**INFLUENCE OF ADULT EDUCATION PROGRAMME IN PROMOTING DIGITAL (ICT) LITERACY AMONG ADULT LEARNERS IN NIGERIA**

# ABSTRACT

This study investigates the influence of adult education programs in promoting digital literacy (ICT) among adult learners in Nigeria. With the increasing significance of digital skills in modern society, it is essential to explore how adult education programs contribute to bridging the digital divide and empowering individuals with essential technological competencies. A sample of 200 adult learners was surveyed using a structured questionnaire, which addressed the effectiveness of these programs, the challenges faced by learners, and the social and economic impact of digital literacy. The findings indicate that a majority of respondents (65%) rated the programs as effective, with improvements in employability and income potential reported by 70% of participants. However, challenges such as limited access to digital devices, poor internet connectivity, and inadequate educator support were identified as significant barriers to successful learning. Despite these obstacles, the study highlights the critical role of digital literacy in enhancing economic opportunities for adult learners, particularly in urban areas. The research suggests that for these programs to be more impactful, infrastructure improvements, better-trained instructors, and curricula aligned with local job market demands are necessary. This study contributes to the ongoing discourse on digital literacy in adult education, emphasizing the need for comprehensive strategies to promote inclusivity and accessibility in Nigeria’s digital education landscape.

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# CHAPTER ONE

# INTRODUCTION

## 1.1 Background to the Study

The rapid evolution of information and communication technologies (ICT) has transformed societies and economies globally, placing digital literacy at the core of modern education. In developing countries like Nigeria, the integration of ICT into education is pivotal for socio-economic advancement, where adult education programs play a crucial role in bridging the digital divide. Digital literacy encompasses competencies beyond basic computer skills, incorporating critical understanding, evaluation, and the ability to create and share content across digital platforms. This literacy is essential for adults, as it enhances their employability, civic engagement, and quality of life (UNESCO, 2020). Adult education programs in Nigeria traditionally aim to increase basic literacy, such as reading and writing, but increasingly emphasize digital literacy to adapt to the modern labor market. The Nigerian government, along with educational stakeholders, has recognized ICT as a means to empower adult learners, enabling them to actively participate in digital spaces and thus contribute more effectively to the economy. This aligns with Sustainable Development Goal 4 (SDG 4), which advocates for equitable quality education and promotes lifelong learning opportunities for all (Global Business Coalition for Education, 2017).

While there have been significant strides in incorporating ICT tools within Nigeria's educational framework, a substantial gap remains in ensuring adults achieve comprehensive digital literacy. Most adult learners in rural areas still lack access to digital resources and are hindered by limited digital literacy skills. Programs such as UNESCO's ICT initiatives in Nigeria have focused on building the capacity of adult educators and facilitating access to digital learning tools. However, challenges such as inadequate infrastructure, lack of trained personnel, and limited government funding continue to impede the success of these programs (UNESCO, 2023). Adult education programs that successfully incorporate digital literacy have shown benefits in several areas. These programs provide adults with relevant skills to participate in the digital economy, reducing unemployment and empowering individuals to pursue entrepreneurship. For example, digital learning enables adults to access online resources, stay updated with global trends, and even start online businesses. Additionally, adult learners who gain ICT skills can help their communities adapt to digital advancements, thus fostering a more inclusive society (ResearchProject, 2023).

Moreover, these programs contribute to reducing the digital divide, which remains significant in Nigeria. The disparity in digital access and skills between urban and rural populations restricts rural adults' ability to engage in economic and social activities. To address this, adult education programs in Nigeria increasingly integrate ICT training as a way to empower marginalized communities and ensure equitable access to digital resources. Studies emphasize the need for collaborative efforts among government agencies, non-governmental organizations, and international bodies to support ICT-driven adult education (UNESCO, 2023).

## 1.2 Statement of the Research Problem

Despite the growing recognition of ICT as a critical tool for literacy, there are significant obstacles in the effective implementation of digital literacy within adult education programs in Nigeria. The high rate of digital illiteracy among Nigerian adults, particularly those in rural and underserved regions, presents a barrier to social and economic mobility. Most adult learners lack access to digital tools, compounded by limited infrastructural support in educational centers. Even when digital resources are available, inadequate training for educators limits the effectiveness of ICT-based adult education (UNESCO, 2023; Global Business Coalition for Education, 2017). Adult education programs designed to promote digital literacy face several challenges. One critical issue is the lack of structured policy and funding to support sustainable ICT integration. While initiatives exist, they are often fragmented and lack the necessary continuity to make lasting impacts. Many adult education centers still operate without basic digital resources, such as computers and internet access, and rely on outdated teaching methods that do not incorporate digital literacy (ResearchProject, 2023).

Another key issue is the low level of digital literacy among adult learners themselves, who may be unfamiliar with even basic digital concepts. This digital gap affects their ability to access information, engage in e-learning, and benefit from online resources essential for both personal and professional growth. Instructors in adult education programs often lack the specialized training needed to teach digital skills, further hampering the ability of these programs to meet learners' needs effectively (UNESCO, 2023). This study thus aims to investigate the effectiveness of adult education programs in promoting digital literacy among adult learners in Nigeria, identifying key challenges and areas for improvement. Through this analysis, the study will explore the existing gaps in ICT training, assess the role of policy in supporting adult education, and propose strategies to enhance the digital competencies of adult learners in Nigeria, thus supporting national development goals. This study hopes to provide valuable insights to policymakers, educational authorities, and other stakeholders involved in adult education, with recommendations aimed at promoting sustainable digital literacy programs for adults across Nigeria.

## 1.3 Purpose and Objectives of the Study

The primary purpose of this study is to assess the influence of adult education programs in promoting digital (ICT) literacy among adult learners in Nigeria. Specifically, the study aims to:

1. Examine the effectiveness of adult education programs in enhancing digital literacy skills among adult learners, focusing on the accessibility and usability of ICT tools within these programs.
2. Identify the challenges that adult learners and educators face in implementing digital literacy in adult education programs, particularly in resource-limited settings.
3. Evaluate the impact of digital literacy on adult learners’ social and economic outcomes, such as employment opportunities, entrepreneurship, and civic engagement.

## 1.4 Research Questions

This study will address the following research questions:

1. How effective are adult education programs in promoting digital literacy among adult learners in Nigeria?
2. What challenges hinder the successful integration of digital literacy in adult education programs?
3. How does digital literacy acquired through adult education impact the social and economic lives of adult learners?

## 1.5 Significance of the Study

This study is significant for several reasons. First, it addresses the growing need for digital literacy in the context of adult education, as ICT skills are essential for individuals to participate in an increasingly digital world. By evaluating the impact of adult education programs on digital literacy, this study provides insights into how these programs can be optimized to empower adult learners with relevant skills. The findings can inform policy decisions and potentially lead to the design of more effective ICT-based learning strategies (UNESCO, 2020; ResearchProject, 2023). Moreover, this study is relevant to educational institutions, as it highlights areas for improvement in digital literacy initiatives and offers recommendations for overcoming common barriers. For instance, understanding the challenges faced by adult educators may lead to more targeted professional development, thereby enhancing teaching effectiveness and student outcomes (Global Business Coalition for Education, 2017). Finally, the study has implications for socio-economic development in Nigeria. By promoting digital literacy through adult education, learners are better equipped to pursue economic opportunities, contribute to their communities, and engage with the digital economy. This, in turn, supports Nigeria’s broader goals of reducing poverty and fostering inclusive growth, aligning with national and global development agendas (UNESCO, 2023).

## 1.6 Scope of the Study

The scope of this study is limited to adult education programs aimed at promoting digital literacy among adult learners in Nigeria. It focuses on the effectiveness, challenges, and impact of these programs in both urban and rural settings. The study considers a range of adult education programs, including government-sponsored initiatives, non-governmental organization (NGO) programs, and privately run courses. However, it does not cover all forms of digital literacy training available, focusing instead on structured educational programs designed specifically for adult learners. Additionally, this research will examine both qualitative and quantitative data related to adult learners’ experiences and outcomes, aiming to present a comprehensive view of digital literacy in adult education within the Nigerian context.

# CHAPTER TWO

# LITERATURE REVIEW

## 2.1. Theoretical Framework

**Andragogy (Adult Learning Theory)**

Malcolm Knowles' theory of andragogy is foundational in adult education, emphasizing that adults bring a wealth of experiences and knowledge to their learning journey. This theory posits that adult learners are self-motivated, goal-oriented, and practical in their approach to learning (Knowles, Holton, & Swanson, 2015). In the context of digital literacy, andragogy implies that adult learners in Nigeria are likely to engage more deeply in programs that allow them to use new digital skills to solve real-life problems, such as accessing government services, participating in digital marketplaces, or enhancing employment opportunities (Ugwu & Umezuruike, 2023). Many adult learners may have had limited formal education but are often experienced in practical skills; therefore, programs designed with Knowles' principles in mind can empower these learners by connecting digital literacy with daily tasks. Moreover, adults often prefer a self-directed learning approach, meaning digital literacy programs should encourage exploration and adaptability with technology rather than rigid instruction. Studies show that when adult learners can experiment with digital tools at their own pace, retention and application of knowledge increase significantly (Merriam & Bierema, 2014). This approach is particularly crucial in Nigeria, where adults from diverse backgrounds and literacy levels may need to learn how to use ICT tools in flexible, supportive environments.

**2. Digital Literacy Framework**

The concept of digital literacy, as initially introduced by Paul Gilster, has broadened from simple computer use to a more complex skill set that includes information management, communication, and creative content production on digital platforms (Gilster, 1997). Recent frameworks, such as those outlined by Ng (2012), suggest that digital literacy involves critical thinking, cognitive skills, and the ability to use and navigate technology effectively. For Nigerian adult learners, digital literacy encompasses more than functional ICT skills. It includes the ability to evaluate information sources, understand internet safety, and use digital tools for self-advancement and community participation. Programs that promote digital literacy in Nigerian adult education must thus focus on developing a range of competencies, including computer literacy, media literacy, and information literacy (Bakare, 2015). These competencies are crucial for enabling adults to engage in Nigeria’s growing digital economy and to contribute meaningfully to both local and global digital conversations. Adult education programs can foster these skills by incorporating various digital tools—smartphones, computers, and internet resources—into their curriculum. A comprehensive digital literacy framework equips learners with both technical abilities and the critical thinking skills required to navigate complex digital landscapes (Ugwu & Umezuruike, 2023). In particular, information literacy, which involves the capacity to access and assess online information, is critical for adult learners who may rely on digital sources for news, educational content, or job-related information.

**3. Technology Acceptance Model (TAM)**

The Technology Acceptance Model (TAM), developed by Davis (1989), provides insight into how and why individuals adopt new technology. This model suggests that two key factors influence technology adoption: perceived usefulness and perceived ease of use. When applied to digital literacy among adult learners, TAM suggests that these learners are more likely to engage with ICT tools if they find them easy to use and beneficial for their personal goals.

In Nigeria, perceived usefulness might relate to the practical advantages digital skills offer, such as improved job prospects, ease of accessing essential services, and enhanced communication with family and community members. Perceived ease of use, on the other hand, can be encouraged by providing user-friendly digital resources and support, as many adult learners may initially lack confidence in using digital tools (Abubakar, 2020). Digital literacy programs tailored to adult learners should thus emphasize the relevance of ICT skills in everyday life, making the training practical and accessible. By demonstrating the tangible benefits of digital literacy—such as the ability to engage in e-commerce, connect with distant relatives, or stay informed on health matters—programs can increase adult learners' motivation and willingness to persist through challenges associated with learning new technology.

**4. Sociocultural Theory**

Vygotsky’s sociocultural theory emphasizes the role of social interaction and cultural context in cognitive development. In the context of adult digital literacy, this theory highlights the importance of collaborative and social learning experiences. When adults learn digital skills within a social framework, such as group settings or peer mentoring programs, they are more likely to engage actively and feel supported in their learning journey (Vanek, 2020).

In Nigerian adult education programs, fostering a community of learners can help individuals feel more comfortable experimenting with digital tools and asking questions. This approach can be especially beneficial for adults who are apprehensive about technology, as they can observe and learn from peers who may have more experience. Additionally, culturally relevant content—such as using examples that resonate with learners’ lives—helps create a more inclusive and engaging environment (Bergson-Shilcock, 2020). Integrating sociocultural learning principles in Nigerian digital literacy programs would involve creating opportunities for adult learners to collaborate, discuss their progress, and apply ICT skills in community projects, reinforcing the practical application of their new knowledge.

**5. The Whole Learner Approach**

The whole learner approach takes into account the full range of cognitive, emotional, and social needs of adult learners. This approach aligns with digital literacy because effective ICT training requires not just technical instruction but also confidence-building, problem-solving, and adaptability. Educators who adopt this approach recognize that digital literacy is as much about overcoming psychological barriers as it is about learning technical skills (Heil, 2021). In Nigeria, adult learners may face unique challenges, including limited access to digital tools, financial constraints, and low levels of baseline literacy. The whole learner approach suggests that digital literacy programs should provide emotional and psychological support to address these challenges. For instance, programs can offer one-on-one mentorship, create safe spaces for practice, and use feedback mechanisms to build learners' confidence over time (Vanek, 2020). Such strategies are crucial for ensuring that learners not only acquire digital skills but also develop the resilience needed to apply these skills in everyday contexts.

## **2.2. Conceptual Framework**

**The Role of ICT in Adult Learning**

Information and Communication Technology (ICT) plays a transformative role in adult education by expanding access to learning, enhancing instructional methods, and fostering skill development. The integration of ICT in adult learning, especially in low-resource settings such as Nigeria, provides adults with new opportunities to acquire essential knowledge and skills that they may have missed in traditional schooling. ICT enables flexible learning that accommodates adults’ busy schedules, making it easier for them to balance education with work and family responsibilities (Akinyemi, 2019; Biao, 2015).

ICT offers multiple avenues for delivering educational content, including online courses, mobile learning, and virtual classrooms. These digital formats allow adult learners to access educational materials from remote locations, reducing the barriers posed by distance and infrastructure. For instance, online platforms provide resources that adult learners can access at their convenience, facilitating self-paced learning. This flexibility is particularly beneficial in Nigeria, where geographical constraints and limited physical infrastructure can hinder access to formal adult education (Bakare, 2015; Obi, 2018). Mobile learning, enabled by widespread mobile phone use, further supports adult learners by allowing them to access resources via apps, audio lessons, and e-books, which are often tailored to their specific literacy levels and needs. ICT also supports a wide range of learning styles through multimedia resources such as videos, podcasts, and interactive simulations, making content more engaging and accessible for adult learners. Studies have shown that multimedia resources can enhance comprehension and retention, particularly for adults who benefit from visual and interactive elements (Livingstone, 2018). By integrating multimedia resources, educators can tailor their teaching approaches to suit the diverse backgrounds and experiences of adult learners, who may have varying levels of literacy and educational experience.

Furthermore, ICT in adult education encourages collaborative learning through tools like discussion forums, social media, and collaborative document editing platforms. These tools allow adult learners to share knowledge, seek feedback, and engage in peer-to-peer support, which can be instrumental in fostering a supportive learning community (Vanek, 2020). Social interaction and collaboration are particularly important for adult learners who may feel isolated or lack confidence, as they can encourage active participation and improve learning outcomes.

Additionally, ICT enhances the quality of adult education by enabling real-time feedback and assessment. Through online quizzes, interactive exercises, and progress tracking, adult learners can receive immediate feedback, helping them to identify and address knowledge gaps. This feedback loop promotes self-directed learning, a critical aspect of adult education, where adults take ownership of their learning and engage in continuous improvement (Ugwu & Umezuruike, 2023). For adult educators, ICT tools provide insights into learners’ progress and challenges, allowing them to tailor support to individual needs. In Nigeria, the role of ICT in adult learning is aligned with the broader national goals of improving digital literacy and fostering socio-economic development. By equipping adults with ICT skills, educational programs help bridge the digital divide and enable learners to access online resources, apply for jobs, and engage in civic activities. Moreover, ICT skills are becoming increasingly essential in the workforce, and adult learners who acquire these competencies are better positioned to participate in a digital economy, enhancing their employability and career prospects (Bergson-Shilcock, 2020; Federal Ministry of Communications, 2020). Despite these benefits, the implementation of ICT in adult education faces challenges, such as limited access to affordable technology, insufficient internet connectivity, and a lack of digital literacy among both educators and learners. These barriers need to be addressed through policies that support ICT infrastructure development, provide funding for digital learning resources, and train educators in ICT use. Partnerships between government, private sector, and international organizations can help overcome these obstacles and expand access to ICT-enabled adult education in Nigeria (Akinyemi, 2019; Obi, 2018).

Thus, ICT plays a critical role in enhancing adult education by making learning more accessible, engaging, and personalized. Through online and mobile learning, multimedia resources, collaborative tools, and real-time feedback, ICT has the potential to transform adult learning experiences and outcomes in Nigeria. By addressing challenges related to technology access and digital skills, Nigeria can further harness ICT’s potential in adult education, empowering adults with the knowledge and competencies necessary for social and economic participation in a digital world.

**The Factors Influencing ICT Adoption in Adult Education**

Several factors influence the adoption of ICT in adult education, including socio-economic status, digital literacy, accessibility of technology, policy support, and cultural attitudes toward digital learning. Understanding these factors is crucial for designing effective programs that encourage ICT use among adult learners in Nigeria.

Socio-economic Status Socio-economic status is a significant factor affecting ICT adoption, as it determines access to resources such as computers, smartphones, and internet connectivity. Adult learners from low-income backgrounds may struggle to afford devices or data plans necessary for participating in digital learning. Consequently, the digital divide becomes more pronounced, with individuals in higher income brackets more likely to access and benefit from ICT resources (Biao, 2015). Programs aimed at promoting ICT in adult education should consider subsidizing technology costs or providing low-cost access to digital resources for disadvantaged groups.

**Digital Literacy**

The level of digital literacy among both learners and educators influences the success of ICT adoption in adult education. Many adult learners in Nigeria may have limited prior exposure to digital tools, leading to a steep learning curve when introduced to ICT. Educators, too, need digital competencies to effectively integrate ICT into their teaching. Training programs and workshops can help bridge this gap by equipping both learners and educators with foundational digital skills (Vanek, 2020). Building digital literacy also boosts learners' confidence, encouraging them to engage more fully with ICT in their education.

Accessibility of Technology The availability of affordable and reliable technology is essential for ICT adoption. In Nigeria, high-speed internet and access to digital devices can be limited, particularly in rural areas. Mobile technology has somewhat mitigated this issue, as mobile phones are more widely available and used for accessing online resources. However, challenges remain regarding the quality of internet access, which can affect the functionality and reliability of digital learning platforms (Obi, 2018). Infrastructure improvements and investment in internet services, particularly in underserved regions, are necessary for expanding ICT adoption in adult education.

Policy Support and Government Initiatives Government policies and initiatives play a critical role in promoting ICT adoption. In Nigeria, policies like the National Digital Economy Policy and Strategy (NDEPS) underscore the importance of digital skills in education and development. Government initiatives that support ICT infrastructure, digital literacy training, and funding for adult education programs enhance the accessibility of ICT for adult learners. Additionally, partnerships with private companies and non-profits can provide resources and support for ICT-enabled adult education, contributing to a more inclusive learning environment (Federal Ministry of Communications, 2020).

**Cultural Attitudes and Awareness**

Cultural perceptions about technology can either encourage or hinder ICT adoption. Some adult learners may be apprehensive about digital tools due to fear of the unknown or concerns about data privacy. Awareness campaigns and community-based programs can help demystify technology, demonstrating its practical benefits and addressing concerns. When adults see clear applications of ICT in their lives, such as improved access to information or job opportunities, they are more likely to adopt digital learning resources (Akinyemi, 2019). Encouraging family support for adult learners can also foster positive attitudes toward ICT adoption.

Relevance of ICT to Daily Life For adults to adopt ICT, it must be seen as relevant to their personal and professional lives. Adult learners are more motivated to engage with digital tools when they recognize tangible benefits, such as access to online banking, health information, or digital marketplaces. Therefore, ICT programs that focus on practical, real-life applications can drive higher adoption rates. This relevance-oriented approach aligns with Knowles’ theory of andragogy, which emphasizes that adults learn best when the content is directly applicable to their needs (Ugwu & Umezuruike, 2023).

Thus the adoption of ICT in adult education is shaped by various socio-economic, infrastructural, policy, and cultural factors. By addressing these factors through targeted interventions—such as subsidies for technology, digital literacy training, and relevant educational content—Nigeria can foster a more inclusive environment for ICT-enabled learning. Addressing these factors not only promotes digital literacy among adult learners but also empowers them to participate fully in an increasingly digitalized economy and society.

**The Impact of Digital Literacy on Socioeconomic Outcomes for Adults**

Digital literacy has become a critical skill in the 21st century, transforming how individuals participate in the economy, access information, and improve their quality of life. For adults, particularly in developing countries like Nigeria, digital literacy can lead to substantial improvements in socioeconomic outcomes. As digital skills become more essential for jobs, services, and social participation, the ability to navigate digital platforms effectively has the potential to reduce inequality and drive economic empowerment (Livingstone, 2018; OECD, 2019).

**1. Economic Empowerment and Employment Opportunities**

One of the most direct impacts of digital literacy on socioeconomic outcomes is in the realm of employment. Digital skills increase employability by allowing adults to perform tasks that require the use of computers, the internet, and other digital tools. Many employers, even in traditionally low-tech industries, now expect employees to have basic digital skills, such as using email, managing spreadsheets, and accessing online systems. For adults who acquire digital literacy, these skills can open up job opportunities in both formal and informal sectors (Bergson-Shilcock, 2020).

In Nigeria, digital literacy can significantly improve employment outcomes due to the growing demand for tech-enabled roles and the expansion of e-commerce. Many companies are shifting to digital platforms, and roles in customer service, sales, and even marketing now require proficiency in digital tools. For adult learners, acquiring these skills can lead to more stable and higher-paying job opportunities. Furthermore, digital literacy can enhance entrepreneurial opportunities, enabling individuals to start online businesses or use digital marketing to reach larger audiences (Akinyemi, 2019). For instance, adults with digital skills can access online marketplaces, connect with customers via social media, and streamline operations with digital tools, all of which can contribute to business growth and sustainability.

In low-income and rural areas, digital literacy can help adults engage in remote work, particularly in freelancing or gig economy roles. Through digital literacy training, individuals gain access to platforms such as Upwork, Fiverr, or local equivalents, where they can offer services in areas such as writing, design, and virtual assistance. This access to remote work platforms not only diversifies income sources but also allows adults to work flexibly from locations with limited local job opportunities, thereby reducing rural-to-urban migration pressures (Federal Ministry of Communications, 2020).

**2. Enhanced Access to Information and Resources**

Digital literacy empowers adults by expanding their access to information, which can positively influence areas such as health, education, and civic participation. Digital platforms allow individuals to access up-to-date information on healthcare practices, financial literacy, and community resources. For example, many adults use their digital skills to navigate online health resources, helping them to make informed health choices, understand treatment options, and even schedule appointments (Livingstone, 2018).

Access to financial services is another significant benefit of digital literacy. In Nigeria, many adults use mobile money services, such as Paga and Quickteller, to conduct transactions without a traditional bank account. Digital literacy enables adults to navigate these financial platforms, allowing them to save, transfer money, and make payments easily. Digital financial services provide a safety net for low-income individuals, giving them better control over their finances and reducing their dependency on cash transactions, which can be insecure and inconvenient (Akinyemi, 2019; GSMA, 2019).

In the context of education, digital literacy is essential for lifelong learning, especially in today’s fast-changing world. Adults who are digitally literate can access online courses, tutorials, and other educational resources to improve their skills, knowledge, and qualifications. By using Massive Open Online Courses (MOOCs) and other digital learning platforms, adult learners can pursue certifications that may enhance their professional prospects without the constraints of traditional classroom-based education (Vanek, 2020).

**3. Improved Social Inclusion and Civic Engagement**

Digital literacy is a powerful tool for promoting social inclusion, as it enables adults to connect with family, friends, and community members through digital platforms. Social media and messaging applications facilitate communication, especially for adults in remote areas or those separated by distance. These connections help individuals maintain social bonds, which are essential for mental well-being and can provide a support network in times of need (Livingstone, 2018).

Furthermore, digital literacy fosters civic participation by enabling adults to access news, engage in discussions, and participate in social or political activities online. In Nigeria, digitally literate adults are better equipped to follow national developments, join advocacy groups, and make informed voting decisions. This is particularly important in a democracy, where active citizenship is crucial for accountability and social change. Digital platforms allow marginalized voices to be heard, empowering adults to engage in social issues and influence policy decisions (Akinyemi, 2019; OECD, 2019).

Digital literacy also enables adults to use government e-services, such as tax filing, applying for permits, or accessing social benefits. By reducing the need to travel to government offices, e-governance tools save time and reduce costs for individuals. In Nigeria, initiatives to promote digital literacy aim to make such e-government services accessible to a broader population, thereby enhancing the reach of public services and fostering a more inclusive digital society (Federal Ministry of Communications, 2020).

**4. Enhanced Personal Empowerment and Quality of Life**

Beyond tangible benefits, digital literacy enhances personal empowerment and self-confidence, which can positively influence various aspects of life. For adults, the ability to use digital tools for personal needs—whether for shopping, financial management, or accessing services—reduces dependency on others, fostering a sense of independence and self-reliance. This empowerment can lead to a greater sense of agency, as individuals are better able to make informed decisions and manage their lives more effectively (Obi, 2018). Digital literacy also enables adults to explore their interests and hobbies through online platforms, which contributes to a richer, more fulfilling life. From online tutorials for skills like cooking or gardening to social groups for shared interests, digital platforms create opportunities for adults to pursue personal growth and enjoyment. These activities contribute to improved mental well-being, offering an outlet for self-expression and leisure.

Furthermore, digital literacy enhances resilience by providing access to crisis information and support during emergencies. Adults with digital skills can quickly access critical information during natural disasters or health crises, helping them to make timely decisions and protect themselves and their families. This resilience is essential for individuals in vulnerable communities, where access to real-time information can be lifesaving (GSMA, 2019). Thus, digital literacy has a profound impact on the socioeconomic outcomes for adults, particularly in contexts like Nigeria where digital skills are increasingly essential for economic and social participation. From improved employment prospects and access to critical resources to enhanced social inclusion and personal empowerment, digital literacy equips adults with tools to navigate and thrive in a digitalized world. While barriers such as access to technology and digital infrastructure remain, targeted programs and policies that promote digital literacy can bridge these gaps, fostering inclusive growth and reducing inequality (Akinyemi, 2019; Livingstone, 2018; Vanek, 2020).

To fully harness the socioeconomic benefits of digital literacy, governments, private sector, and civil society organizations must work collaboratively to address these barriers and expand access to digital literacy programs. By doing so, Nigeria and other developing countries can empower adults to actively participate in the digital economy, thereby improving their quality of life and contributing to broader national development goals.

**The Challenges and Barriers to Digital Literacy for Adult Learners in Nigeria**

Digital literacy, essential for economic empowerment and social inclusion, is challenging for many adult learners in Nigeria due to socioeconomic, infrastructural, and cultural barriers. This section explores these key challenges, highlighting factors that restrict adult learners from acquiring essential digital skills in a rapidly evolving digital landscape.

**1. Limited Access to Technology and Infrastructure**

A significant barrier to digital literacy for adult learners in Nigeria is the limited access to necessary technology and infrastructure. High costs of digital devices, including computers, smartphones, and tablets, make them inaccessible to many, particularly in low-income and rural communities. Even with access to devices, the quality and reliability of internet services often fall short due to limited coverage in rural areas and the high cost of data, which can be prohibitively expensive for low-income households (Biao, 2015; GSMA, 2019).

In many rural areas, internet connectivity is either unavailable or unstable, reducing the effectiveness of online learning platforms. Without adequate infrastructure, digital literacy programs cannot reach the adult learners who need them most. The infrastructure gap between urban and rural Nigeria continues to widen, exacerbating the digital divide and restricting access to ICT resources that are essential for digital learning (Omojuwa, 2020). This issue is critical, as studies have shown that access to reliable internet and affordable devices is directly correlated with digital literacy and socioeconomic empowerment (Federal Ministry of Communications, 2020).

**2. Socioeconomic Constraints**

Socioeconomic factors, including income level and employment status, influence an individual's ability to pursue digital literacy. For many adults in Nigeria, financial responsibilities such as supporting a family make it challenging to allocate resources toward digital learning. Additionally, the indirect costs associated with digital education—such as transportation to training centers, device maintenance, and internet subscription fees—can be deterrents for those with limited financial means (Akinyemi, 2019; GSMA, 2019). Many adult learners in Nigeria work long hours in informal sectors where digital skills are not required, reducing the motivation and time available to learn these skills. For low-income individuals, the focus is often on immediate economic needs rather than long-term skill acquisition. Consequently, digital literacy programs for adult learners may face low enrollment and high dropout rates if they do not address these socioeconomic constraints (Livingstone, 2018).

**3. Low Levels of Basic Literacy**

Another significant barrier is the low level of basic literacy among adult learners in Nigeria. Many adults have limited formal education, making it challenging for them to grasp the basics of digital technology. Studies indicate that basic literacy is a foundational requirement for digital literacy, as individuals need reading and writing skills to navigate digital interfaces and understand online content (Biao, 2015; Vanek, 2020). In Nigeria, a substantial portion of adult learners, especially women and rural residents, have minimal or no formal education, complicating efforts to teach digital skills. Programs designed to improve digital literacy must often start with basic literacy instruction, which can extend the learning timeline and make digital literacy harder to achieve within standard program durations. Addressing this barrier requires an integrated approach that combines literacy education with digital skills training (UNESCO, 2017).

**4. Lack of Digital Literacy Training Programs**

The availability of digital literacy programs specifically tailored for adult learners is limited in Nigeria. Most digital literacy initiatives are designed for youth or are part of formal education curricula, leaving a gap for adult learners who may need more flexible, contextualized, and paced learning options. Furthermore, the few available programs are often concentrated in urban areas, limiting their accessibility for rural populations (Akinyemi, 2019; Biao, 2015). Many of these programs also lack funding, which impacts their quality and sustainability. When adult digital literacy programs are underfunded, they may lack adequate resources, such as trained instructors, updated curriculum materials, and supportive infrastructure. This lack of support can deter adult learners from participating, as the programs fail to meet their specific learning needs and may not provide the skills necessary for immediate application in daily life or work (Omojuwa, 2020).

**5. Cultural Attitudes and Fear of Technology**

Cultural perceptions and attitudes toward technology also impact digital literacy adoption among adult learners. In some Nigerian communities, digital tools are viewed with skepticism, and there is often a fear of technology due to a lack of exposure. Older adults may feel intimidated by digital devices, assuming that digital skills are complex and only relevant to younger generations (Livingstone, 2018). This "technophobia" can make adults reluctant to engage with digital learning. Programs that fail to address these fears may see low participation and engagement. Additionally, certain communities in Nigeria prioritize traditional roles and may not perceive digital skills as valuable for adult learners, especially women. Addressing these cultural barriers requires awareness campaigns and community-based initiatives that illustrate the practical benefits of digital literacy and help demystify technology for adults (Akinyemi, 2019; Vanek, 2020).

**6. Limited Institutional and Governmental Support**

Government policies and institutional support are crucial for fostering digital literacy. In Nigeria, however, policy support for adult digital literacy remains limited. While initiatives such as the National Digital Economy Policy and Strategy (NDEPS) acknowledge the importance of digital literacy, there is a lack of focused programs that address the specific needs of adult learners. Without strong policy frameworks and sufficient funding, digital literacy programs struggle to scale and reach a broader adult population (Federal Ministry of Communications, 2020). Institutional support is also lacking within educational organizations, as many adult education centers lack the resources to implement digital literacy programs. The absence of partnerships with private sector organizations or NGOs further limits the scope and reach of these programs. Collaboration between government, non-profits, and the private sector could improve the availability and accessibility of digital literacy resources for adult learners, but such partnerships are currently scarce (Livingstone, 2018).

**7. Language Barriers**

Nigeria's linguistic diversity can present additional challenges to digital literacy for adult learners, as many digital platforms and resources are primarily in English. For adults who speak indigenous languages and have limited proficiency in English, navigating digital content becomes even more difficult. This language barrier can limit adults’ ability to understand instructional materials and interact with digital tools, thereby impeding their digital literacy development (UNESCO, 2017). In regions where local languages are predominantly spoken, digital literacy programs must incorporate language-appropriate resources and multilingual support to reach a wider audience. Providing digital tools and resources in various local languages can help overcome this barrier, enabling more adults to participate in digital learning effectively.

**8. Gender Disparities**

In Nigeria, gender disparities in education and technology access also influence digital literacy among adults. Women, especially in rural areas, often face additional obstacles in accessing digital literacy programs due to cultural norms, household responsibilities, and limited financial independence. Studies show that women are less likely than men to own digital devices and have access to the internet, which hinders their ability to participate in digital literacy initiatives (GSMA, 2019; Vanek, 2020). Addressing gender-based barriers requires targeted strategies that create safe, accessible, and flexible learning environments for women. Programs that accommodate women’s schedules, offer child-care support, and provide gender-sensitive instruction can encourage greater participation. Such initiatives can help bridge the digital gender divide and empower women to gain digital skills, which in turn can improve their socioeconomic outcomes.

## 2.3. Empirical Review

Akinyemi (2019) investigated the role of ICT in enhancing adult education programs in Nigeria. Using a descriptive survey design, the study surveyed 250 adult learners in selected Nigerian states. Data was collected through structured questionnaires, and statistical analysis was done using SPSS. The findings revealed that ICT significantly improved adult learners' engagement and retention in educational programs. However, barriers such as limited access to technology and inadequate infrastructure hindered the widespread adoption of ICT in adult education.

Obi (2018) explored the challenges and opportunities of using ICT in adult education in Nigeria. Employing a qualitative research approach, the study involved in-depth interviews with 40 adult educators. The study highlighted that while ICT facilitated access to learning resources and fostered self-directed learning, factors such as socio-economic constraints, inadequate training, and low digital literacy among adults were major barriers to effective implementation. The findings emphasized the need for targeted training and infrastructural development.

Ayodele (2020) examined the impact of digital literacy on adult learners' employability in Nigeria. A total of 150 respondents were selected using stratified random sampling. The study used a mixed-methods approach, with both quantitative and qualitative data collected through surveys and interviews. Results showed that digital literacy skills enhanced adult learners' employability, particularly in sectors such as retail and customer service. The study also noted that gender and geographic location influenced access to digital learning opportunities.

Oladipo and Kola (2017) studied the role of adult education in promoting digital literacy in rural Nigeria. The study employed a quasi-experimental design with a sample size of 200 adult learners from rural communities. Using pre- and post-tests to measure participants' digital skills, the study found a significant improvement in digital literacy after attending a targeted adult education program. However, the researchers noted challenges in sustaining these programs due to funding limitations and lack of digital infrastructure in rural areas.

Adebayo (2021) conducted a study on the effect of ICT on adult learners' access to educational resources in Nigeria. The study used a survey design with 300 respondents. The study revealed that while ICT facilitated access to a wide range of educational materials, such as e-books and online courses, socio-economic factors, such as income disparity and rural-urban divide, limited the effectiveness of ICT programs for adult learners. The study recommended that more inclusive policies should be adopted to bridge these gaps.

Adedeji (2016) examined the effectiveness of ICT training programs for adult learners in Nigeria. Using a case study methodology, the research involved 120 adult learners across four Nigerian states. Data was gathered through questionnaires and focus group discussions. The findings indicated that participants showed improved digital literacy, with particular benefits for those in urban centers. However, a lack of continuous support and training after the initial courses hindered long-term digital competence development.

Omojuwa (2020) assessed the barriers to ICT adoption in adult education in Nigeria. Using a correlational research design, the study surveyed 200 adult educators. Statistical analysis revealed that while ICT could enhance learning experiences, obstacles such as low levels of digital skills among educators, limited access to devices, and high costs were major challenges. The study called for comprehensive digital literacy training for both instructors and learners, along with governmental support for infrastructure development.

Oloruntoba (2022) explored the relationship between digital literacy and economic outcomes for adult learners in Nigeria. The study used a longitudinal design with a sample of 250 adult learners, assessing their socio-economic status before and after ICT training. Data was collected through interviews and surveys. The study found that digital literacy significantly improved participants' income levels and employment prospects, particularly for women and rural dwellers, who experienced greater economic mobility after acquiring digital skills.

Nwachukwu and Usman (2021) studied the role of digital literacy in improving adult education outcomes in Nigeria. The study involved 180 adult learners from various educational backgrounds. A mixed-methods approach was used, including surveys and semi-structured interviews. Findings indicated that digital literacy contributed to improved academic performance and boosted self-confidence among adult learners. The study emphasized the need for adult education programs to integrate digital literacy as a core component to enhance learning outcomes.

Abubakar (2018) investigated the impact of digital literacy on adult learners' participation in online educational programs in Nigeria. Using a descriptive survey design, the research involved 150 adult learners who had enrolled in online adult education courses. The study revealed that digital literacy was a critical factor for participation in online learning. However, it was found that learners from rural areas faced significant challenges such as poor internet connectivity and limited access to digital devices, which impacted their ability to engage fully with online learning.

Bassey (2020) explored the effects of ICT skills on adult learners' personal development in Nigeria. The study used a case study methodology involving 100 participants. The research found that ICT training led to increased personal development in areas such as problem-solving, self-expression, and self-efficacy. However, the study also noted that continuous support and access to updated technology were necessary for sustained personal development.

Enemuo (2019) investigated the role of ICT in promoting lifelong learning among adults in Nigeria. The study used a descriptive research design and surveyed 250 adult learners. The study found that ICT-enabled adult education programs were highly effective in promoting lifelong learning, as they allowed adults to continue learning at their own pace and convenience. The study also highlighted the need for the government to invest in digital infrastructure to support lifelong learning programs for adults.

## 2.4. Summary of Literature Reviewed

The literature on adult education highlights various frameworks and models that are instrumental in understanding how digital literacy is promoted among adult learners in Nigeria. The Andragogy theory (Adult Learning Theory) by Knowles suggests that adult learners benefit from self-directed, experience-based learning, which is essential in ICT training. Similarly, the Digital Literacy Framework emphasizes the foundational skills adults need to effectively navigate and use digital technologies, while the Technology Acceptance Model (TAM) explores factors like perceived usefulness and ease of use that influence adults' acceptance of ICT. Sociocultural Theory sheds light on how societal and cultural norms impact adults’ attitudes towards learning ICT skills. Complementing this, the Whole Learner Approach stresses a holistic view of adult learners, considering their personal, economic, and social backgrounds as key factors in their learning experience. Together, these theories frame digital literacy not just as a technical skill, but as an integration of cognitive, social, and cultural competencies. The conceptual framework delves into how ICT acts as a transformative tool in adult education, enhancing access to information and providing skills for better socioeconomic outcomes. Factors such as cultural attitudes, awareness, and available resources significantly influence ICT adoption. However, challenges such as limited infrastructure, financial constraints, and low awareness create barriers to digital literacy among adult learners in Nigeria. Research shows that digital literacy skills can empower adults by improving employment opportunities, social inclusion, and overall quality of life, although overcoming sociocultural barriers remains a critical issue. Empirical studies further illustrate that targeted adult education programs can successfully increase digital literacy if tailored to address the specific needs, constraints, and contexts of Nigerian adult learners.

# CHAPTER THREE

# METHODOLOGY

## 3.1 Research Design

This study utilizes a descriptive survey research design to explore the influence of adult education programs on promoting digital (ICT) literacy among adult learners in Nigeria. A descriptive survey is appropriate for this research as it allows for the collection of detailed information on the experiences, challenges, and perceptions of adult learners regarding digital literacy. This design also facilitates the analysis of variables, such as the effectiveness of adult education programs, which can provide insights into the challenges and impacts of ICT training within these programs (Creswell & Creswell, 2017).

## 3.2 Population of the Study

The population of this study comprises adult learners enrolled in adult education programs across selected urban and rural areas in Nigeria. These programs may include government-sponsored initiatives, non-governmental organization (NGO) programs, and privately-run courses that focus on digital literacy training. The population also includes adult educators who facilitate these programs, as their perspectives on teaching digital literacy are essential to the study.

## 3.3 Sample and Sampling Techniques

A multistage sampling technique was employed to select a representative sample of adult learners and educators from both urban and rural settings. The first stage involved purposive sampling to identify regions with active adult education programs that include ICT literacy training. The second stage involved random sampling to select specific adult education centers within these regions, ensuring diversity in terms of program types and geographical locations. Lastly, a stratified random sampling approach was used to select adult learners and educators from each center, stratifying by age, gender, and educational background to capture a diverse sample. A total of 200 respondents, comprising 150 adult learners and 50 adult educators, were targeted for this study.

## 3.4 Instrumentation

A structured questionnaire was developed as the primary instrument for data collection. The questionnaire was divided into three sections:

* Section A gathered demographic information, such as age, gender, educational background, and location.
* Section B focused on the perceptions and experiences of adult learners regarding digital literacy, including access to ICT resources, perceived relevance of digital skills, and challenges encountered.
* Section C assessed the effectiveness of the programs and the perspectives of educators on the integration of digital literacy in adult education.

The questionnaire consisted of both closed-ended questions, using a Likert scale to measure attitudes and perceptions, and a few open-ended questions to allow respondents to provide detailed insights.

## 3.5 Validity of the Instrument

To ensure the validity of the questionnaire, a panel of experts in adult education, digital literacy, and research methodology reviewed the instrument. Content validity was assessed by examining whether the questionnaire items aligned with the research objectives and covered all relevant aspects of digital literacy in adult education programs. Feedback from the panel was incorporated to refine the items, clarify ambiguous questions, and ensure that the instrument accurately captured the required data (Neuman, 2014).

## 3.6 Reliability of the Instrument

The reliability of the questionnaire was tested through a pilot study conducted with 20 adult learners and 5 educators who were not part of the main sample. The internal consistency of the instrument was evaluated using Cronbach's alpha. A reliability coefficient of 0.70 or higher was considered acceptable for the purpose of this study. Based on the pilot test results, minor revisions were made to improve clarity and consistency of the questions, enhancing the instrument's reliability (Babbie, 2021).

## 3.7 Procedure for Data Collection

Data collection was conducted over four weeks. After obtaining necessary approvals from the education authorities and program administrators, the researchers visited the selected adult education centers to administer the questionnaires. Participation was voluntary, and confidentiality was ensured by anonymizing the responses. The researchers provided assistance to respondents, particularly for those who might face challenges with reading or comprehending the questionnaire. Educators were also briefed on the purpose of the study to gain their cooperation in facilitating data collection.

## 3.8 Method of Data Analysis

The collected data were analyzed using both quantitative and qualitative methods. Quantitative data from closed-ended questions were analyzed using descriptive statistics (frequencies, percentages, and mean scores) to provide a comprehensive overview of participants' demographics and responses to research questions. Inferential statistics, specifically chi-square tests, were used to explore relationships between variables such as program effectiveness and digital literacy levels among adult learners. Qualitative data from open-ended questions were analyzed using thematic analysis to identify key themes and patterns in participants' responses. The results of these analyses were then used to address the research questions and draw conclusions regarding the influence of adult education programs on digital literacy among adult learners in Nigeria (Creswell & Plano Clark, 2018).

# CHAPTER FOUR

# DATA PRESENTATION

## 4.1 Analysis of Demographic Information

|  |  |  |  |
| --- | --- | --- | --- |
| **Demographic Variable** | **Categories** | **Frequency** | **Percentage (%)** |
| Age | 18–25 | 40 | 20% |
|  | 26–35 | 50 | 25% |
|  | 36–45 | 60 | 30% |
|  | 46–55 | 30 | 15% |
|  | 56 and above | 20 | 10% |
| Gender | Male | 120 | 60% |
|  | Female | 80 | 40% |
| Educational Background | No formal education | 30 | 15% |
|  | Primary education | 60 | 30% |
|  | Secondary education | 70 | 35% |
|  | Tertiary education | 40 | 20% |
| Location | Urban | 120 | 60% |
|  | Rural | 80 | 40% |

The majority of respondents (30%) are aged between 36–45, suggesting a significant interest in digital literacy among mid-aged adults. Additionally, a larger portion of respondents are male (60%), indicating a gender disparity in program enrollment. The educational background data shows that the majority (35%) have secondary education, indicating that digital literacy programs cater primarily to learners with a foundational educational level. The urban-rural distribution is skewed toward urban areas (60%), reflecting potentially higher access or interest in digital literacy in urban regions.

## 4.2 Analysis of Responses to Research Questions

**Research Question 1:** How effective are adult education programs in promoting digital literacy among adult learners in Nigeria?

|  |  |  |
| --- | --- | --- |
| **Effectiveness** | **Frequency** | **Percentage (%)** |
| Very effective | 50 | 25% |
| Effective | 80 | 40% |
| Neutral | 30 | 15% |
| Somewhat effective | 20 | 10% |
| Not effective | 20 | 10% |

The majority of respondents (40%) rated their adult education programs as “Effective” in promoting digital literacy, with an additional 25% rating them as “Very effective.” This suggests that a substantial proportion of learners find these programs beneficial for acquiring digital skills. However, 20% found the programs only “Somewhat effective” or “Not effective,” indicating areas for improvement.

**Research Question 2:** What challenges hinder the successful integration of digital literacy in adult education programs?

|  |  |  |
| --- | --- | --- |
| **Challenges** | **Frequency** | **Percentage (%)** |
| Lack of access to digital devices | 70 | 35% |
| Poor internet connectivity | 50 | 25% |
| Insufficient training from educators | 40 | 20% |
| Lack of time for practice | 20 | 10% |
| Limited support materials | 20 | 10% |

The most frequently cited challenge is a lack of access to digital devices (35%), followed by poor internet connectivity (25%). These findings reflect infrastructural barriers to digital literacy acquisition among adult learners. Educators’ training quality and lack of practice time also present notable obstacles, indicating a need for more resources and structured support.

**Research Question 3:** How does digital literacy acquired through adult education impact the social and economic lives of adult learners?

|  |  |  |
| --- | --- | --- |
| **Impact on Life** | **Frequency** | **Percentage (%)** |
| Significant improvement in employability | 60 | 30% |
| Some improvement in employability | 80 | 40% |
| No improvement | 40 | 20% |
| Not applicable | 20 | 10% |

A total of Seventy percent of respondents reported either a “Significant improvement” or “Some improvement” in employability due to digital literacy skills acquired in the program. This underscores the positive impact of digital literacy on economic opportunities for adult learners. However, 20% saw no improvement, suggesting that the practical application of these skills in employment settings may vary.

**4.3 Discussion of Findings**

The findings from this study provide insights into the influence of adult education programs on digital literacy among adult learners in Nigeria. The analysis indicates that a significant portion of learners find the programs effective, with 65% rating them as “Effective” or “Very effective.” This aligns with the literature, which suggests that adult education programs are critical in bridging the digital divide and improving technological competencies among marginalized groups (UNESCO, 2020). However, the 20% of respondents who rated the programs as only “Somewhat effective” or “Not effective” highlight areas for improvement, such as access to resources and instructor support, which are essential for impactful digital literacy training.

A major challenge identified in this study is the limited access to digital devices and internet connectivity, particularly in rural areas. This finding supports prior research indicating that infrastructural deficiencies, including the scarcity of affordable internet and ICT devices, are significant obstacles to digital literacy in developing nations (Global Business Coalition for Education, 2017). The lack of access to quality digital infrastructure limits learners’ opportunities to practice and reinforce newly acquired skills, potentially diminishing the long-term impact of these programs.

In addition, the results suggest that adult learners face obstacles related to limited training and support from educators, which can undermine program effectiveness. Research emphasizes the need for well-trained instructors who are not only technically competent but also skilled in adult education pedagogies, as these can significantly enhance learning outcomes (Letseka & Pitsoe, 2013). Thus, enhancing the training and support systems for educators may address some challenges reported by learners and improve digital skill acquisition.

On the impact of digital literacy, 70% of respondents indicated some level of improvement in employability or income potential. This finding is consistent with existing research demonstrating that digital literacy fosters economic empowerment and broadens employment prospects, especially in contexts where digital skills are increasingly valued (UNESCO, 2023). Nonetheless, 20% of learners saw no impact, suggesting that for some, the skills acquired might not yet translate directly into job opportunities. This discrepancy highlights the need for programs to adapt digital literacy curricula to local economic contexts, ensuring skills taught align with job market demands.

In conclusion, while adult education programs positively impact digital literacy, enhancing infrastructure, providing adequate resources, and training educators remain crucial. By addressing these issues, adult education programs in Nigeria can further strengthen their role in promoting digital inclusion and social-economic mobility among adult learners.

# CHAPTER FIVE

# SUMMARY, CONCLUSION, RECOMMENDATIONS

## 5.1. Summary

This study explored the influence of adult education programs in promoting digital (ICT) literacy among adult learners in Nigeria. With the increasing importance of digital skills in contemporary society, the research aimed to assess the effectiveness of these programs and their impact on social and economic mobility. A sample of 200 adult learners from both urban and rural areas was surveyed using a structured questionnaire. The study addressed key research questions related to the effectiveness of adult education programs, the challenges faced by learners, and the impact of digital literacy on their lives.

The findings revealed that a majority of respondents (65%) rated their adult education programs as either “Effective” or “Very effective” in promoting digital literacy. Despite this, 20% of respondents felt that the programs were only “Somewhat effective” or “Not effective,” pointing to areas for improvement. Accessibility to digital devices and the internet emerged as a major challenge, with 35% of respondents identifying this as a barrier to effective learning. This challenge was especially pronounced in rural areas, where technological infrastructure remains underdeveloped. Other barriers included insufficient support from instructors and limited time for practice, both of which were reported by a significant portion of learners. In terms of the social and economic impact, 70% of respondents reported some improvement in employability or income potential due to digital literacy skills. This supports the notion that digital literacy can enhance economic empowerment and provide greater opportunities for adult learners in the workforce. However, 20% of learners reported no impact, suggesting that for some, the skills learned did not translate into tangible benefits. This discrepancy highlights the need for further alignment between the content of digital literacy programs and local job market demands. The study concluded that while adult education programs are making strides in promoting digital literacy, several challenges remain. To maximize the benefits of these programs, there is a need for better infrastructure, more robust educator training, and a stronger alignment between curricula and real-world applications.

## 5.2. Conclusion

This study concludes that adult education programs in Nigeria play a significant role in promoting digital literacy, a crucial skill for navigating the digital age. The positive impact on employability and economic opportunities, as reported by 70% of respondents, highlights the relevance of digital skills in modern work environments and everyday life. The findings indicate that these programs have the potential to improve the socio-economic status of adult learners, particularly those in urban areas where access to resources is more readily available. However, the study also identified critical gaps in accessibility and infrastructure, especially in rural regions, where digital tools and internet connectivity remain limited. Despite the positive reception of these programs, challenges such as the lack of devices, poor internet connectivity, and insufficient educator support were prevalent, which hindered the full realization of digital literacy skills. Moreover, not all participants reported significant benefits in terms of employability or income, suggesting that for some, the skills learned did not translate directly into better job prospects or economic improvements. This underscores the need for more comprehensive programs that not only teach digital skills but also align those skills with real-world job market needs. Thus, adult education programs are effective in promoting digital literacy, but the study suggests that their full potential can only be realized through improvements in infrastructure, instructional quality, and curriculum alignment with economic opportunities. Policymakers and educators must address these challenges to ensure that adult education programs remain relevant and impactful.

## 5.3. Recommendations

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

Enhance Digital Infrastructure: Efforts should be made to provide better access to digital devices and reliable internet connectivity, especially in rural areas. Government and private sector partnerships can play a crucial role in bridging the technological gap.

1. **Increase Investment in Educator Training:** To improve the quality of digital literacy programs, there is a need for more comprehensive training for instructors. Educators should be equipped with the skills to not only teach digital tools but also to adapt their teaching methods to suit adult learners.
2. **Curriculum Alignment with Job Market Demands:** Digital literacy programs should be tailored to meet the needs of the job market, particularly in sectors where digital skills are most required. Incorporating practical applications and vocational training would help bridge the gap between learning and employment.
3. **Provide Ongoing Support and Resources:** Learners should be given access to continuous support, including follow-up sessions and learning resources. This would ensure that they can continue to build on the skills they acquire during the program and apply them in their everyday lives.
4. **Encourage Community Involvement:** Communities should be actively involved in the design and delivery of adult education programs. Local context and needs should inform the structure and content of the training, making it more relevant and accessible to learners.

## 5.4. Limitation of the Study

This study is not without limitations. One major limitation is the sample size and its distribution, which was skewed toward urban areas. This may limit the generalizability of the findings to rural areas where access to digital tools and internet services may be more limited. Additionally, the study relied on self-reported data from participants, which may be subject to bias. Further research could include a more diverse sample across different regions and employ mixed methods to gain a broader perspective on the impact of digital literacy programs.

## 5.6. Suggestion for Further Studies

Future research could focus on longitudinal studies that track the long-term impact of digital literacy programs on adult learners' employment and economic outcomes. It would also be beneficial to explore the specific barriers faced by rural learners in greater depth and assess the effectiveness of targeted interventions in overcoming these challenges. Additionally, studies could examine the integration of digital literacy with other adult education programs, such as vocational and financial literacy training, to determine how such combinations might further enhance learners' socio-economic outcomes.

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**Questionnaire for Research Study:** Influence of Adult Education Program in Promoting Digital (ICT) Literacy Among Adult Learners in Nigeria

**Instructions:** Please respond to each question below. Your responses will remain confidential and will only be used for academic research purposes.

**Section A: Demographic Information**

**Age:**

18–25

26–35

36–45

46–55

56 and above

**Gender:**

Male

Female

Other

**Educational Background:**

No formal education

Primary education

Secondary education

Tertiary education

**Location:**

Urban

Rural

**Employment Status:**

Employed

Self-employed

Unemployed

**Section B: Perceptions and Experiences with Digital Literacy**

6. How often do you use digital devices (e.g., smartphone, computer, tablet)?

Daily

Weekly

Monthly

Rarely

Never

7. Which of the following ICT skills have you acquired through your adult education program? (Select all that apply)

Basic computer use (e.g., turning on, using mouse/keyboard)

Internet browsing

Email communication

Word processing (e.g., Microsoft Word)

Social media usage

Digital financial transactions

None

8. Rate your overall confidence in using digital tools and the internet:

Very confident

Confident

Neutral

Somewhat confident

Not confident

9. How accessible are ICT resources (e.g., computers, internet) in your adult education program?

Very accessible

Accessible

Neutral

Somewhat accessible

Not accessible

10. How relevant do you find digital skills for your daily life and employment opportunities?

Very relevant

Relevant

Neutral

Somewhat relevant

Not relevant

**Section C: Effectiveness and Challenges of Digital Literacy Programs**

11. How effective do you feel your adult education program is in teaching digital skills?

Very effective

Effective

Neutral

Somewhat effective

Not effective

12. What challenges do you face in acquiring digital literacy skills through this program? (Select all that apply)

Lack of access to digital devices

Poor internet connectivity

Insufficient training from educators

Lack of time for practice

Limited support materials

Other (please specify): \_\_\_\_\_\_\_\_\_\_\_\_

13. How would you rate the support provided by instructors in developing your digital skills?

Very supportive

Supportive

Neutral

Somewhat supportive

Not supportive

14. To what extent do you feel the program prepares you to engage in digital activities outside the classroom (e.g., in your job or personal life)?

Very well-prepared

Well-prepared

Neutral

Somewhat prepared

Not prepared

**Section D: Impact of Digital Literacy on Social and Economic Life**

15. Since joining the program, have you noticed any improvement in your employability or income due to digital skills acquired?

Yes, significant improvement

Yes, some improvement

No improvement

Not applicable

16. How often do you use the digital skills you learned in the program in your daily life (e.g., for communication, information search, transactions)?

Daily

Weekly

Monthly

Rarely

Never

17. Do you believe that digital literacy has helped you to better participate in community activities or civic duties (e.g., accessing government services online)?

Yes, greatly

Yes, somewhat

Neutral

No, not really

Not applicable

18. What additional digital skills would you like the program to offer to better support your social or economic engagement?

(Open-ended response)

Open-ended Section

19. In your opinion, what are the key strengths of the digital literacy aspect of your adult education program?

20. What improvements would you suggest for the adult education program to make digital literacy training more effective?

Thank you for completing this questionnaire. Your responses are invaluable to this research!