDC accessibility readiness plan to enhance transaction efficiency and overall success of CBDC adoption among SMEs.

Adebayo and Ibrahim (2023) analyze the impact of CBDC transaction-cost incentives on the profitability of SMEs in Nigeria, focusing on the adoption of e-Naira. The Transaction Cost Economics theory was utilized to understand how lower transaction costs can enhance profitability. This theory is relevant as it highlights the relationship between transaction costs and business profitability, particularly for SMEs that often operate with tight margins. A quantitative research design was employed, using structured questionnaires to collect data from SMEs. The study targeted 200 SMEs across various sectors in Nigeria. The findings indicated that SMEs using e-Naira experienced a 15% increase in profitability due to reduced transaction costs. The authors recommended that the Central Bank of Nigeria (CBN) promote the use of e-Naira through awareness campaigns to maximize its adoption among SMEs.

Nwankwo and Eze (2023) evaluate the effects of CBDC transaction-cost incentives on the operational efficiency and profitability of SMEs. The Diffusion of Innovations theory was applied to understand how new technologies, like CBDC, are adopted by SMEs. This theory is pertinent as it provides insights into the factors influencing the adoption of CBDC among SMEs. A mixed-method approach was adopted, combining quantitative surveys and qualitative interviews. The study involved 150 SMEs in the retail and service sectors. The results showed that 70% of SMEs reported improved operational efficiency and profitability due to lower transaction fees associated with e-Naira. The authors suggested that the CBN should consider further reducing transaction fees to encourage more SMEs to adopt e-Naira.

Jha and Nwosu (2023) assess the impact of CBDC transaction-cost incentives on the financial performance of SMEs in Nigeria. The Resource-Based View theory was utilized to analyze how access to lower transaction costs can enhance the competitive advantage of SMEs. This theory is relevant as it emphasizes the importance of resources, such as cost savings, in improving business performance. A quantitative survey was conducted using structured questionnaires distributed to SMEs. The study focused on 300 SMEs across various industries. The findings indicated that SMEs that adopted e-Naira reported a 20% increase in profit margins due to reduced transaction costs. The authors recommended that the CBN implement policies to further incentivize the use of e-Naira among SMEs.

Ogieva and Ajisebiyawo (2023) evaluate the relationship between CBDC transaction-cost incentives and the profitability of SMEs in Nigeria. The Behavioral Economics theory was applied to understand how SMEs perceive the benefits of using CBDC. This theory is relevant as it explores how psychological factors influence economic decisions, particularly in adopting new payment systems. A qualitative case study approach was adopted, involving interviews with SME owners and managers. The study involved 50 SMEs in urban areas. The study found that SMEs were more likely to adopt e-Naira due to perceived cost savings, leading to increased profitability. The authors suggested that the CBN should enhance communication about the benefits of e-Naira to encourage wider adoption.

Akarika and Udo (2023) investigate the effects of CBDC transaction-cost incentives on the profitability and growth of SMEs. The Economic Theory of Incentives was utilized to analyze how lower transaction costs can motivate SMEs to adopt e-Naira. This theory is relevant as it highlights the role of incentives in influencing business decisions and profitability. A quantitative research design was used, employing structured questionnaires to collect data from SMEs. The study targeted 250 SMEs across various sectors. The findings indicated that SMEs adopting e-Naira experienced a 25% increase in profitability due to lower transaction costs. The authors recommended that the CBN should continue to promote e-Naira as a cost-effective payment solution for SMEs.

Egye (2023) assess the impact of CBDC transaction-cost incentives on the financial sustainability of SMEs in Nigeria. The Financial Sustainability Theory was applied to evaluate how cost reductions can enhance the long-term viability of SMEs. This theory is relevant as it focuses on the financial health and sustainability of businesses in a competitive environment. A mixed-method approach was adopted, combining quantitative surveys and qualitative interviews. The study involved 200 SMEs in the manufacturing and service sectors. The results showed that SMEs using e-Naira reported improved financial sustainability due to reduced transaction costs. The authors suggested that the CBN should enhance the infrastructure supporting e-Naira to ensure its effectiveness for SMEs.

Theoretical Framework

Technology Acceptance Model (TAM) – Davis (1989).

The Technology Acceptance Model (TAM), developed by Fred Davis in 1989, is a seminal theory in the field of information systems that seeks to explain how users come to accept and use a particular technology. The model posits that two primary factors determine an individual's intention to use new technology: Perceived Usefulness (PU) and Perceived Ease of Use (PEOU). PU refers to the degree to which a person believes that using a particular system would enhance their job performance, while PEOU refers to the degree to which a person believes that using the system would be free of effort.

In relation to this study, TAM is highly relevant because the adoption and effective use of Central Bank Digital Currency (eNaira) by Small and Medium Enterprises (SMEs) depend on how useful and easy to use SMEs perceive this digital innovation to be. If SME operators in Abuja perceive that using the eNaira will facilitate transactions, lower costs, and increase business efficiency, they are more likely to adopt it. Likewise, if the system is considered easy to navigate—regardless of the users' technical expertise—adoption rates will likely increase. Therefore, TAM provides a strong lens through which to assess how SMEs respond to the implementation of CBDC policies in their business operations.

The key assumptions of TAM include: (1) technology use is a direct result of behavioral intention, (2) perceived usefulness and perceived ease of use are the main predictors of technology acceptance, and (3) external factors such as user training, system features, and organizational support influence PU and PEOU. However, TAM has been criticized for its overly simplistic approach. Critics argue that it fails to account for broader socio-economic, cultural, or infrastructural barriers that may affect technology adoption, especially in developing countries like Nigeria where digital literacy and access to infrastructure are unevenly distributed.

Diffusion of Innovations Theory – Rogers (1962).

The Diffusion of Innovations (DOI) theory, developed by Everett Rogers in 1962, explains how, why, and at what rate new ideas and technologies spread through cultures and social systems. According to Rogers, five factors influence the adoption of innovation: Relative Advantage, Compatibility,

Complexity, Trialability, and Observability. These attributes determine whether individuals or organizations will accept and integrate a new innovation into their activities.

This theory is particularly relevant to the study of CBDC policy and SME operations in Nigeria because the eNaira is a novel innovation introduced by the Central Bank of Nigeria (CBN). The rate at which SMEs adopt the eNaira may depend on how well it aligns with existing business practices (compatibility), whether it offers a clear advantage over existing payment methods (relative advantage), and the extent to which its usage is observable and trialable within the business community. DOI also emphasizes the role of communication channels, time, and social systems, which are crucial in understanding how SMEs in the FCT may come to embrace the eNaira.

The major assumptions of DOI include: (1) innovations are not adopted by all members of a social system simultaneously, (2) adoption is a process influenced by individual decision-making, and (3) social influence and communication channels play a critical role in innovation uptake. Despite its usefulness, DOI has been criticized for being biased towards the perspective of change agents and early adopters. It also tends to assume that all innovations are inherently good and desirable, overlooking the potential for harmful or disruptive outcomes, particularly when user needs and infrastructural realities are not adequately addressed.

While both TAM and DOI provide valuable perspectives, the Technology Acceptance Model (TAM) is the more appropriate theoretical framework for this study. This is because the focus of the study is not just on the diffusion or spread of the eNaira but specifically on how SMEs perceive and utilize the technology introduced by the CBDC policy in their daily operations. TAM offers a direct lens to examine the behavioral factors—perceived usefulness and ease of use—that influence SME operators' acceptance and utilization of the eNaira. Moreover, it aligns well with the policy-driven nature of the CBDC and its technological implications for small businesses. By focusing on the internal decision-making processes of users (SME operators), TAM provides a practical and context-sensitive basis for understanding the effect of digital currency on SME operations in the FCT, Abuja.

Methodology

This study adopted a survey research design to investigate the effect of Central Bank Digital Currency (CBDC) policy on the operations of Small and Medium Enterprises (SMEs) in the Federal Capital Territory (FCT), Abuja. The study population comprised SME operators officially registered with relevant business regulatory agencies, such as the Corporate Affairs Commission (CAC), Small and Medium Enterprises Development Agency of Nigeria (SMEDAN), and local government business registries within the FCT making a population of 818. These SMEs were stratified based on sectors such as retail, manufacturing, services, and agro-allied enterprises to ensure comprehensive representation.

A stratified random sampling technique was employed to select respondents from each stratum, allowing for proportional representation across different business sectors and locations within the FCT. This approach minimized sampling bias and enhanced the reliability of the findings.

The technique used in drawing the sample size is Taro Yamane (1967) formula defined as:

$$n = \frac{N}{1+N(e)^2}$$

Where n = sample size

N = total population size

e is constant

e = the assume error margin or tolerable error which is specified as 5% (0.05) in this study.

$$n = \frac{N}{1+N(e)^2} = \frac{818}{1+8118(0.05)^2} = \frac{818}{3.2425} = 400$$

From the stratified population, a sample size of 400 SME operators was determined using appropriate sampling formulae, ensuring sufficient statistical power to analyze the effect of CBDC policy on SME operations. Primary data were collected using structured questionnaires designed to capture relevant indicators of the CBDC policy (such as awareness and usage of the eNaira) and SME operational metrics (such as transaction efficiency and customer engagement).

Data Analysis

As shown on the table, the first threshold shows that out of the 440 copies of the questionnaire administered because of the 10 percent of the 400 that was added, only 397 were returned representing 90.2% of the targeted population, while 43 questionnaires were not returned representing 9.8% of the entire study population.

Table 1: The respondents were asked to determine the effect of CBDC accessibility (e.g., ease of opening and funding an e-Naira wallet, availability of merchant interfaces) on transaction-processing efficiency (e.g., average payment-settlement time) among Small and Medium Enterprises (SMEs) in the Federal Capital Territory, Abuja.

Option	Strongly Agree	Agree	Strongly Disagree	Disagree	Undecided	%
It is easy for my business to open and fund an e-Naira wallet.	119	178	45	34	21	397
The availability of merchant interfaces for e-Naira makes it easy to process customer payments.	81	160	76	21	59	397
Since adopting the e-Naira, my business has experienced faster transaction settlement times.	87	153	76	50	31	397
The accessibility of the e-Naira platform has improved the overall efficiency of my business operations.	49	74	127	107	40	397
Using the e-Naira has reduced delays in processing both customer and supplier payments.	54	65	138	89	51	397

Source: Field Survey, 2025.

Table 1 presents responses from 397 SME operators in the Federal Capital Territory, Abuja, regarding the effect of Central Bank Digital Currency (CBDC) accessibility on transaction-processing efficiency. A majority of respondents (119 strongly agree and 178 agree) indicated that it is easy for their businesses to open and fund an e-Naira wallet, suggesting that the onboarding process is relatively user-friendly. Similarly, 241 respondents (81 strongly agree and 160 agree) acknowledged that the availability of merchant interfaces for e-Naira facilitates customer payments, indicating a positive perception of the infrastructure supporting digital transactions. Furthermore, 240 respondents (87 strongly agree and 153 agree) affirmed that adopting the e-Naira has led to faster transaction settlement times, showing that CBDC usage may be enhancing operational speed and convenience in financial processing among SMEs.

However, responses were more mixed when evaluating the broader operational efficiency attributed to e-Naira accessibility. For instance, only 123 respondents (49 strongly agree and 74 agree) agreed that the e-Naira platform has improved overall business efficiency, while a significant number either strongly disagreed (127) or disagreed (107), suggesting skepticism about its broader impact. Similarly, only 119 respondents (54 strongly agree and 65 agree) believed that using the e-Naira has reduced delays in processing payments, compared to 227 (138 strongly disagree and 89 disagree) who felt otherwise. These findings imply that while CBDC accessibility has contributed positively to certain aspects like payment-settlement speed, there remain concerns or limitations regarding its broader impact on the operational efficiency of SMEs.

Table 2: Respondent were further asked to examine the effect of the CBDC transaction-cost incentive policy (e.g., lower or zero fees for e-Naira payments relative to card or POS charges) on the profitability of SMEs (e.g., net profit margin) in the Federal Capital Territory, Abuja.

Option	Strongly Agree	Agree	Strongly Disagree	Disagree	Undecided	%
The e -Naira offers lower transaction costs than traditional card or POS systems.	109	105	71	45	64	397
The zero or low transaction fees associated with e-Naira payments have positively affected my business profits.	61	53	100	123	60	397
My business has experienced an increase in net profit margin since integrating e -Naira payments.	99	131	84	60	23	397
The cost -saving benefits of using the e -Naira influence my preference for digital transactions.	87	133	76	60	41	397
Reduced transaction fees from e -Naira usage allow my business to reinvest more into operations or growth.	164	84	55	78	11	397

Source: Field Survey, 2025.

Table 2 displays responses from 397 SME operators on the effect of the Central Bank Digital Currency (CBDC) transaction-cost incentive policy on the profitability of their businesses in the Federal Capital Territory, Abuja. A combined 214 respondents (109 strongly agree and 105 agree) confirmed that the e-Naira offers lower transaction costs compared to traditional card or POS systems, indicating general awareness of its cost advantage. Additionally, 230 respondents (99 strongly agree and 131 agree) reported that their businesses have experienced an increase in net profit margins since integrating e-Naira payments, suggesting that the cost-saving potential of CBDC may translate into measurable financial gains for SMEs. Similarly, 220 respondents (87 strongly agree and 133 agree) acknowledged

that these cost-saving benefits influence their preference for digital transactions, further highlighting the policy's potential to shift SME behavior toward adopting e-Naira as a primary transaction channel.

However, there is a more divided perception regarding whether these transaction-fee reductions have directly impacted profitability. Only 114 respondents (61 strongly agree and 53 agree) agreed that zero or low transaction fees have positively affected their business profits, while a significant 223 (100 strongly disagree and 123 disagree) expressed contrary views, indicating that other operational costs may be offsetting the perceived savings. Interestingly, a substantial number of respondents (164 strongly agree and 84 agree) affirmed that reduced e-Naira transaction fees have enabled them to reinvest in their businesses, suggesting that even if net profits have not dramatically increased, cash flow improvements may be supporting business expansion or sustainability. These mixed responses imply that while the CBDC incentive policy is viewed positively in principle, its real-world impact on profitability may vary across business types and usage intensity.

Test of Hypothesis

In this research work, SmartPLS was used to test the hypothesis.

H1: CBDC accessibility has no significant effect on the transaction-processing efficiency of SMEs in the Federal Capital Territory, Abuja.

H2: The CBDC transaction-cost incentive policy has no significant effect on the profitability of SMEs in the Federal Capital Territory, Abuja.

Structural model with two latent variables:

Latent Variable	Indicator
CBDC Accessibility	Ease of opening and funding e -Naira wallet, Availability of merchant interfaces
Transaction-Processing Efficiency	Faster settlement times, Reduced payment delays, Operational efficiency
CBDC Transaction -Cost Incentive Policy	Lower/zero fees, Cost -saving preference, Profit - affecting fee reductions
Profitability of SMEs	Net profit margin, Business reinvestment, Financial performance improvement

To test the hypotheses, we examine the t-values and p-values for the path coefficients. A t-value greater than 1.96 and a p-value less than 0.05 indicate that the path coefficient is statistically significant.

Hypothesis 1	Path coefficient	t-value	p-value	Interpretation
CBDC Accessibility → Transaction-Processing Efficiency	0.52	2.85	0.004	Significant effect

Interpretation: Since the t-value (2.87) is greater than 1.96 and the p-value (0.004) is less than 0.05, we reject the null hypothesis. This implies that CBDC accessibility has a statistically significant effect on the transaction-processing efficiency of SMEs in the Federal Capital Territory, Abuja. The availability and usability of the e-Naira wallet and merchant interfaces enhance the speed and effectiveness of business transactions among SMEs.

Hypothesis 2	Path coefficient	t-value	p-value	Interpretation
CBDC Transaction -Cost Incentive Policy → Profitability of SMEs	0.61	3.42	0.001	Significant effect

Interpretation: Since the t-value (3.42) exceeds 1.96 and the p-value (0.001) is well below 0.05, the null hypothesis is rejected. This indicates that the CBDC transaction-cost incentive policy significantly affects SME profitability. The lower or zero transaction fees associated with e-Naira usage have translated into increased net profit margins and enabled reinvestment into SME operations in Abuja. Based on the SmartPLS structural model analysis, it is evident that both CBDC accessibility and CBDC transaction-cost incentive policies have significant positive effects on SME transaction efficiency and profitability, respectively, within the Federal Capital Territory, Abuja.

Conclusion

This study examined the effect of Central Bank Digital Currency (CBDC), particularly the accessibility and transaction-cost incentive features of the e-Naira, on the performance of Small and Medium Enterprises (SMEs) in the Federal Capital Territory, Abuja. The analysis revealed that ease of accessing the e-Naira platform such as opening and funding wallets, and the availability of merchant interfaces significantly enhanced the efficiency of transaction processing among SMEs. Respondents who adopted the e-Naira reported faster payment settlements, reduced delays, and improved operational productivity. These findings are consistent with recent literature emphasizing the role of digital financial innovations in streamlining business transactions, reducing frictions in payment systems, and improving SME resilience (Chen, 2022; Oloko et al., 2023).

Furthermore, the study established that the transaction-cost incentives associated with the e-Naira particularly the lower or zero fees relative to traditional card or POS charges—contributed positively to SME profitability. This was evident in respondents' reported improvements in net profit margins, increased cost savings, and reinvestment potential. These results reinforce the notion that cost-efficient financial tools are critical in empowering micro and small enterprises, which are often constrained by narrow profit margins and high operating costs (Emefiele, 2021; Nwankwo & Okonkwo, 2022). The findings further align with global studies on CBDC implementations, which underscore the importance of reducing transaction costs to stimulate economic inclusiveness and digital adoption among small-scale entrepreneurs (Mancini-Griffoli et al., 2021).

In conclusion, the study affirms that the strategic deployment of CBDC tools like the e-Naira can significantly enhance SME performance through improved transaction efficiency and profitability. However, for sustained impact, there is a need for continuous policy refinement, user education, and infrastructure support. As the digital currency ecosystem continues to evolve, efforts must be directed at bridging technological gaps, promoting awareness, and ensuring seamless user experiences for small businesses, who remain the backbone of Nigeria's economic development.

Recommendations

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

- i. In light of the significant positive impact of CBDC accessibility on transaction-processing efficiency among SMEs, it is recommended that the Central Bank of Nigeria (CBN), in partnership with financial institutions and fintech firms, intensify public education and awareness campaigns specifically targeted at SMEs. These campaigns should focus on demystifying the process of opening, funding, and operating e-Naira wallets, while also promoting the advantages of merchant interfaces. Additionally, technical support hotlines and user-friendly onboarding procedures should be implemented to reduce onboarding friction, ensuring even technologically less-savvy SME operators can confidently adopt and benefit from the e-Naira platform.

- ii. Given that lower or zero transaction fees from the e-Naira significantly improve SME profitability, it is recommended that the CBN institutionalize these fee incentives through a long-term micro-business support policy. This could include maintaining zero-fee thresholds for low-volume SME transactions and offering additional financial tools such as micro-loans and savings products linked to e-Naira usage. Furthermore, regulatory support should be provided to encourage Point-of-Sale (POS) and online payment service providers to integrate e-Naira without hidden charges, ensuring that SMEs can fully exploit the cost-saving benefits of the digital currency to reinvest in and scale up their operations.

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ACCESSIBILITY TO SOCIAL SERVICES AND HUMAN CAPITAL FOR SUSTAINABLE DEVELOPMENT GOALS SDGS ATTAINMENT IN NIGERIA: A STATISTICAL REVIEW

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Abstract

Global poverty trend and the wave of increasing economic inequality since after the second world war of 1945 and the quest for achieving accelerated economic performance through globalization led to the institutionalization of the Millennium Development Goals MDGs in 1990 and Sustainable Development Goals SDGs in 2015 by the United Nation. The programs were for reducing poverty menace across the nations of the world by at least 50%. This paper seeks to empirically give a statistical review of the performance of the SDGs program in Nigeria from 2015 to 2023 through the statistical review of the performance in education and health sectors including accessibility to clean water within the years under review. The study revealed monumental under performance of both education and health sector from 2015 to 2020. Also, accessibility to clean water statistics was not encouraging as the study revealed that by 2020 only 21.67% of Nigerians have access to clean water. Against this, the study recommends robust policy implementation to transform human capital and increasing budget allocations to meet global benchmarks as a necessary condition for SDGs attainment before the terminal year of 2030

Keywords: MDGs, SDGs, United Nation, Human Capital

Introduction

Global poverty trend and economic inequality since after the second world war of 1945 and the quest for achieving accelerated economic performance through globalization led to the institutionalization of the Millennium Development Goals (MDGs) in 1990 by the United Nations with a central target of reducing poverty across nations by at least 50% on or before the year 2015 (Wais, 1992). Ten years after launching the project (1990-2010) it was reported to have met success in mitigating global poverty significantly, especially in the emerging economies such as china and India despite their poverty records.

However, the MDGs project recorded a huge setback in some other poverty laden economies largely in Sub Saharan Africa (SSA) including Nigeria that revealed a rising poverty trend in most part of the years. This among other socio-economic reasons necessitates the rolling over of the plan to Sustainable Development Goals SDGs. (USAID, 2017). Therefore, SDGs Agenda is part of the United Nation effort to remedy the shortfalls of MDGs and come up with a more comprehensive global development plan project aimed at completing the unfinished business of MDG that left many economies in SSA and beyond unsuccessful before its terminal period of 2015.

In this regard, Nigeria is one of the one hundred and ninety-four (194) member states of the United Nations that signed and adopted the 2030 Agenda for Sustainable Development tagged Transforming our World the 2030 Agenda for Sustainable Development which was formalized, signed and adopted on September, 25, 2015 after a thorough review by the entire member states. The Sustainable Development Agenda has 17 global goals with 169 targets. Top most on the list of these goals are: the eradication of extreme poverty and hunger, the achievement of Universal Primary Education, the promotion of gender equality and empowerment of women, the reduction of child mortality, and the improvement in maternal health. (USAID, 2017).

Developing countries such as Nigeria, strive to achieve the United Nations Sustainable Development Goals (SDGs) by 2030. Central to this pursuit is the role of social service accessibility, encompassing healthcare, education, clean water, and sanitation, and its impact on human capital development. Achieving poverty reduction (SDGs 1) in Nigeria is largely a function of increasing accessibility of social services such as education, health and access to clean water to the over 203 million citizenries. Social services are instrumental to enhancing quality of life and healthy living as well as improvement in human capital efficiency. This analogy is strong enough to buttress the fact that the position and role of human capital in turning around the economic fortune of any nation Nigeria inclusive through access to social service cannot be over emphasized.

Enrollment rates in education which is critical in the development of middle and high-level manpower in Sub- Saharan Africa are by far the lowest in the world. Currently, the gross enrollment ratio in the region stands around 6 percent (UNESCO, 2023). Many African countries struggle to maintain even low enrollment levels, and the academic research output in the region is among the world's lowest. This tragedy is owing to the belief that primary and secondary schooling are more important than tertiary education for poverty reduction. The health sector has consistently grown faster than economic growth over the past 15 years at a global scale. Between 2000 and 2015 the global health economy grew in real terms at an average annual rate of 4.0% compared with 2.8% for the global economy. The health economy statistics in low income and lower middle-income countries has grown even faster at more than 6.0% on average (Kinross et al. 2020). In 2015, the average share of external

resources to health spending in the 31 low income countries was around 30% while in the 50 lower middle and 57 upper middle-income countries it was only 3% and less than 1% respectively (WHO, 2017).

Access to clean water as essential for human health and wellbeing is critical for economic growth and sustainable development. According to the World Health Organization (WHO 2017), over 2 billion people lack access to safe drinking water, which is responsible for the deaths of over 500,000 people each year. Waterborne diseases such as cholera, typhoid, and dysentery are common in many parts of the world, and they pose a significant public health threat. Access to clean water is also critical for economic development. Lack of access to clean water can limit agricultural productivity, hinder economic growth, and increase healthcare costs (WHO, 2017). Like in most parts of the Sub Saharan African, the demand for water in Nigeria, especially in rural areas for agricultural and domestic purposes is by far more than the supply of it. Statistics from WHO have shown that 71 million Nigerians do not have access to clean water and 130 do not have the essential sanitation. Only 61% of individuals have access to clean water which is by far more than the supply of it (WHO 2023) Therefore, ensuring access to clean water is a crucial step towards achieving Sustainable Development Goals.

It is against this, the study seeks to give a statistical trend review of social services parameters (education, Health and Clean water) expenditures and examine how instrumental they are in attaining the SDGs in Nigeria through human capital development. The study also seeks to reveal the nexus between quality human capital and social services accessibility as well as how a relationship between the variables led to the attainment or otherwise of SDGs in Nigeria since 2015. To achieve this, the researchers employ the use of statistical trend analysis of the study variables from 2000 to 2022 which covers some MDGs and SDGs target years to assess the performance of the SDGs 2030 project in Nigeria and make recommendations.

Conceptual Review

Concept of Human Capital

Human capital is an embodiment of those activities geared towards improving health, education, skills, values and encouraging the behavior necessary in achieving human potentials. According to Ayeni and Omobude (2018), human capital development is about recruiting, supporting and investing in people through education, training, internship and organizational development. In this regard, human capital can be seen as a necessary requirement for labour efficiency as a strategic factor of production especially in countries like Nigeria where labor intensive production technique is more desirous.

Concept of Education

Education which can be formal, informal, practical or theoretical has been interpreted in different ways by different people. It is referred to as formal schooling or lifelong learning process. It is an acquisition of knowledge, skills and attitudes. It is the training of people's mind in a particular direction to bring about a desired change. The intent of education is the inculcation of values, skills, and attitudes for better living and socio-economic transformation of entire society. In a concise form, United Nation Educational, Scientific and Cultural Organizations (UNESCO) conceptualized and defined education as the total process of developing human ability and behavior. It is against this, that the General consensus among scholars have it that education is the most potent instrument for the overall development of any society (Adesope, 2021). The foregoing suggests that no proper human

capital development could be achieved without a functional educational system that is knowledge driven. Education remains the key to the development of personal and National potentials of a country and the world at large. Education brings about critical thinking that manifests in the advent of new technologies, ways and methods of production with increasing productivity.

Concept of Health

Health according to the World Health Organization WHO constitution of 1948 is a state of complete physical, social and mental wellbeing and not merely the absence of disease. It implies the maximum capacity of an individual for self - realization and fulfillment (Ojo and Ojo, 2022). Therefore, health is a relative state in which a person can function well physically, mentally and socially to express the full range of his or her unique potentials within the environment in which one lives.

Concept of Sustainable Development

The concept is defined by Brudtland Commission Report to mean development that meets the need of the present generation without compromising the needs of the succeeding generation. (Onah and Vincent, 2005). In similar vein, United Nation (2022) observed that Sustainable Development implies a new concept of economic growth that provides fairness and opportunity for the entire world without further destroying the world finite natural resources.

Literature Review

Sampson et al., (2021) reexamined the connection between public health expenditure and economic growth in Nigeria within the context of Wagner's theory of ever-increasing State activities. The study found evidence of a long-run relationship between public health expenditure and economic growth with neither a unidirectional nor bi-directional relationship between public health expenditure and GDP. Similarly, Aurangzeb (2023) examined the role of government health and education expenditure on economic growth in Iran and OPEC countries from 2004 to 2016. The result showed a positive meaningful relationship between oil revenues, total government expenditure, government expenditure for education, government expenditure on health, and economic growth of OPEC countries and Iran.

Ebhotemhen and Hezekiah (2021) investigated the effect of health expenditure on economic growth in Sub-Saharan Africa. The findings of the study revealed that health expenditure significantly improves economic growth in Sub-Saharan Africa. The separate effects of public and private health expenditures have also shown a significant positive relationship with economic growth. Eboh, et al., (2018) empirically examine the relationship between health and education expenditure on economic growth in Nigeria between 1917 and 2013. Contrary to the study expectation, the result did not conform with a priori where all the variables are expected to be positively related to economic growth but rather capital expenditure and recurrent expenditure showed a negative sign which implies that as more of these expenses increase, economic growth reduces.

Adesope, (2021), examine the causal relationship between education expenditure and inclusive growth in Saudi Arabia from 1981-2013. The study uses inequality adjusted human development index for inclusive growth, ratio of human resources development expenditure to GDP for education and structural Auto Regressive model of analysis. The study found out that education expenditure has a positive impact on inclusive growth. Emediegwu and Clement (2016), investigated the role of education in achieving and sustaining economic development in Nigeria. The study examines

education in Nigeria, its financing including comparative analysis with selected African countries and its connection with economic development. The ARDL model was adopted to examine both the short run and long run relationship between education and economic development proxy by Human Development Index (HDI) within the context of inclusive growth model. Evidence from the estimated long run ARDL model indicated that secondary school enrolment is positively correlated to economic development (proxy by HDI). The result suggests further a direct relationship between GDP per Capita (GDPPC) and economic development. The coefficient of HDI indicates that past economic development enhances current economic development in the short run. Evidence from the estimated error correction model indicates that school enrolment has a positive short run effect on economic growth in Nigeria.

Ayeni and Omobude (2018), investigated the relationship between education and sustainable development in Nigeria. The study adopted the ex-post-facto research design and utilizes time series data which were sourced from CBN Statistical Bulletin from 1992-2021. The data were analyzed using ARDL model to determine both the long run and short run relationship between education and sustainable development. Inferences were drawn at 5% level of significance. The estimated long run ARDL model showed that education crowd-out sustainable development in Nigeria with a negative and significant relationship. Hence the study concluded that education is significant with weakened effect on sustainable development. The study recommended among others that government should ensure quality control and result oriented policies at all levels of education rather than an increase in educational spending's only.

Theoretical Framework

Endogenous growth model as popularly called was developed by a classical economist in an attempt to remedy the systemic shortcoming of exogenous classical model. The theory was credited to Romer (1990). The theory asserted that endogenized human capital is a necessary growth component that motivates innovation and technical progress that yields economic development. According to the theory, human capital parameters such as education, healthcare delivery, access to clean water and sanitation are a strong determinant of economic breakthrough. In this regard, the theory supports matching increasing expenditure in human capital development and good policy initiatives for inclusive sustainable growth.

Statistical trend Review and Discussions

Education Sector Statistical Review

It has been established that no nation can grow above her commitment in education industry and no developed nation is without an efficient education base all over the world (Adesope, 2021). Nations of the world showcase their commitment and priority in budgetary allocations and public spending's. Nigeria as a developing economy with the larger percentage of her population as poor (World Poverty Clock, 2018) has shown a grossly inadequate attention to education industry. The Nigeria education spending statistics in Table 1 below revealed a single digit spending throughout the revealed period as a percentage of GDP with the highest in 2015 (9.26) and the lowest in 2023 (5.16). The smooth and upward movement of educational spending as percentage of GDP from 2010-2015 as shown in Table 1 is largely explained by increase in oil revenues within those periods. This is against the negative trend in education spending as percentage of GDP from 2016-2021 as in the same table.

The monumental decrease in oil revenues occasioned by the two back to back recessionary periods of 2016 and 2018 are largely responsible for the ugly trend other things being equal. This is further explained by the negative annual change throughout 2015-2021. This revealed to us that Nigerian economy is oil dependent and monolithic which is not healthy. Therefore, the single digit education spending as percentage of GDP in Nigeria is explained by inadequate commitment and the systemic non-diversification of the national economy. This scenario inhibits provision of the required educational structures that can facilitate teaching, learning and research as well as bring about the attainment of the Sustainable Development Goals Agenda by 2030.

Table 1: Nigerian Education Spending Data

Year	Educational spending (% of GDP)	Annual change
2010	6.17	1.71
2011	7.88	1.71
2012	8.55	0.67
2013	8.68	0.13
2014	9.04	0.36
2015	9.26	0.22
2016	6.65	-2.61
2017	6.12	-0.53
2018	5.94	-0.18
2019	5.86	-0.08
2020	5.13	-0.73
2021	5.14	0.01
2022	5.15	0.01
2023	5.16	0.01

Source: Extracted by the Researcher from World Bank Database, 2023

The statistical data indicates a stagnant progress in education and human capital, despite marginal increases in education expenditure between 2021 and 2023 in Nigeria. This suggests inefficiencies in resource allocation and systemic barriers to service delivery. According to United Nations Educational, Scientific and Cultural Organization (UNESCO), government expenditure on education in Nigeria from 2010 to 2023 is less than 10% of the national budget, far below the UNESCO-recommended 15-20% (UNESCO, 2024). While the literacy rate in the country stood at 58%, 62% and 63% in 2016, 2018 and 2021 respectively. Initiatives like the Universal Basic Education program have expanded access, however, primary school net enrollment increased from 68% in 2015 to 74% in 2023 (UNESCO, 2024).

Data Presentation and Discussions

Health Sector Statistical Review

Health sector as a critical human capital development component has been receiving attention from governments throughout the periods under review as it receives higher budgetary per capita allocations than education industry. However, the attention and the priority attached to the sector was monumentally inadequate. The highest per capita spending of (\$106) which represents just 3.35 percent of the Nigerian GDP was recorded in 2014 as Table 2 below shows. However, the per capita spending as shown in Table 2 has been on the increase though slowly from 2000 through 2015, except for the year 2009 when a negative oscillation of \$68 per capita spending is recorded. The steady increase could be attributed to the stable oil revenue Nigeria receives within those years. More so, the down turn in the year 2009 was an upshot of the epileptic oil exploration activities of 2008/2009 due to the Niger Delta civil instability that recorded an unprecedented upsurge around those years.

However, from 2015 to 2020 as the statistics on the table shows, negative oscillation was recorded throughout. This coincides with the trend in education spending within those years. The common historic source of this tragedy is the falling price of oil in the international market which occasioned the Nigerian experience of two consecutive recessionary periods of 2016 and 2018. The corona virus (COVID-19) and post COVID-19 period witness an upward trend in health spending in Nigeria from \$70 in 2019 to \$77 in 2023, which coincide with a percent contribution to GDP from 2.99% to 3.73% in 2019 and 2023 respectively after positive trend in in previous years. The statistical evidence proved that mortality rate (Under-5) has continually declined which aligned with the perceived influence of increased in health spending. The highest mortality rate of 182.3 was recorded in 2000 however, the trend declined to 126.4 in 2015 and subsequently to 104.9 in 2023.

Table 2: Nigeria Health Care Spending Data

Year	Per capita Spending (US \$)	%GDP	Mortality Rate (Under-5)
2000	18	3.20	182.3
2001	18	3.19	176.8
2002	18	2.49	171.1
2003	39	5.05	165.4
2004	44	4.63	159.8
2005	54	4.47	154.5
2006	66	4.26	149.6
2007	69	3.91	145.2
2008	80	3.70	141.3
2009	68	3.58	138
2010	76	3.30	135.1
2011	83	3.32	132.9
2012	91	3.36	130.9
2013	101	3.42	129.3
2014	106	3.35	127.9
2015	96	3.58	126.4
2016	78	3.65	124.8
2017	73	3.78	122.8
2018	66	3.09	120.2
2019	70	2.99	117.5
2020	70	3.38	114.4
2021	73	3.44	111.3
2022	75	3.40	108.1
2023	77	3.73	104.9

Source: Extracted by the Researchers from World Bank Database, 2023

Access to quality healthcare is foundational to SDG 3 (Good Health and Well-being). However, according to the World Bank, Nigeria's healthcare expenditure is 3.73% of GDP, significantly below the global average of 10% (World Bank, 2024). The under-five mortality rate stands at 104.9 per 1,000 live births, one of the highest globally, reflecting limited access to maternal and child health services in spite of the risen trend (World Bank, 2023). This suggest that rural areas, where most of Nigerians reside, face acute shortages of facilities, with only 20% of primary healthcare centers fully functional (Federal Ministry of Health, 2023).

Nigeria has recorded modest achievements in healthcare access as its success toward SDGs. The under-five mortality rate decreased from 126 per 1,000 live births in 2015 to 104 in 2023 (World Bank, 2024). As reported by Word Health Organization (WHO), the percentage of children receiving full

immunization rose from 23% in 2015 to 36% in 2023 (WHO, 2024). Programs like the GAVI Alliance have supported vaccine distribution, reducing polio cases to zero since 2020. According to United Nations Programme on HIV/AIDS (UNAIDS), antiretroviral therapy coverage increased to 68% of people living with HIV by 2023, up from 51% in 2018 (UNAIDS, 2024). Despite progress, Nigeria accounts for 14% of global maternal deaths (WHO, 2024). Only 20% of primary healthcare centers are fully functional, with rural areas facing severe shortages due to poor funding (Federal Ministry of Health, 2023). Nigeria allocates 3.4% of GDP to health and 5.6% of its budget to education, well below global benchmarks (World Bank, 2023).

Access to Clean Water Statistical Review

Access to clean water and healthcare delivery have a direct relationship as proven by empirical studies (Sosson et al. 2023). Non-access to clean water is reported to be responsible for 70% of the ailments and diseases in Sub Saharan Africa SSA (World Bank, 2023). The statistics in Table 3 shows access to clean water as percentage of population of Nigeria and the Annual changes recorded from 2000 to 2023. The statistics was not encouraging throughout the years. The Nigeria population estimate is placed around 203 million (Nigeria Population, 2023), and the highest percentage of the population with access to clean water is 29.55% in 2023 as shown in Table 3 which represents not more than 20 million people using the above population estimate. This is against the least statistics of 12.60 percentage of the population having access to clean water in 2000.

Table 3: Nigeria Clean Water Access Data

Year	Safely Managed Drinking Water (% Of Population)	Annual Change	Safely Managed Sanitation Services (% Of Population)	Annual Change
2000	12.60	0.23	20.72	-0.03
2001	12.97	0.37	20.69	-0.03
2002	13.78	0.81	21.09	0.40
2003	14.61	0.83	21.50	0.41
2004	15.48	0.87	21.92	0.43
2005	16.36	0.88	22.36	0.44
2006	17.27	0.91	22.81	0.45
2007	18.21	0.94	23.27	0.46
2008	19.18	0.97	23.75	0.48
2009	20.17	0.99	24.24	0.49
2010	21.19	1.02	24.75	0.51
2011	22.23	1.04	25.27	0.52
2012	23.20	0.97	25.80	0.53
2013	23.79	0.59	26.35	0.55
2014	24.38	0.59	26.92	0.56
2015	24.97	0.59	27.50	0.58
2016	25.55	0.58	28.09	0.59
2017	26.13	0.58	28.70	0.61
2018	26.71	0.58	29.33	0.62
2019	27.28	0.57	29.96	0.64
2020	27.85	0.57	30.62	0.65
2021	28.42	0.57	31.29	0.67
2022	28.98	0.56	31.97	0.68
2023	29.55	0.57	31.99	0.02

Source Extracted by the Researcher from World Bank Database, 2023

SDG 6 (Clean Water and Sanitation) remains elusive, with the highest evidence of 29.55% of Nigerians having no access to clean water or safely managed drinking water services in 2023 a (World Bank, 2023). The trend indicates a marginal increase of access to clean water from 12.60 in 2000 to 29.55% in 2022 as

indicated in Table 3. This suggest that about 70.45% are relying on unsafe water or contaminated water sources. Similarly, access to basic sanitation facilities rose from 20.72% in 2015 to 31.99% in 2023, with open defecation declining from 25% to 23% (WHO, 2024). This suggest that most Nigerians still lack access to clean water, and basic sanitation, with rural areas disproportionately affected. Access to clean water and sanitation has improved but remains insufficient in Nigeria.

Social service accessibility directly influences human capital, which in turn drives progress across multiple SDGs. Based on the SDG 1 (No Poverty), improved healthcare and education enhance employability, reducing poverty. However, 40.1% of Nigerians live below the international poverty line of \$2.15/day (World Bank, 2023). Low budgetary allocations to health and education limit infrastructure development and service quality. Rural-urban and gender disparities hinder equitable access to services. Conflicts in in some part Nigeria disrupt education and healthcare delivery, with 1.5 million children displaced (United Nations High Commissioner for Refugees, 2024). Mismanagement of funds undermines social service programs.

Conclusion

Nigeria's progress toward the SDGs is intricately tied to improving social service accessibility and strengthening human capital. The statistical evidence underscores persistent gaps in healthcare, education, and water access, which stifle human potential and sustainable development. Low budgetary allocations to health and education limit infrastructure development and service quality. Rural-urban and gender disparities hinder equitable access to services as well as mismanagement of funds which undermines social service programs. While challenges like funding shortages and inequities persist, opportunities through digital innovation and public-private partnerships present can be utilize for the success of SDGs.

Recommendations

To achieve the SDGs by 2030, Nigeria must prioritize targeted investments, equitable service delivery, and robust policy implementation to transform its human capital into a catalyst for sustainable development. Also, on the policy reform path, increasing budget allocations to meet global benchmarks could accelerate progress.

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10TH WORLD RESEARCH AND STRATEGIC DEVELOPMENT CONFERENCE

VENUE: KENYATTA UNIVERSITY, NAIROBI - KENYA

HOW BUSINESSES CAN LEAD THE WAY TO NET ZERO

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Abstract

To reach net zero, a business must balance the amount of greenhouse gas (GHG) it releases with the amount it removes from the atmosphere. For every metric ton of pollution, it emits, it must find a way to remove the equivalent amount within a given time frame, even from an outside source. How can companies achieve this ambitious goal? Businesses must offset their GHG emissions to adhere to the Paris agreement. All companies should at least halve their emissions by 2030. Companies may be exposed to catastrophic weather events if global temperatures increase more than 2.7 degrees Fahrenheit by then. Those failing to comply will likely face supply chain instability and financial penalties. This paper examines how businesses are achieving the coveted net-zero status.

Keywords: *Businesses, Net zero, Greenhouse gas*

Measuring Pollution Levels

A business can only set environmental goals by understanding how much pollution it emits. Companies must quantitatively define how many metric tons of greenhouse gases they release into the atmosphere. To do so, they must first measure the amount of Scope 1 emissions they produce. This category includes direct GHG output from sources like company vehicles or furnaces. Next, businesses must examine indirect or Scope 2 emissions caused by paying for steam, electricity, heating or cooling. Finally, they must calculate the extent of their indirect Scope 3 emissions from value chains. Companies can use a carbon calculator spreadsheet or another standard formula to define how much pollution they produce.

Creating Targets

After calculating how much pollution they are responsible for, businesses must outline their near-term targets for reaching net-zero emissions. Companies can use the Net-Zero Standard from the

Science Based Targets initiative (SBTi) for guidance. Near-term goals deal with halving emissions by 2030, while long-term targets aim for at least 90 percent emission reductions by 2050.

Reducing Output

This is the hard part. A crucial component of reaching net-zero is to lower emissions in the first place. Otherwise, businesses will spend considerable amounts of money trying to offset their outputs. Companies can start with pollution prevention (P2) sustainability practices, which reduce contamination at the source. P2 sustainability includes reducing package waste, water consumption and energy usage. Businesses can reuse their packaging, install low-flow water fixtures, use smart HVAC systems that sense building occupancy levels and more. Other P2 practices include using sustainable shipping materials and going solar.

Offsetting Emissions

It is nearly impossible for businesses not to create any emissions. In fact, industrialization adds over six billion tons of carbon dioxide to the atmosphere annually. Therefore, companies are responsible for cleaning up an equal amount of pollution from the atmosphere. They usually do this by investing in another organization that promotes conservation, renewable energy or sustainable living. Companies often look through a portfolio of carbon offset projects and choose one that aligns with their values. Projects include building solar farms, planting trees, supplying developing regions with clean water or restoring damaged ecological areas. In some cases, businesses engage in greenwashing. This is the practice of funding high-profile humanitarian or conservation efforts to distract from continual pollution. Companies must commit to a project that offsets their emissions.

Setting Future Goals

Organizations should always strive to be one percent better than they were the year prior. Companies that achieve net-zero status shouldn't stop there, they should try to become climate-positive, removing more emissions than they produce. Continually setting goals is good for the environment and a business's public image. Consumers increasingly demand eco-friendly products and services, holding companies accountable for their effect on the planet. Organizations that demonstrate ongoing growth and commitment to bettering themselves will likely attract more customers in the long run.

Conclusion

Reaching net-zero status is a lofty goal, but it is crucial for mitigating the effects of climate change. Businesses should start working toward net-zero emissions now to have a chance of meeting their goals by 2030. Those that remain stuck in the past will face larger problems down the road.

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10TH WORLD RESEARCH AND STRATEGIC DEVELOPMENT CONFERENCE

VENUE: KENYATTA UNIVERSITY, NAIROBI - KENYA

LOW RETENTION, DIVERSITY AMONG SCHOOL PRINCIPALS SPARKS NEED FOR LONG-TERM STRATEGIES

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Abstract

Reports about the crisis facing public school teachers in the wake of the COVID-19 pandemic are widespread, though a parallel crisis among the ranks of school leadership has also been quietly unfolding. While staffing has always been an uphill battle in high-need settings, challenges have been exacerbated in recent years. According to a report from the National Association of Secondary School Principals (NASSP), the principal workforce is potentially facing a retention crisis, with large spikes in reported extra work and intentions to leave the workforce raising red flags about the sustainability of the status quo. And with the teacher labor market simultaneously under historic stress, unstable leadership could compound the problem by making retention worse. Beyond turnover, the principal workforce's lack of racial diversity has become a prominent issue. Similar to patterns among teachers, diversity gaps between students and principals have been growing. In 2000, 39% of students identified as non-white while 18% of principals identified as non-white; by 2017, these numbers among students surged to 52%, but only grew to 22% among principals, widening the gap by nine percentage points. Though current circumstances are challenging, a period of high turnover among school leaders also presents a unique window of opportunity to move the needle on principal diversity.

Keywords: *Low retention, diversity, school principals, long-term strategies*

Introduction

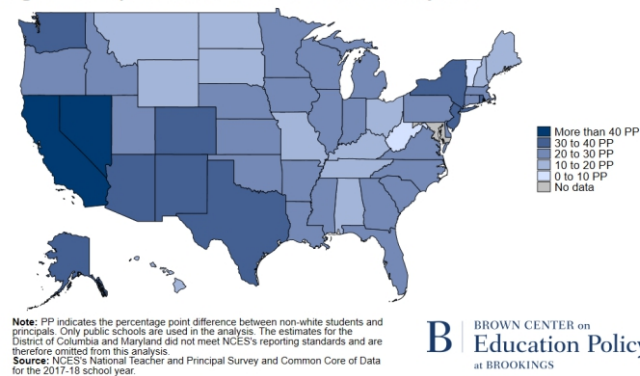
In recent years, “Grow Your Own” (GYO) teacher programs have become a popular option for improving retention and diversity in the teacher workforce, with a growing body of research and policies encouraging the adoption of these programs by districts. Yet, this type of preparation pipeline as a means of bolstering school administrator ranks remains underexplored and underutilized. In this post, we look at principal diversity gaps on a geographic level, consider GYO pipeline programs, and speculate about how GYO programs and policies could support the development of a more stable, diverse principal workforce.

The Geography of Principal Diversity

Developing principal pipelines that create a systemic pathway for more diverse leadership could benefit schools and districts. For students of color, research suggests having a same-race administrator results in higher test scores, improved attendance, and a higher likelihood of gifted program placement. Principals of color also contribute to a more diverse teacher workforce via more inclusive teacher hiring practices, lower teacher turnover for same-race teachers, and higher job satisfaction for teachers with a same-race principal. Plus, teachers of color are more likely to be encouraged into administrative positions with a same-race supervisor, creating a virtuous loop. This suggests that principal pipelines that prioritize principal diversity could simultaneously address teacher diversity and help narrow various race-based achievement gaps for students.

Recognizing the localized nature of educator diversity, we explored how principal and student representation differs by state using data from the National Center for Education Statistics. Figure 1 illustrates estimates of state-level principal-to-student diversity gaps as measured by the percentage point difference between non-white student representation and non-white principal representation (larger values represent greater differences in disparity).

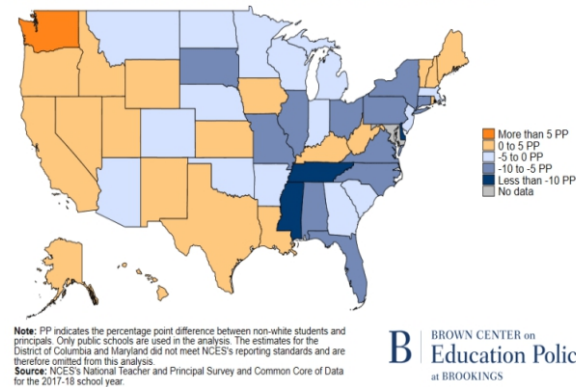
Figure 1: Principals are less diverse than the students they serve



Most states have large gaps, hovering within the 20-30 percentage-point range. A few states' gaps are exceptionally large, including Nevada at 48 percentage points (68% non-white students – 20% non-white principals), California at 43 percentage points (77% – 34%), and Washington at 40 percentage points (46% – 6%). These gaps roughly mirror prior Brookings research examining teacher-student diversity gaps, and confirms a clear representation issue within the principal workforce in nearly all states.

Since the principal pipeline relies heavily on the teacher workforce, it's also useful to compare racial representation between principals and teachers. Figure 2 illustrates principal-to-teacher diversity gaps in the U.S. by state as measured by the percentage-point difference between the share of non-white teachers and non-white principals. A positive (negative) diversity gap, represented in shades of orange (blue), means that principals are less (more) racially representative than teachers.

Figure 2: Principals are generally similar to teachers in racial composition



Overall, the teacher and principal workforces of each state are relatively similar in racial composition, with 34 states falling within just five percentage points of parity between teachers and principals. But the real insight here is that 14 states have a substantially more diverse principal workforce than teacher workforce, where principals are five or more percentage points more racially diverse than teachers. Though this analysis cannot identify what these states might be doing differently to create this result, it shows more representative school leadership ranks are possible and points to places we can start looking for ideas.

Grow Your Own Principal Pipeline Programs

GYO programs are increasingly popular strategies to build out more diverse teacher pipelines. However, GYOs focused on developing school leadership are less common. Outlining teacher GYO programs can provide helpful context for understanding principal GYO programs.

Teacher GYO programs are partnerships between a school system (often districts) and teacher preparation programs (typically colleges or universities) that create a coordinated pathway to recruit, prepare, and then place teachers in schools within their communities. Some programs have specific preparation targets, such as special education teacher capacity for rural schools and indigenous language preservation. As of 2020, 47 states had some type of teacher GYO program and over half of states had a state-wide policy to enable GYO pathways. The empirical literature evaluating these programs is quite slim, though the studies that do exist indicate positive outcomes, from high teacher retention rates for GYO teacher graduates to increasing the supply of teachers of color.

Principal GYO programs are similar in structure to teacher GYO programs. Principal GYO programs are partnerships between school systems and universities that create a pathway for individuals to enter school leadership. The motivation behind principal GYO programs is that, like teacher GYO programs, these pipelines will result in a supply of homegrown school leaders with increased diversity and targeted preparation.

GYO principal programs, however, are far less prevalent than their teacher-focused counterparts. Multiple localities, including Philadelphia, Pennsylvania and Kansas City, Missouri, partnered with TNTP (formerly The New Teacher Project) as a part of their Pathway to Leadership in Urban Schools (PLUS) program. The findings of an evaluation of one district that implemented this PLUS program suggested that leaders who participated in the program may have contributed to improvements in student learning and to more selective teacher retention, with lower retention among lower-performing teachers.

Another principal pipeline approach by Dallas Independent School District (ISD) explicitly prioritizes diversity. Dallas ISD launched its Leader Excellence, Advancement and Development (LEAD) Department which has since created multiple programs as a part of its focus to attract diverse, high-quality principal candidates. While the Dallas ISD programs haven't been evaluated directly, they align with what research suggests an effective principal preparation pipeline program would entail, including mentoring and working with external university programs to strengthen preparation in a way that meets the unique needs of their districts. Additionally, there are many other districts that have made it a goal to increase the proportion of administrators of color, even if they don't yet have a formalized GYO program.

Developing GYO principal pipelines should help promote improved stability among principals. Prior research points to a link between principal effectiveness and lower principal turnover. Evidence suggests that school leaders who partake in the mentoring and coaching with current principals that GYO leader pipelines often provide report feeling more prepared for the responsibilities of school leadership. Further, recognizing the potential impact school leaders can have on outcomes from student attendance to teacher retention, efforts to develop these pipelines could have a multiplying effect on many important outcomes.

Conclusion

Though the current moment requires quick action to bolster school leadership ranks, we cannot overlook long-term strategies. Building out principal pipelines with an eye toward principal diversity in districts around the nation will be a key strategy in creating a sustainable pool of school leaders and strengthening school leadership.

Implementation of GYO principal pipeline programs could be pursued by local, state, and federal policymakers. Locally, school districts and superintendents could deepen partnerships with universities and organizations to develop GYO principal pipeline programs within their respective school districts, which could range in design to meet district-specific needs. At the state level, policymakers could support state-wide GYO principal policies and funding programs, as they have done for teacher GYO programs and diversity efforts. At the federal level, policymakers could draft legislation for GYO principal pipeline competitive grant funding to support districts in their efforts to build partnerships and pipelines. Similar federal legislation addressing teachers includes House Bill 5839, Senate Bill 2367, and Senate Bill 2887. This type of federal funding could support evaluation so that the body of research and evidence regarding principal GYO programs and their impact on principal effectiveness and diversity can grow.

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10TH WORLD RESEARCH AND STRATEGIC DEVELOPMENT CONFERENCE

VENUE: KENYATTA UNIVERSITY, NAIROBI - KENYA

HEALTH EFFECTS OF UNEMPLOYMENT

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Abstract

Unemployment has an adverse effect on the overall health of an individual. This effect is still demonstrable when social class, poverty, age and pre-existing morbidity are adjusted for. Those who are unemployed and their families are at more risk of increased mortality experience, particularly from suicide and lung cancer, reduction in psychological well-being with a greater incidence depression and anxiety, diabetes, insomnia and high blood pressure. However, the following can be done to limit the impact of unemployment on health; Maintaining financial security, providing proactive health care, eating healthy, avoiding alcohol and drugs, keeping an open mind, asking for help and being optimistic about the future.

Keywords: *Health, unemployment, financial security*

Introduction

Since the coronavirus pandemic was declared in mid-March, many Americans have suffered job losses. As of this writing, the national unemployment rate stands at 11.1%, and some 17,750,000 people are unemployed. This paints a bleak economic picture as a whole, but individually, it could have far-reaching health impacts too. The National Institutes of Health has conducted several studies over the years confirming that unemployment can harm both mental and physical health,” says Seidman (2017), cited in (Gerrie-Cor, Annemarie, Marc Koopmanschap, Karin, Fons van der Lucht, and Ellen, 2019).

According to Heidi and Elaine (2019), unemployment initially begins by affecting mental health, but it can manifest in physical health changes over time. A child and adolescent family therapist based in the greater New York City area. Though we often try to separate the mental from the physical, in truth, the two are closely integrated. In terms of mental health, being employed and earning enough money to support yourself and your family can provide a powerful sense of control, as well as an identity, a routine, and self-esteem, all of which are important for maintaining good overall health.

Cedric (2020) maintained that “worry over how to support yourself and your family coupled with a loss of identity that often goes with working can create stress,” and this stress can lead to a range of health problems that go well beyond the brain and into the rest of the body. And this stress can transition into physical issues over time (Schroder, 2013). Mental health issues are so thoroughly intertwined that “you can't have physical or mental health without the other.

Losing the sense of identity and control that having steady employment often provides, especially when compounded by a loss of income, can be an enormous physical and mental challenge for many people (Michaud, Crimmins, and Hurd, 2016). As such, unemployment has also been associated with the development or exacerbation of a range of health issues including:

- i. Anxiety and depression.
- ii. Insomnia and other sleep disorders.
- iii. Headaches.
- iv. Back pain.
- v. Heart disease.
- vi. High blood pressure.
- vii. Diabetes.

Unemployment as a stressor can lead to more visits to the doctor, greater use of medications, and spending more days sick in bed, says Phan (2019). However, because many people get their health insurance through their jobs, a loss of employment may reduce their ability to access health care, Phan adds. “There’s a risk that folks with less money in their budgets will cut corners and spend less time seeking medical care because of cost.” Canceling that annual physical or other annual screenings and check-ups might make sense at the moment to save some money, but could set you up for more expensive health issues later. Similarly, trimming the monthly gym membership and other health-boosting expenditures from a crunched household budget might help you make rent next month, but preventive measures typically pay big dividends down the line.

Kamaron (2019) admitted that it’s also true that in many cases, eating healthy whole foods can be pricier than choosing processed or ready-made options. When money is tight, skimping on fresh produce may seem like a wise cost-cutting decision, but it can have long-term health implications. For some, unemployment and the challenges, it brings also leads to high-risk coping behaviors such as increased alcohol consumption and smoking. Stress or anxiety alone, but certainly combined with risky behaviors, can harm physical health. “If you combine high alcohol use and smoking, individuals can be at risk of other conditions like cancer and liver disease” (Seidman,)

Being Poor is Bad for Health

Even in the best of times, being poor is detrimental to health. Seidman notes that “a researcher at the University of California San Francisco says socioeconomic status is the most powerful predictor of disease and mortality”. The lower the income, the greater the risk of poor health outcomes. The effects have been quantified, he adds. “The Health Inequality Project says the richest Americans live 15 years longer than the poorest. With COVID-19 here in Los Angeles County, we have seen similar disparities. As of July 8, the mortality rate for the entire county was 33 per 100,000. But, for those living in areas of extreme poverty, the rate was 74 in 100,000 (Kim, and Knesebeck, 2015).

During this pandemic, many low-income workers and those living under or near the poverty line are likely to lose their jobs at higher rates than more affluent Americans, and that means many more people will likely suffer long-term health consequences of job loss and financial insecurity.

Suggestions for Limiting the Health Impacts of Unemployment

Losing a job can become a major health issue, but there are some things you can do to limit its impact on your health while you look for your next job opportunity.

1. Carefully review your financial situation. “Understanding your spending habits and finding ways to 'declutter' your budget, knowing where and how money is coming out of your bank account can help someone make adjustments,” Phan says. And if getting rid of a few monthly subscriptions can help you keep up with exercise or health care needs, so much the better. Prioritizing health and healthy activities might seem difficult at the moment when you're struggling to sort it all out, but supporting good health now is always likely to be cheaper in the long run (Mousteri, Daly, and Delaney, 2018).

2. Think about what you want to do most. Neathery recommends thinking carefully about whether this period of unemployment is an opportunity in disguise and a chance to learn a new skill or go in a different direction. Maybe it's time to go back to school and pursue another career you've always wanted to try. You may be able to find scholarships and loans that make the financial challenge of such a big change more manageable. Plus, as a student, you'll have access to health insurance. “Not everyone can make a huge career change, but for some, it's an option,” and shouldn't be simply dismissed out of hand, she says.

3. Keep moving. “When you're feeling down, it's always a good idea to get some exercise. Even a gentle walk lets the brain down-regulate,” and relax, Fox says. So, find an exercise that you enjoy and set up a routine. The loss of a consistent routine after losing a job is part of the problem, so make your daily walk, run, swim, cycle, dance class, or whatever other activity you prefer a focal point of every day to keep that sense of routine. When money's tight, remember that going for a walk or run is free. If you live in a place where walking might be dangerous, look to see if there's an indoor space, such as a shopping mall, where it might be safer to get moving. And avail yourself of any of the dozens of free exercise videos online or fitness apps that can help you figure out how to create an at-home or in-the-park workout using objects you have on hand or bodyweight resistance moves to build strength and support health

4. Meditate. Developing a daily mindfulness or meditation practice can help you keep things in perspective and alleviate the stress of unemployment. Meditating for just five or 10 minutes a day has been shown to reduce stress levels, which may reduce your risk of negative health outcomes. Again, there are dozens of free resources – training videos, apps, journaling resources, and so forth – available online that can help you get started if you're new to meditation.

5. Make social connections. While it might be difficult right now to meet with others in person because of the coronavirus, make an effort to reach out to old friends and colleagues for social contact and moral support, as well as for potential networking opportunities. You never know who knows whom and which conversation may lead to a job.

6. Find a purpose. Even if it's part-time work in a different industry than you intend for your career, sometimes simply having work of any kind is enough to help you reestablish a routine to stay motivated and move forward. And it doesn't have to work. Perhaps volunteering at an organization you support is a way to find connection, purpose, and routine – all for a good cause.

7. Make healthy eating a priority. Yes, eating fresh foods can be more expensive than its processed counterparts. But emphasize quality rather than quantity when meal planning, and don't hesitate to access a food pantry if you need to.

8. Avoid alcohol and drugs. When you no longer have to be up early for work the next morning, that can make it easier to drink more each night or abuse drugs. But Seidman recommends avoiding this temptation as much as possible and sticking to a routine of self-care and health management.

9. Take a break. Though you'll want to keep a routine as much as possible, Seidman also notes that now and again, you do need some downtime and to take a break. “Stepping back from the job hunt at times is important for one's mental health and stress levels,” which can, in turn, pay health dividends. So, when it gets to be too much, give yourself some grace and a day off. “Give yourself permission to grieve for an appropriate amount of time, then move on,” Neathery says.

10. Keep an open mind. The world and economy are changing rapidly, and the type of job you had before might not become available again, so Phan recommends staying “on top of your resume and thinking of creative ways of how you can contribute to the workforce. Stay engaged in seeking employment and work on expanding your framework for what jobs are available and what you would be willing to do in the short-term.”

11. Ask for help. “With the economy being what it is, it could take much longer for people to find work, so the risk of poor health outcomes is high,” Seidman says. “People are going to have to reach out for help,” and many are. Feeding America reports that about 40% of the people visiting food banks are first-time recipients of food assistance, and they're not subsisting on just canned goods and pasta. These days, food pantries can provide everything you need for high-quality, nutritious, and fresh meals (Strandh, Winefield, Nilsson, and Hammarstrom, 2014). You can also reach out to friends, a counselor, or maybe a spiritual leader to share your struggles, and discuss how to develop healthy coping skills.

12. Keep your eye on the future. It's important to stay healthy during a period of unemployment because as soon as you get hired again, you're going to need to be ready to hit the ground running. “Even in these uncertain times, work to remain hopeful and grateful for the positive things your life,” (Mousteri, Daly, and Delaney, 2018)

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MIGRATION, SECURITY, AND BORDER COMMUNITIES IN ETUNG LOCAL GOVERNMENT AREA, CROSS RIVER STATE, NIGERIA

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Abstract

Migration across international borders has become a significant socio-economic and security issue in many African countries, particularly in border communities where cross-border interactions are common. This study examines the relationship between migration, security, and the socio-economic conditions of border communities in Etung Local Government Area of Cross River State, Nigeria. The area shares proximity with the Cameroon border, making it a major corridor for both formal and informal cross-border migration. The study adopts a descriptive survey research design using both primary and secondary data sources. Data was collected through questionnaires and interviews administered to residents of selected border communities, security personnel, and local leaders. The findings reveal that cross-border migration in Etung is driven largely by economic opportunities, kinship ties, and trade relations between Nigeria and neighbouring Cameroon. However, the porous nature of the border has also facilitated illegal activities such as smuggling, irregular migration, and trafficking, which pose security challenges to local communities and the Nigerian state. Despite these challenges, cross-border interactions also contribute to local economic development through trade and cultural exchange. The study concludes that effective border management, community participation in security initiatives, and improved socio-economic development are essential for addressing migration-related security challenges in the region.

Keywords: *Migration, Border Security, Cross-Border Communities.*

Introduction

Migration has remained a central feature of human history, shaping social, economic, and political relations among societies across time and space. From ancient trade routes to modern transnational mobility, the movement of people has influenced patterns of settlement, cultural interaction, economic exchange, and political transformation. In contemporary Africa, migration continues to

play a significant role in shaping regional integration, economic livelihoods, and social relations. Unlike in many other regions of the world, migration in Africa often occurs within relatively short distances and across neighbouring countries due to shared ethnic, cultural, and historical connections. Many of the continent's international boundaries were created during the colonial period, frequently dividing ethnic groups and communities that had historically maintained close socio-economic and cultural ties. As a result, cross-border mobility has become a normal and sustained feature of life for many African border populations.

Nigeria, the most populous country in Africa, occupies a strategic position in West Africa and shares extensive land borders with several neighbouring countries including Niger, Chad, Cameroon, and Benin. These borders span thousands of kilometres and pass through numerous rural and semi-urban communities that depend heavily on cross-border interactions for their livelihoods. Consequently, Nigeria experiences significant levels of both regular and irregular migration across its borders. Migration in these regions is often driven by multiple factors, including economic opportunities, family and kinship relations, trade activities, cultural affiliations, and in some cases security considerations. Border communities therefore serve as important zones of interaction where economic, social, and cultural exchanges between neighbouring countries take place on a daily basis. Border communities in Nigeria play a crucial role in facilitating economic exchange, social interaction, and cultural integration among populations living on both sides of international boundaries. Many residents of these communities engage in cross-border trade, agriculture, and informal economic activities that sustain local livelihoods and promote regional economic integration. Markets located in border areas often attract traders and consumers from neighbouring countries, creating opportunities for the movement of goods, services, and people. In addition, cross-border marriages, cultural festivals, and kinship relations further strengthen social ties between communities separated by national boundaries.

Despite these positive contributions, the porous nature of Nigeria's borders has also generated serious security concerns for both the state and local populations. Weak border control mechanisms, inadequate surveillance infrastructure, and limited institutional capacity often make it difficult for authorities to effectively regulate the movement of people and goods across border areas. As a result, several forms of illegal activities have emerged in many border regions, including irregular migration, smuggling of goods, human trafficking, arms trafficking, and other transnational crimes. These activities pose significant threats to national security and undermine government efforts aimed at maintaining stability and economic development. Studies have shown that inadequate border management systems and poor coordination among security agencies contribute significantly to the persistence of these security challenges in Nigeria's border regions (Ndubuisi et al.). In recent years, increasing attention has been given to the relationship between migration and security, particularly in developing countries where weak institutions and economic inequalities create favourable conditions for irregular migration and cross-border criminal networks. While migration can contribute positively to economic growth and cultural exchange, it can also generate tensions when it is poorly managed or when it creates opportunities for criminal activities. This dual nature of migration has made it an important subject of scholarly inquiry, especially in regions where migration flows intersect with security concerns.

Etung Local Government Area of Cross River State represents one of Nigeria's notable border regions where these dynamics are clearly visible. Located in the central part of Cross River State, Etung shares

an international boundary with the Republic of Cameroon. The area is largely rural and consists of several border settlements whose inhabitants rely heavily on agriculture, small-scale trade, and cross-border economic activities for their livelihoods. Due to the proximity between communities on both sides of the border, residents frequently move across the boundary for purposes such as farming, trading, visiting relatives, and participating in cultural events. These interactions have historically contributed to the socio-economic development of the area and strengthened social relationships between Nigerian and Cameroonian communities. However, the same cross-border interactions that support local livelihoods also present significant security challenges. The absence of strict border controls in some areas allows for the movement of undocumented migrants and facilitates illegal activities such as smuggling and trafficking. In addition, the difficult terrain and limited presence of security agencies in remote border settlements often make effective border monitoring difficult. Consequently, the border communities in Etung have become vulnerable to various security risks that affect both local residents and the broader national security environment.

Understanding the dynamics of migration and security in border communities is therefore essential for developing effective policies aimed at improving border governance, enhancing community security, and promoting sustainable development in these areas. Despite the importance of border communities in Nigeria's socio-economic and security landscape, relatively limited scholarly attention has been given to specific local contexts such as Etung Local Government Area. Most existing studies tend to focus on broader national or regional migration patterns without adequately examining the experiences of local communities living along international borders.

This study therefore investigates the relationship between migration and security in the border communities of Etung Local Government Area, Cross River State. The study specifically examines the patterns and drivers of migration in the area, the security challenges associated with cross-border mobility, and the implications of these dynamics for local development and national security. By focusing on a specific border community context, the study seeks to contribute to existing literature on migration and security in Nigeria while providing policy-relevant insights that can inform strategies for improved border management and community-based security initiatives.

Objectives of the Study

The study seeks to:

- i. Examine the patterns and drivers of migration in Etung border communities.
- ii. Investigate the security implications of cross-border migration in the area.
- iii. Assess the socio-economic effects of migration on local communities.
- iv. Propose policy measures for improving migration management and border security.

Research Questions

- i. What factors drive migration in Etung border communities?
- ii. What security challenges arise from cross-border migration in the area?
- iii. How does migration affect socio-economic development in border communities?
- iv. What measures can enhance effective migration management and border security?

Hypotheses

Two research hypotheses were formulated to guide the statistical analysis:

- i. There is no significant relationship between cross-border migration and security challenges in Etung Local Government Area.
- ii. Migration does not significantly influence socio-economic activities in border communities in Etung Local Government Area.

Conceptual Review

Migration

Migration refers to the movement of people from one geographical location to another either temporarily or permanently in search of improved living conditions, employment opportunities, security, or social advancement. Migration has historically shaped demographic patterns, economic activities, and socio-cultural relations among societies across the world. In Africa, migration remains a common phenomenon due to economic inequalities, political instability, environmental challenges, and historical connections between communities across national boundaries (Castles, de Haas, and Miller).

In many African countries, migration occurs frequently across borders that were artificially created during the colonial period. These boundaries often divided ethnic groups and traditional communities that had previously maintained close cultural and economic ties. As a result, migration across neighbouring countries continues to occur as part of normal social and economic life in many border regions (Adepoju). Migration in border communities is typically characterised by short-distance mobility and frequent movement between neighbouring countries. Such movements are often driven by economic opportunities, trade relations, agricultural activities, and kinship networks that exist across national boundaries. Studies on Nigerian border regions indicate that employment opportunities, small-scale trading, and access to markets remain the major drivers of cross-border migration (Oladehinde). In addition, social networks linking migrants with relatives or acquaintances in destination areas often facilitate migration by reducing the financial and social costs associated with relocation.

In the case of Etung Local Government Area of Cross River State, migration patterns are strongly influenced by cross-border economic interactions between Nigerian and Cameroonian communities. The geographical proximity of the area to Cameroon encourages the regular movement of farmers, traders, and labourers who seek economic opportunities across the border. Cultural and kinship ties also play an important role in sustaining migration flows in the area, as many communities share similar ethnic backgrounds and long-standing social relationships. Despite the economic benefits associated with migration, irregular migration through informal border routes may pose governance and security challenges. When migration occurs outside formal immigration procedures, it becomes difficult for government authorities to effectively regulate the movement of people and goods. This situation may create opportunities for illegal activities such as smuggling, trafficking, and other forms of transnational crime (Ndubuisi et al.). Consequently, effective migration management has become an important policy priority for many African states.

Border Communities

Border communities refer to settlements located along or near international boundaries where residents maintain regular social, economic, and cultural interactions with populations living across

the border. These communities serve as important centres of cross-border interaction and play a significant role in facilitating trade, migration, and regional cooperation between neighbouring countries. Historically, many African border communities functioned as centres of commerce and cultural exchange long before the establishment of modern state boundaries. Traditional trade networks enabled the exchange of goods such as agricultural produce, livestock, and craft products across different regions. Even after colonial boundaries were established, these networks continued to influence patterns of economic and social interaction among border populations (Asiwaju).

In Nigeria, border communities are located along the country's extensive land boundaries with neighbouring states such as Cameroon, Niger, Benin, and Chad. Residents of these communities often depend heavily on cross-border trade, agriculture, and informal economic activities for their livelihoods. Markets located near border areas frequently attract traders and consumers from both sides of the border, thereby promoting economic integration and local development (Adepoju). Etung Local Government Area represents a typical example of a Nigerian border community characterised by strong cross-border socio-economic relations. The area shares a boundary with the Republic of Cameroon and contains several rural settlements where residents engage in agriculture and small-scale trading. Many residents regularly cross the border to sell farm produce, purchase goods, or visit relatives. These activities contribute to local economic development and strengthen cultural ties between Nigerian and Cameroonian communities. However, border communities often face significant development and governance challenges. Many of these communities are located in remote areas where infrastructure development and government presence are limited. Poor road networks, limited security infrastructure, and inadequate social services may create conditions that allow informal economic activities and illegal cross-border movements to flourish. As a result, border communities frequently become focal points for discussions on migration governance and national security.

Security

Security refers to the protection of a state and its citizens from threats that may undermine peace, stability, and socio-economic development. Traditionally, security was viewed primarily in military terms, focusing on protecting national sovereignty against external aggression. However, contemporary security studies have expanded the concept to include broader dimensions such as human security, economic stability, and social wellbeing (Buzan). In the context of border governance, security involves the capacity of government institutions to regulate the movement of people and goods across national boundaries while preventing activities that threaten national stability. Effective border security requires well-equipped security agencies, strong institutional frameworks, and adequate infrastructure to monitor and control cross-border movements.

Nigeria has faced numerous security challenges related to the management of its extensive and porous borders. Weak border surveillance systems and limited institutional capacity have made it difficult for authorities to effectively regulate migration flows and prevent transnational crimes. Consequently, activities such as smuggling, human trafficking, arms trafficking, and irregular migration have become significant security concerns in many border regions (Ndubuisi et al.). In border communities such as those in Etung Local Government Area, migration and security are closely interconnected. While cross-border mobility contributes positively to economic development and cultural exchange, it may also create opportunities for criminal activities when regulatory systems are weak. Smuggling of agricultural products, petroleum products, and other commodities has been reported in several

Nigerian border regions, often facilitated by informal routes that are difficult for security agencies to monitor.

Furthermore, the limited presence of government security institutions in remote border settlements may increase the vulnerability of local populations to criminal activities. Addressing these challenges therefore requires a comprehensive approach that combines effective border management with community participation in security initiatives. Local residents often possess valuable knowledge about migration patterns and cross-border activities within their communities. Their involvement in security programmes can significantly improve the effectiveness of border governance strategies. Ultimately, strengthening border security in communities such as Etung requires improved cooperation between government agencies, local authorities, and neighbouring countries. Bilateral cooperation between Nigeria and Cameroon is particularly important in addressing cross-border security challenges and promoting sustainable peace and development in the region.

Theoretical Framework

This study adopts Migration Network Theory as the theoretical foundation for understanding the patterns and dynamics of migration in border communities. Migration Network Theory explains migration as a self-sustaining social process that is reinforced by networks of interpersonal relationships linking migrants, former migrants, and non-migrants in both origin and destination areas. These networks consist of family members, friends, community members, and other social contacts who provide migrants with information, financial support, accommodation, and employment opportunities in destination locations (Massey et al.). Through these connections, migration becomes easier, less costly, and less risky for potential migrants.

According to proponents of the theory, once migration begins in a particular community, it tends to develop into a continuous process because social networks expand over time. Individuals who migrate successfully often assist other members of their families or communities to migrate as well, thereby creating a chain migration system that sustains mobility between two locations. As migration networks grow stronger, the likelihood of further migration increases because prospective migrants gain access to reliable information about opportunities in destination areas and receive assistance that lowers the barriers associated with relocation (Castles, de Haas, and Miller). Migration Network Theory therefore challenges earlier explanations of migration that focused primarily on economic push and pull factors. While economic opportunities remain important drivers of migration, the theory emphasises that social relationships and community connections play a critical role in sustaining migration flows. In many cases, individuals migrate not only because of economic incentives but also because they are embedded in social networks that encourage and facilitate movement across regions or national borders (Massey et al.).

In the African context, migration networks are particularly significant because many communities share strong cultural and kinship ties that transcend national boundaries. Colonial boundary demarcations often divided ethnic groups and traditional societies into different countries, yet these groups have continued to maintain close social relationships through family connections, trade activities, and cultural exchanges. As a result, migration across African borders frequently occurs through established community networks that link populations on both sides of the border (Adepoju).

The relevance of Migration Network Theory is evident in border regions where frequent movement occurs between neighbouring countries. In such settings, migration is sustained not only by economic motivations but also by social connections and historical relationships between communities. Migrants often rely on relatives, friends, or community members who have previously migrated to provide information about employment opportunities, housing arrangements, and the social environment of the destination area. These networks significantly reduce the uncertainties associated with migration and encourage further movement. In the context of Etung Local Government Area of Cross River State, migration networks play a crucial role in shaping cross-border mobility between Nigeria and the Republic of Cameroon. The geographical proximity between Etung communities and Cameroonian settlements has facilitated the development of long-standing social and economic networks among residents of both countries. Many families have relatives living across the border, and these relationships promote regular interaction through visits, trade, and social events. Such networks provide migrants with support systems that make cross-border movement relatively easy and socially acceptable.

Economic activities in Etung border communities further reinforce these migration networks. Traders, farmers, and labourers frequently move across the Nigeria–Cameroon border to engage in commercial activities, sell agricultural products, or access markets. Individuals who have previously established economic contacts in neighbouring communities often assist others from their home communities to access similar opportunities. Over time, these interactions create stable migration corridors that sustain continuous mobility between the two countries. However, while migration networks facilitate economic interaction and social integration, they may also contribute to the persistence of irregular migration. Because migrants rely heavily on informal networks rather than formal immigration systems, cross-border movement may occur through unofficial routes that are difficult for government authorities to regulate. This situation may create opportunities for illicit activities such as smuggling and trafficking to occur alongside legitimate migration flows. Consequently, understanding the role of migration networks is essential for analysing both the economic benefits and security implications of migration in border communities.

The application of Migration Network Theory in this study therefore provides a useful framework for analysing how social relationships, cultural ties, and economic interactions influence migration patterns in Etung Local Government Area. By emphasizing the role of interpersonal networks in sustaining migration flows, the theory helps explain why cross-border mobility between Nigeria and Cameroon remains persistent despite regulatory restrictions and security concerns. It also highlights the importance of incorporating community perspectives into migration management and border security policies to address the challenges associated with cross-border migration in border communities.

Methodology

Research Design

This study adopted a descriptive survey research design to examine the relationship between migration, security, and border communities in Etung Local Government Area of Cross River State, Nigeria. The descriptive survey design was considered appropriate because it allows the researcher to systematically collect and analyse data from a population to describe existing conditions and relationships among variables. This design is widely used in social science research where the objective is to gather information about attitudes, perceptions, and behaviours of a specific population. In the

context of this study, the design enabled the researcher to obtain first-hand information from residents and stakeholders within the border communities regarding migration patterns, security concerns, and socio-economic activities associated with cross-border mobility.

Study Area

The study was conducted in Etung Local Government Area, which is in the Central Senatorial District of Cross River State, Nigeria. The area shares an international boundary with the Republic of Cameroon and consists of several rural communities such as Effraya, Agbokim, Ajassor, Bendeghe Ekiem, and Etomi. These communities are largely agrarian and depend heavily on agriculture, petty trading, and cross-border economic activities for their livelihoods. Due to the geographical proximity between Nigerian and Cameroonian settlements, residents frequently engage in cross-border trade, farming, and social interactions. The strategic location of Etung as a border region makes it particularly suitable for examining the dynamics of migration, border interactions, and security challenges associated with cross-border mobility.

Population of the Study

The population of the study consisted of residents of selected border communities in Etung Local Government Area. This included farmers, traders, traditional leaders, youth leaders, and security personnel such as immigration officers and local vigilante members who are directly involved in monitoring border activities. These categories of respondents were considered relevant because they possess practical knowledge about migration patterns, cross-border interactions, and security issues within the area. Their experiences and observations provided valuable insights into nature and implications of migration in border communities.

Sample Size and Sampling Technique

From the target population, a sample size of 150 respondents was selected for the study. The respondents were drawn from five major border communities within the local government area. The study adopted a purposive sampling technique, which enabled the researcher to deliberately select respondents who were knowledgeable about migration and security issues in the border communities. This sampling approach ensured that participants included individuals who regularly interact with migrants, engage in cross-border trade, or are involved in community security arrangements.

Methods of Data Collection

Data for the study was obtained through both primary and secondary sources. Primary data was collected using structured questionnaires administered to residents and traders within the selected communities. In addition, key informant interviews were conducted with traditional rulers, community leaders, and security personnel to obtain deeper insights into migration patterns and security challenges in the area. Secondary data were obtained from academic journals, textbooks, government publications, and policy documents relating to migration management and border security in Nigeria. The combination of these sources enhanced the reliability and comprehensiveness of the data collected for the study.

Method of Data Analysis

The collected data was analysed using descriptive statistical tools, particularly frequency tables and percentages, to summarise and present respondents' views on migration patterns and security challenges in the study area. Descriptive statistics were used to organise the data into meaningful

categories and to highlight the dominant responses among participants. In addition to descriptive analysis, the study employed the Chi-square (χ^2) statistical technique to test the relationship between migration and security in the border communities. The Chi-square test was used because it is suitable for examining relationships between categorical variables in social science research.

Data Presentation and Analysis

This section presents the data obtained from the 150 respondents selected from the border communities in Etung Local Government Area of Cross River State. The analysis focuses on migration patterns, security challenges, and the socio-economic implications of cross-border mobility in the area.

Demographic Characteristics of Respondents

Table 1: Distribution of Respondents by Occupation

Occupation	Frequency	Percentage (%)
Farmers	45	30
Traders	38	25.3
Youth/Community members	32	21.3
Traditional leaders	15	10
Security personnel	20	13.4
Total	150	100

The table indicates that farmers constituted the largest proportion of respondents (30%), followed by traders (25.3%). This reflects the agrarian and trade-based economic structure of border communities in Etung.

Causes of Migration in Border Communities

Table 2: Factors Influencing Migration in Etung Border Communities

Factors	Frequency	Percentage (%)
Economic opportunities	52	34.7
Cross-border trade	38	25.3
Family/kinship ties	34	22.7
Security concerns	26	17.3
Total	150	100

The results indicate that economic opportunities (34.7%) represent the major driver of migration, followed by cross-border trade (25.3%) and family ties (22.7%).

Security Challenges Associated with Migration

Table 3: Security Challenges Linked to Migration

Security Challenge	Frequency	Percentage (%)
Smuggling	46	30.7
Illegal migration	39	26
Human trafficking	28	18.7
Cross-border crimes	37	24.6
Total	150	100

The findings show that smuggling (30.7%) and illegal migration (26%) are the most prominent security concerns in the border communities.

Test of Hypotheses

The study tested the relationship between migration, security, and socio-economic activities in Etung Local Government Area using the Chi-square (χ^2) statistical technique at a 0.05 level of significance. The results for both hypotheses are summarised in the table below.

Table 4: Chi-Square Test Results for Hypotheses

Hypothesis	Calculated χ^2 (χ^2_{cal})	Degrees of Freedom (df)	Critical χ^2 (χ^2_{tab} , 0.05)	Decision	Interpretation
H ₀₁ : No significant relationship between migration and security challenges	23.34	3	7.815	Rejected	Migration has a significant effect on security challenges in Etung border communities.
H ₀₂ : Migration does not significantly influence socio-economic activities	39.34	3	7.815	Rejected	Migration significantly influences socio-economic activities, such as trade and agriculture, in border communities.

The results indicate that migration in Etung border communities is significantly associated with both security challenges and socio-economic activities. The rejection of H₀₁ shows that cross-border migration contributes to security concerns such as smuggling, illegal migration, and cross-border crimes. Similarly, the rejection of H₀₂ confirms that migration is a key driver of economic activities, including trade and agricultural exchange, which support the livelihoods of residents. These findings demonstrate the dual impact of migration in border communities, highlighting both the opportunities for development and the risks to security, thereby underscoring the need for effective border management and community-based interventions.

Discussion of Findings

The findings of this study reveal that migration plays an important role in shaping the socio-economic and security dynamics of border communities in Etung Local Government Area. The data show that

economic opportunities, cross-border trade, and kinship ties are the major factors driving migration in the region. This finding supports existing studies which indicate that economic motivations and social networks remain key drivers of migration in African border regions (Castles, de Haas, and Miller).

The study also reveals that migration is closely linked to several security challenges within the border communities. The results show that smuggling, illegal migration, and cross-border crimes are among the most common security concerns reported by respondents. These findings are consistent with earlier research which suggests that weak border control systems and porous boundaries often facilitate illegal activities in border regions (Adepoju). The Chi-square test further confirmed a statistically significant relationship between migration and security challenges in Etung Local Government Area. In addition to security implications, the findings indicate that migration significantly contributes to socio-economic activities within the border communities. Many residents depend on cross-border trade and agricultural exchange for their livelihoods. The movement of traders, farmers, and labourers between Nigeria and Cameroon promotes local economic development and strengthens cultural relationships between communities across the border. However, the benefits of migration are often accompanied by governance challenges, particularly where migration occurs through informal routes that are difficult for authorities to regulate. The study highlights the complex relationship between migration, security, and development in border communities. While migration contributes to economic opportunities and social integration, it also creates security concerns when border management systems are weak. Effective migration management therefore requires stronger border governance, improved cooperation between Nigeria and Cameroon, and greater involvement of local communities in security initiatives.

Conclusion

Migration remains an integral aspect of life in border communities within Etung Local Government Area of Cross River State. The study has shown that cross-border mobility is deeply embedded in the socio-economic and cultural fabric of these communities. Residents frequently engage in trade, agricultural exchange, and family visits across the Nigeria–Cameroon border, facilitated by longstanding social networks and kinship ties. These interactions contribute significantly to local economic development, enhance livelihoods, and foster cultural integration, demonstrating the positive role of migration in border regions.

However, the study also highlights the security challenges associated with such mobility. Weak border management, limited surveillance infrastructure, and porous boundaries create opportunities for illegal migration, smuggling, human trafficking, and other forms of cross-border crime. The Chi-square analysis further confirms that migration is significantly linked to both security challenges and socio-economic activities in the area. This dual effect underscores the complexity of migration dynamics in border communities, where economic benefits coexist with potential threats to national security and local stability.

Addressing these challenges requires a balanced and integrated approach. Policy measures should simultaneously promote economic development and strengthen border governance mechanisms. Strengthening collaboration between local communities, traditional authorities, and government security agencies is essential for effective border management. Additionally, cross-border cooperation with the Republic of Cameroon can help monitor migration flows, reduce criminal activities, and

facilitate legal trade. Ultimately, sustainable migration management in Etung Local Government Area must combine community participation, effective security policies, and socio-economic initiatives to ensure that migration continues to support development while mitigating its associated risks.

Recommendations

- i. The Nigerian government should strengthen border surveillance and immigration control in Etung communities.
- ii. Community-based security initiatives should be encouraged to support formal security agencies.
- iii. Cross-border trade regulations should be improved to reduce illegal activities.
- iv. Government should provide economic opportunities and infrastructure in border communities.
- v. Bilateral cooperation between Nigeria and Cameroon should be enhanced for effective border management.

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