

## **Influence of Technological Interventions at Improving Adult Literacy of Business Women Entrepreneurs in Lagos State**

**Dr. Ajayi Rachael Adejoke<sup>1</sup> & Dr. Ajani S.T.<sup>2</sup>**  
**Lagos State University of Education, Nigeria**

### **Abstract**

*The objective of this work is to dissect how technological intervention has contributed towards improving Adult Business Women's Literacy in Lagos State. Despite efforts and initiatives at improving adult literacy program in the country adult business women continue to face mirage of challenges and problems in accessing and benefiting from the scheme and program. All over the world technology intervention has remained a functional tool for advancement of medicine, law, inventions, philosophy, educational settings among others. Descriptive research design was employed in this study as three objectives were formulated to guide the focus of this study. Population comprises of all adult literate business entrepreneurs (women). Through purposive sampling technique, five centres of National Teachers Institute where adult learners are exposed to instruction. in the state were selected. Simple random sampling technique was introduced to select twenty adult literate entrepreneurs across the five centres to form a sample 100 women. The study constructed 20 – items instrument titled, “ITIIAWLQ” Influence of Technological Interventions at Improving Adult Business Women's Literacy Questionnaire was used to collect data. The Questionnaire used three likert scale scale of Agree, Unsure and Disagree were used to condition respondents' responses. Construct validity was determined by two experts in departments of Adult and Business Education from Lagos State University of Education, Ijanikin using split half form of reliability yielded an index value of .899. Descriptive statistics of simple frequency and Analysis of Variance (ANOVA) were used to analyse the data and tested at 0.05 significant level. The study revealed that the extent of technology penetration in the teaching of adult learners is very significant as almost all centres have acclimatized to the practice. The study concluded that limited access to network, cost of gadgets and electrification remains teeming challenges confronting technology use in adult business women literacy. It recommended that academic packages (e-packages) should be designed to enhance effective teaching and learning of adult education programs.*

**Keywords: Technology Intervention, Internet, Adult Education, Business Women, Literacy**

### **1.0 Introduction**

Adult business women in Lagos State play a vital role in driving local commerce, particularly in the informal economy where women dominate sectors such as petty trading, retail, and small-scale manufacturing. However, many of these women experience literacy challenges that limit their ability to maintain accurate records, read contractual documents, or effectively engage with

customers in digital market place (Onyemachi, 2022). Literacy for business women today extends beyond the ability to read and write, encompassing numeracy, financial management, and digital literacy. In recent years, technological interventions have been deliberately deployed to address these challenges, equipping women with skills that support both their personal development and entrepreneurial growth (UNESCO, 2022).

Globally, technological interventions have been widely recognized as pivotal in enhancing adult literacy among women business entrepreneurs through expanding access to quality of information, training and markets. The use of digital tools like mobile phones, e-learning platforms and business Apps enable adult business learners to access literacy education flexibly, often overcoming geographical and time constraints that limit traditional classroom learning (UNESCO, 2014). Meanwhile Choudrie et al., (2019) advocated that technology acceptance allows women perceive ICT as useful and easy to use and the more likelihood to adopt such tools, which in turn strengthens their self-efficacy and social capital critical components for successful entrepreneurship in emerging economies. These digital literacy gains not only support basic reading and writing skills but also empower women to engage in e-commerce, access financial services, and communicate effectively in increasingly digital marketplaces. Persistent barriers like unequal internet access and the gender digital divide continue to limit full participation, suggesting that improving infrastructure and affordable connectivity must accompany literacy interventions for maximal impact (World Economic Forum, 2021).

In the paradigm of African environment, technological interventions have shown promising results in improving adult literacy among women entrepreneurs, particularly through mobile-based and community-oriented learning initiatives. UNESCO's Alpha-omedia literacy programmes in Senegal use mobile phones and television broadcasts to deliver literacy lessons in local languages, demonstrating that adaptable technology can boost interest and confidence among adult women learners by enabling them to read, write, and communicate independently (UNESCO, 2014). Research across Sub-Saharan Africa further highlights that digital tools such as mobile applications, social media, and e-commerce platforms are instrumental for women's business survival and sustainability, though structural barriers like limited digital skills, high data costs, and socio-cultural constraints hamper broader adoption (Springer, 2025; The Guardian, 2025). Initiatives fostering digital and e-literacy, supported by NGOs and policy frameworks, are

therefore critical for bridging the gap by empowering women to leverage technology not only for literacy but also for financial inclusion, market access and long-term entrepreneurial success across the continent.

One of the earliest interventions to improve literacy among business women in Lagos has been the use of radio educational programmes. These programmes, often broadcast in indigenous languages such as Yoruba and Nigerian Pidgin, provide women with access to simplified lessons on reading, numeracy and business communication (Ogunleye and Ojo, 2020). Studies show that women who consistently follow this radio lessons demonstrate measurable improvements in basic literacy, as well as enhanced capacity to apply learning in managing sales records and interpreting business-related messages (Olawale, 2021). The flexibility of radio programmes makes them especially valuable for adult women who often balance household responsibilities with running their businesses.

Mobile technology has emerged as a game-changer in literacy development. The widespread ownership of affordable smartphones in Lagos has allowed business women to participate in mobile-assisted learning. Platforms like WhatsApp and Telegram are now used to deliver literacy lessons in short, engaging formats, often using voice notes, pictures, and brief texts. These tools are particularly effective because they allow women to learn at their own pace and convenience while running their enterprises. Research confirms that WhatsApp literacy groups improve women's reading confidence and support peer-to-peer interaction, thereby reinforcing continuous learning (Ajidahun & Olanrewaju, 2022).

Beyond basic literacy, financial literacy interventions have been integrated into technological platforms to support women's business practices. The Central Bank of Nigeria's launch of the SabiMONI e-learning platform in 2022 is a notable example. This platform provides women with self-paced training in budgeting, credit management, savings, and fraud awareness. For women in Lagos markets, such interventions improve their capacity to manage loans, track income and expenditure and make informed financial decisions. These skills are essential for expanding businesses and enhancing sustainability in competitive markets (Central Bank of Nigeria, 2022).

Another crucial technological intervention is the promotion of digital financial services such as mobile money and digital credit platforms. Many of these services integrate literacy training into

their platforms, teaching users how to interpret transaction alerts, repayment schedules, and digital receipts. Women's World Banking (2021) highlighted how digital credit programmes enhance literacy by ensuring women understand loan terms and repayment requirements. For Lagos business women, this means not only access to finance but also the ability to comprehend and navigate complex financial documents, thereby fostering independence and resilience (Madu, 2022).

Despite the progress achieved, structural barriers continue to limit women's ability to benefit from these interventions. The digital gender divide in Nigeria persists, with women less likely than men to own smartphones or have reliable access to mobile internet. Issues such as high data costs, low digital confidence, and safety concerns including cyber harassment remain key obstacles. A GSMA (2021) report stresses that unless these barriers are addressed, women's participation in digital literacy programmes will remain unequal. For many business women in Lagos, the affordability of data and accessibility of safe digital learning spaces remain critical issues.

Government institutions and local agencies have attempted to close these gaps by designing blended literacy programmes that combine traditional teaching with digital tools. The Lagos State Agency for Mass Education (LAGOS AME) has supported adult learners through classroom instruction while introducing radio and mobile learning components to extend reach. This approach allows women to combine face-to-face learning with more flexible digital modules. To compliment these efforts Public-private partnerships between the government, telecom providers and Non-Governmental Organisations, NGOs have also recommended strategies to reduce costs and enhance accessibility for women entrepreneurs.

Equally important are the roles of NGOs and international organizations that implement community-based digital literacy projects. For instance, NGOs have provided business women with free or subsidized mobile phones, trained facilitators, and digital safety workshops to enhance confidence in using technology. These initiatives not only improve literacy but also foster networking opportunities among women traders. UNESCO (2022) emphasizes that community-centered approaches are vital in sustaining long-term literacy improvements, especially in regions like Lagos where women face socio-economic and cultural barriers.

The gap within the use of technology among end-users in Nigeria is rapidly expanding thereby an indication that the techy sector as an important segment of the economy needs urgent attention as technology use has significantly given another paradigm to mode of activities. In 2022 Nigeria experienced growth in Information and Communication Technology (ICT) as it contributed about 18.4% to her GDP as a result of the dynamics associated with technology penetration. This is a significant increase from less than 1% growth experienced in 2001 (World Economic Forum, 2023). Even with this expansion, the idea to train business women in digital literacy by the National Information Technology Development Agency (NITDA) to improve their economic prospects and implementation of policies targeted at enhancing the availability of broadband connectivity and promoting digital skills, the involvement of business women in the technology industry remains notably limited as only approximately 30% of technology companies are owned by women and a large number of these companies have no female employees at all despite the growth in Nigeria's tech ecosystem by \$4.9 billion in the year 2021 and a seemingly growth in 2022 (Onyemachi, 2022).

No doubt technological interventions have become a vital tool in enhancing educational outcomes, particularly in regions where traditional systems of learning have faced significant challenges. The issue of adult business women's literacy has long been a concern due to social, economic and cultural barriers that limit women's access to education. The introduction of technology into adult business education has shown promising potential in overcoming some of these barriers. Business women, especially in developing regions, face numerous challenges such as poverty, gender discrimination, and limited mobility, all of which can hinder their access to formal educational settings. Technological solutions offer the possibility of overcoming geographical, time, and financial constraints, thereby enhancing the learning experience for adult business women in Lagos.

The gender digital divide in Nigeria is a manifestation of wider societal obstacles, encompassing economic limitations, cultural prejudices, restricted educational opportunities and insufficient infrastructure. In rural areas, the absence of electricity and cultural norms that limit business women's movement and access to public charging points impede their capacity to properly utilize digital technology with only 1 out of 10 females having access to the internet (Tech Herfrica, 2023; National Bureau of Statistics, 2023).

The term adult education stems from deficiency in earlier age where acquisition of instruction was not feasible and possible. Ajayi (2016) sees it as a form of education designed and administered to adult learners who were not privilege to formal education at an earlier stage in their life due to certain limitations and constraints. Adult education is a type of education given to adult learners who are engaged in all forms of learning to improve themselves and for other various reasons (Okoroma, 2012). Adult education program over time has seen some progress over the years but the female literacy rate remains lower compared to their male counterparts. According to the National Population Commission of Nigeria (NPC), the literacy rate for women in Nigeria is significantly affected by factors such as early marriage, domestic responsibilities and a lack of formal schooling opportunities (NPC, 2021). A business woman can be referred to as a woman who owns, operates or manage a business or enterprise, either individually or as part of a team. She is a professional who has taken on a leadership role in a commercial or industrial organization and is responsible for making strategic decisions, managing resources and driving growth and profitability.

However, technological interventions, such as mobile learning platforms, e-learning tools, and digital literacy programs, have the potential to change this narrative by offering flexible, accessible, and cost-effective learning opportunities tailored to adult business women's needs. Mobile technology, in particular, has become a powerful tool for improving literacy rates among adult business women. With the increasing prevalence of mobile phones in Nigeria, even in rural and underserved communities, there is an opportunity to leverage this technology for educational purposes (Ezeani & Onuoha, 2019). Mobile learning platforms allow business women to access educational content from the comfort of their homes, making it more feasible for those with familial or work responsibilities. Furthermore, mobile platforms can provide interactive and engaging content, which may improve retention and make the learning experience more enjoyable and effective (Ogunleye & Ojo, 2020).

One of the major advantages of technological interventions is that they can be designed to address specific learning needs. For example, business women who have been out of school for many years may require a different type of curriculum compared to younger learners or those with formal educational backgrounds. Digital literacy programs can be customized to teach not only reading and writing but also skills such as financial literacy, entrepreneurship and health education. These skills are particularly important for adult business women in Lagos, as they can help improve their

livelihoods and contribute to their economic independence (Ezeani & Onuoha, 2019). This digital divide presents a significant hurdle in ensuring equitable access to educational opportunities for all women in the state.

Furthermore, there are cultural and societal factors that may affect the adoption of technology in learning among adult business women. In Nigeria traditional gender roles may place limitations on business women's access to education or discourage them from seeking educational opportunities outside the home. Technology being a tool for overcoming these barriers also requires cultural shift that encourages business women to engage actively with digital education. This cultural shift can be promoted through awareness campaigns, local leadership and community support systems (Afolabi & Eze, 2021).

Pragmatically various governmental and non-governmental organizations (NGOs) have begun in the integration of technology into their adult education programs. For example, the Lagos State Ministry of Education has initiated several projects aimed at providing adult literacy programs for business women, with a focus on using technology to reach more women across the state (Madu, 2022). Similarly, NGOs such as the National Commission for Mass Literacy, Adult and Non-Formal Education (NMEC) have incorporated digital platforms in their literacy campaigns. However, the full potential of these initiatives has yet to be realized due to limited resources, inadequate infrastructure and insufficient training for both instructors and learners (Alabi, 2020). Study by Ezeani and Onuoha (2019) revealed that business women who engage in digital learning programs often experience improved literacy rates, increased self-confidence and better employment prospects. This reaffirms that the introduction of technology not only ensure enlightenment of literate women entrepreneurs towards product differentiation, improvement in lifestyle and business orientation which may likely lead to wider outreach of products with seamless stress and efforts, improved sales and more profit margin.

Furthermore, technology when integrated into educational programs can help bridge the gap between formal education and the unique needs of adult learners, especially business women who may face multiple forms of exclusion. As such, this study aims to explore how technological interventions can be effectively implemented to improve adult business women's literacy in the state, identify prevalent challenges faced by these business women and in turn on adult literate women suggest strategies to enhance the accessibility and impact of these interventions on adult women entrepreneurs.

## **2.0 Statement of the Problem**

Despite efforts and initiatives to improve adult literacy programs in the country, adult businesswomen continue to face myriad challenges in accessing and benefiting from these schemes and programs, as the adult literacy rate keeps dropping. These limitations and barriers include access to traditional learning resources, time constraints due to domestic responsibilities, and socio-cultural factors that often undermine business women's educational opportunities (Madu, 2022). With rapid technological advancements, there is emerging potential for digital interventions to drive literacy education and improve the levels of adult businesswomen in society. Notwithstanding the effectiveness and accessibility of technological tools in fostering adult businesswomen's literacy, this remains unexplored (Ezeani & Onuoha, 2019). It is crucial to assess how technological interventions such as mobile learning platforms, online courses, and e-literacy programs can address the specific challenges faced by adult businesswomen and whether these tools can be leveraged to improve their literacy outcomes. By extension, understanding the dynamics associated with technology use will further provide direction for designing more inclusive, accessible, relevant, and impactful packages that will influence literacy levels, especially among adult businesswomen learners.

## **3.0 Objectives of the Study**

The core objective of this work is to dissect how technological intervention has contributed towards improving Adult Business Women's Literacy in Lagos State while specific objectives include:

- a. Investigate the extent of technology penetration at improving adult business women literacy in the state
- b. State notable advantages associated with technology interventions at improving adult business women literacy
- c. Enumerate possible challenges confronting technology use aimed at improving adult business women literacy.

## **3.1 Research Questions**

- a. What is the extent of technology penetration in improving adult business women's literacy in the state?
- b. What are those notable advantages associated with technology interventions in improving adult business women's literacy?

- c. What are the possible challenges confronting technology use in promoting adult business women's literacy?

### **3.2 Hypotheses**

- Hypothesis one: There is no significant influence of technology penetration on the improvement of adult business women's literacy in the state
- Hypothesis two; There is no significant influence of notable advantages associated with technology interventions on the improvement of adult business women literacy
- Hypothesis three: There is no significant influence of possible challenges confronting technology use on the promotion of adult business women literacy.

### **3.3 Significance of the study**

The outcome of this study will be relevant to business women, teachers, students, government and curriculum developer among others. For businesswomen, technological interventions such as mobile learning apps, e-books, and online training platforms provide flexible and accessible opportunities to develop literacy skills. This empowers them to better manage business records, communicate with customers, and expand their enterprises. Improved literacy also boosts confidence, decision-making, and participation in financial inclusion programs. Teachers gain innovative teaching methods and tools to reach adult learners more effectively. Technology enables them to customize literacy lessons using audio-visual aids, interactive content, and real-life simulations, which makes learning more engaging. It also reduces the burden of traditional teaching and allows them to track learners' progress digitally.

The impact of technological interventions in improving adult business women's literacy in Lagos State is highly relevant to teachers, as it transforms their instructional approaches and professional development. Through digital tools such as mobile applications, e-learning platforms, and multimedia resources, teachers can deliver literacy lessons more effectively and in flexible formats that suit adult learners' schedules. This not only enhances the teaching–learning process but also equips teachers with modern pedagogical skills and digital competence, making them more versatile educators. Furthermore, technology enables teachers to provide individualized feedback, track progress, and create interactive learning environments, thereby increasing their teaching

impact and contributing meaningfully to women's empowerment and overall socio-economic development in Lagos State.

Also, to the Government, it improved literacy among adult business women, strengthens the informal economy, increases tax compliance, and enhances women's participation in civic responsibilities. Technology-driven literacy programs are also cost-effective and scalable, helping the government achieve Sustainable Development Goals (SDGs), especially SDG 4 (Quality Education) and SDG 5 (Gender Equality). To Curriculum developers, it will benefit them by integrating modern technological tools into adult education programs. They can design curricula that are flexible, practical, and tailored to adult learners' needs—focusing on financial literacy, digital skills, and entrepreneurship. This ensures that the curriculum remains relevant to both local business contexts and global digital trends.

#### **4.0 Research Methodology**

A descriptive research design was employed by the researcher for this work. This design seeks to describe the attributes of variables and their respective features in a study frame. The Population for this study consists of all adult learners who are women entrepreneurs enrolled for short programs at National Teachers Institute, Lagos State, Nigeria. This target population is seen as suitable because they are assumed to be the most suitable to provide valid response to the study at hand. Through purposive sampling technique, five NTI centres in Lagos State were captured in the study frame (Ikorodu, Badagry, Agege, Ikeja and Ketu-Alapere). However, simple random sampling technique was then introduced to select twenty adult learners from each of the five centres to form a sample size of one hundred participants (100). Researchers constructed 21 – items instrument titled, “ITIIAWLQ” Impact of Technological Interventions at Improving Adult Business Women's Literacy Questionnaire was used to collect data. The instrument was divided into three Sub-Scales of Agree, Unsure and Disagree response format. The responses were recorded accordingly as construct validity was determined by two experts in departments of Adult and Business Education from Lagos State University of Education, Ijanikin. For reliability, split-half form of reliability was employed and an index value of 0.899 was derived meaning instrument is suitable for this study. Descriptive statistics of simple frequency and inferential statistics of Analysis of Variance (ANOVA) were used to analyse the data and hypotheses tested at 0.05 significant level.

## 5.0 Data Analysis and Presentation

### Research Question 1: What is the extent of technology penetration at improving adult business women literacy in the state?

Table 1: Simple percentage showing how if technology penetration has improved adult business women literacy in the state

S/N	Items	Agree	Disagree	%
1	Most adult business women learners use phones in their daily life	75	25	100
2	Adult business women learners surf for solution to assignments on phones (internet)	43	57	100
3	Sometimes classes do take place on WhatsApp	39	61	100
4	Enrolment rate of adult learners have increased due to technology use	86	14	100
5	Digital literacy is incorporated in adult learners curriculum	29	71	100
6	Digital technology allows for adequate content mapping	70	30	100
7	Digital technology encourages interactive and communicative learning	78	22	100
<b>Total</b>		-	-	-

#### Source: Fieldwork (2025)

From table 1 above it shows that 75 respondents agree that most adult business women learners use mobile phones in their daily life as against 25 respondents who disagree; 57 participants disagree that adult women learners surf for solution to assignments through the use of their phones (internet) as 43 participants that agree to the statement; meanwhile 61 participants disagrees that classes do take place on WhatsApp platforms as against 39 persons who agree; 86 respondents agrees that enrolment rate of adult learners have increased due to technology use as 14 of them agrees vehemently; out of the 100 participants, 71 respondents agrees that Digital literacy is incorporated in adult learners curriculum as 29 of them disagrees; 70 participants agree that digital technology allows for adequate content mapping as against 30 of them that disagree; Meanwhile 78 participants agree that digital technology encourages interactive and communicative learning.

**Research Question 2: What are those notable advantages associated with technology interventions at improving adult business women literacy?**

Table 2: Simple percentage showing advantages associated with technology interventions towards improvement of adult business women literacy in the state

S/N	Items	Agree	Disagree	%
1	Technology intervention helps address specific learning needs	83	17	100
2	Technology intervention helps develop financial literacy	56	44	100
3	Technology intervention helps enhance entrepreneurship skills	76	24	100
4	Technological literacy educates us on how to manage our health	87	13	100
5	Technology intervention has helped to improve living standard	66	34	100
6	Technology intervention has made education interesting and motivating	89	11	100
7	Technology intervention has solved problem of distance barrier	79	21	100
<b>Total</b>		-	-	-

**Source: Fieldwork (2025)**

Meanwhile out of the 100 respondents, 83 of them agrees that Technology intervention has helped address specific learning needs as 17 of them disagree; 56 of them agree that Technology intervention helps develop financial literacy and 44 disagrees; Also 76 respondents agree that Technology intervention helps enhance entrepreneurship skills while 24 disagrees; 87 agrees that Technological literacy educates us on how to manage our health as 13 disagrees; 66 respondents agree that Technology intervention has helped to improve living standard as 34 disagree; 89 respondents agree that Technology intervention has made education interesting and motivating as 11 disagree; 79 respondents agree that Technology intervention has solved problem of distance barrier while 21 disagree.

**Research Question 3: What are the possible challenges confronting technology use in promoting adult business women literacy?**

Table 3: Simple percentage showing challenges confronting technology use in promotion of adult women literacy in the state

S/N	Items	Agree	Disagree	%
1	Access to advanced technologies or internet is limited in most areas.	84	16	100
2	Digital literacy levels among adult business women is low	77	23	100
3	In some traditions business women education is never encouraged	54	46	100
4	Cost of technology is a challenge for end-users	78	22	100
5	Network challenges remains a constraint anytime any day	80	20	100
6	Attitude of adult business women towards technology use is poor	56	44	100
7	Electrification is a challenge for many households	81	19	100
<b>Total</b>		-	-	-

**Source: Fieldwork (2025)**

From table 3, it shows that 100 participants were involved in this work as 84 persons agree that access to advanced technologies or internet is limited in most areas as 16 of them disagree; 77 persons agree that digital literacy levels among adult business women is low as 23 disagree; 54 persons agree that in some traditions business women education is never encouraged as 46 others disagree; as 78 persons agree that cost of technology is a challenge for end-users as 22 persons disagree; 80 persons agree that network challenges remains a constraint anytime any day as against 20 persons disagree; 56 persons agree that attitude of adult business women towards technology use is poor as 44 persons disagree; 81 participants agree that electrification is a challenge for many households as 19 others disagree.

**Testing of Hypotheses**

**Hypothesis one: There is no significant influence of technology penetration on the improvement of adult business women literacy in the state**

Table 4: ANOVA Analysis showing Significant Influence of Technology Penetration on the Improvement of Adult Business Women Literacy in the State

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	9.360	2	4.680	1.194	.031
Within Groups	383.971	98	3.918		
Total	393.331	100			

**Source: Fieldwork (2025)**

The ANOVA result in Table 4 revealed F-value of 1.194 significant at .031 ( $P < .031$ ). This implies that the null hypothesis is rejected and the alternative which states that is a significant influence of technology penetration on the improvement of Adult Business Women Literacy in the State is retained.

**Hypothesis two; There is no significant influence of notable advantages associated with technology interventions on the improvement of adult business women literacy**

Table 5: ANOVA Analysis showing Significant Influence of notable advantages associated with technology interventions on the improvement of adult business women literacy

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	75.828	2	37.914	9.523	.007
Within Groups	390.190	98	3.981		
Total	466.018	100			

**Source: Fieldwork (2025)**

The one-way ANOVA in Table 5 shows that the between-groups sum of squares is 75.828 with 2 degrees of freedom, while the within-groups sum of squares is 390.190 with 98 degrees of freedom. With F at 9.523, significant at .007 ( $P < .007$ ), the null hypothesis is rejected and alternative which states that there is a significant influence of notable advantages associated with technology interventions and improvement of adult business women literacy is retained.

**Hypothesis three: There is no significant influence of possible challenges confronting technology use on the promotion of adult business women literacy**

Table 6: ANOVA Analysis showing Significant influence of possible challenges confronting technology use on the promotion of adult business women literacy

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	631.483	2	315.741	60.836	.000
Within Groups	508.638	98	5.190		
Total	1140.121	100			

**Source: Fieldwork (2025)**

The one-way ANOVA in Table 6 shows that the between-groups sum of squares is 631.483 with degree of freedom 2, the within-groups sum of squares is 390.190 with degree of freedom 98. With F at 60.836, significant at .000 ( $P < .000$ ), the null hypothesis is rejected and alternative which states that there is a significant influence of impact of possible challenges confronting technology use on the promotion of adult business women literacy is retained.

**6.0 Discussion of Findings**

Findings from table 4 reveal that technology penetration has relatively improved adult business women literacy in the state. The extent of technology penetration in the teaching of adult business women is very significant as concerned centres have adopted the use of technology as a means of instruction. The outcome of this work corroborates with that of Ogunleye & Ojo (2020) that affirmed the use of Whatsapp and Zoom platforms as some of the technology platforms widely adopted to teach so far. Technology is a vehicle and powerful tool for improving literacy rates among adult business women. With the increasing prevalence of mobile phones in rural areas and unreserved communities, there is the need to leverage its use for educational purpose. Ogunleye & Ojo (2020) noted that the rise in mobile learning platforms allows women to access educational content from homes. Due to surge in IT use among adult business women, technology penetration has encouraged improved content development, improved retention and enhance learning experiences.

Findings from table 5 reveal that certain advantages abound as a result of technology intervention at improving adult business women literacy. Unlike the conventional way of improving adult literacy education, the intervention of technology has helped widen and enhance quality instruction

between and among learners. The outcome of this study is in consonance with that of Ezeani & Onuoha (2019) which stated that technology has not only enhanced customization of literacy programs and writing but foster skills in the area of financial literacy, entrepreneurship skills and health education. These skills are particularly important for adult business women as they help improve their livelihoods and contribute to their economic independence.

However, findings from table 6 revealed challenges confronting technology use in promotion of adult business women literacy in the state. Just like any other issue of discuss, the challenges confronting technology use in adult education program cannot be underestimated. The findings of this work are in agreement with study of Madu (2022) who claimed that limited access to network, obsolete traditional rites on business women education, attitude of business women towards technology use for educational purposes, cost of gadgets and electrification remains teeming challenges confronting them. Furthermore, there are cultural and societal factors that may affect the adoption of technology in learning among adult business women.

## **7.0 Conclusion**

The study investigated the influence of technological interventions at improving Adult Business Women's literacy in Lagos State. From this work, it can be concluded that there is a great improvement in the penetration of technology use in the improvement of quality teaching and learning of adult business women literacy in the state. Technological education will bring about production of responsible, productive and self-reliant citizens. It will enable them to relate the skills acquired so far to problems that arise in their day-to-day activities and this improves industrialization. It can also be concluded that limited access to network, obsolete traditional rites on business women education, attitude of business women towards technology use, cost of gadgets and electrification remains teeming challenges confronting technology use in adult business women education.

## **8.0 Recommendations**

As part of policy recommendations, the study among others that:

- More academic packages should be designed to enhance effective teaching and learning of adult education program.

- Continuous enlightenment and awareness campaigns should be put forth towards discouragement of certain cultural practices targeted at the business women gender in the society.
- Digital education should be promoted in the educational curriculum of adult learners.

## References

- Afolabi, O. & Eze, S. (2021). Gender and Technology in Education: A Case Study of Lagos State, Nigeria. *Journal of Gender and Education*, 23(4), 45-62.
- Ajayi, R.A. (2016). Characteristics of Adult Learners: Implications for teaching and Learning. *Journal of Directorate of Degree Programme, Continuous Education Review*. 4(1), 98-103.
- Ajidahun, S., & Olanrewaju, T. (2022). WhatsApp as a tool for literacy and learning among Nigerian adult learners. *Journal of Educational Technology*, 15(2), 45–58.
- Alabi, D. (2020). The Role of Mobile Learning in Adult Education in Nigeria. *International Journal of Educational Technology*, 10(2), 20-34.
- Banyan Global. (2022). Understanding the gender digital divide in Nigeria: Learning brief. Retrieved from <https://banyanglobal.com/resource/understanding-the-gender-digital-divide-in-nigeria-learning-brief/>
- Central Bank of Nigeria. (2022). SabiMONI Financial Literacy E-Learning Platform. Abuja: CBN.
- Choudrie, J., et al. (2019). Empowering women micro-entrepreneurs in emerging economies: The role of information communications technology. *Journal of Business Research*, 98, 191–203. <https://doi.org/10.1016/j.jbusres.2019.01.045>
- Ezeani, O. & Onuoha, B. (2019). Technology and Women Empowerment: An Exploration of Digital Literacy Programs in Lagos State, Nigeria. *Nigerian Journal of Adult Education*, 15(1),13-29.from <https://www.techherfrica.org/bridging-the-digital-divide-equipping-women-in-africa/>
- GSMA. (2021). The Mobile Gender Gap Report 2021. London: GSMA.

- Lagos State Agency for Mass Education (LAGOS AME). (2021). *Adult and Non-Formal Education Programmes in Lagos State*. Lagos: LAGOS AME.
- Madu, S. (2022). Digital Divide and Its Implication for Female Adult Literacy in Lagos State, Nigeria. *Journal of Digital Learning*, 18(3), 102-116.
- National Bureau of Statistics. (2023). *Statistical report on women and men in Nigeria*.
- National Population Commission of Nigeria (NPC). (2021). *Nigeria Demographic and Health Survey*. Abuja: National Population Commission.
- Ogunleye, A. & Ojo, R. (2020). Mobile Learning as a Tool for Adult Education: A Focus on Lagos State. *African Journal of Education and Technology*, 7(2), 101-118.
- Okoroma, N.S. (2012). Adult Literacy College: Importance, Learner Characteristics and Programme benefits. A paper presented at a workshop organized by Niger Delta Development Commission at Le Meridean Hotel, Uyo: Akwa Ibom State from 6<sup>th</sup> -8<sup>th</sup> December
- Olawale, M. (2021). Educational radio and adult literacy in Lagos State: Effectiveness and challenges. *Sage Open*, 11(2), 1–12.
- Onyemachi, F. (2022). Nigerian tech market to continue robust growth in 2022- FBNQuest. Retrieved from <https://businessday.ng/news/article/nigerian-tech-market-to-continue-robust-growth-in-2022-fbnquest/> Retrieved from <https://www.weforum.org/agenda/2022/07/technology-nigeria-gender-gap/>
- Tech Herfrica. (2023). Bridging the digital divide: Equipping women in Africa. Retrieved
- The Guardian. (2025, March 20). Women in business held back by mobile data's cost in developing world – report.
- UNESCO Institute for Lifelong Learning. (2022). *Country Profile: Nigeria Adult Literacy*. Hamburg: UNESCO.
- UNESCO. (2014). *Technology increases illiterate women's interest in learning*. UNESCO.
- Women's World Banking. (2021). *Digital Credit Toolkit for Women Entrepreneurs*. New York: Women's World Banking.

World Economic Forum. (2021). Digital entrepreneurs: how can more African women gain ICT access?

World Economic Forum. (2023). Here's how technology can help close Nigeria's gender gap.