

Assessing The Role of ICT Facilities in Community Digital Literacy in Southwestern Nigeria

ODUNJO OLURONKE OMOLOLA¹, MAKINDE BOLAJI AZEEZ²

^{1, 2}*Department of Architecture, Ladoke Akintola University of Technology, Ogbomosho, Nigeria.*

Abstract- *The study assesses the availability and adequacy of Information and Communication Technology (ICT) facilities and their influence on community digital literacy in selected Community Resource Centres in Southwestern Nigeria. The aim is to evaluate the provision of ICT facilities and determine their contribution to digital skills development, learning, research, communication, and knowledge sharing. The study adopted a mixed-method research design and a multistage sampling technique to select six Community Resource Centres across Southwestern Nigeria. Data were collected from 257 community users and analysed using descriptive statistics, percentage analysis, and Net Agreement Index (NAI). Findings reveal that power supply systems recorded the highest availability (65.0%), followed by water supply systems (59.1%) and computers (57.6%), while multimedia projectors recorded the lowest availability (37.0%). Regarding adequacy, 58.4% of respondents rated the ICT facilities as inadequate or very inadequate, compared with 21.8% who considered them adequate or very adequate. The influence of ICT facilities on digital literacy was generally negative, with NAI values ranging from -26.1% for access to computers to -37.0% for ICT training programmes. The findings indicate that the availability of ICT facilities does not necessarily translate into effective digital literacy development due to limitations in adequacy, accessibility, functionality, and training. The study recommends improved ICT infrastructure, reliable internet and power supply, adequate digital resources, and continuous digital skills training in Community Resource Centres.*

Keywords: *ICT Facilities, Community Resource Centres, Digital Literacy, ICT Infrastructure, Digital Skills, Southwestern Nigeria*

I. INTRODUCTION

Information and Communication Technology (ICT) has become a major driver of social, educational and economic development, transforming how individuals access information, communicate, learn and work. The increasing dependence on digital technologies has made digital literacy an essential competency for

effective participation in contemporary society (Al-Samarraie & Saeed, 2018; Detlor et al. 2022). Digital literacy encompasses the knowledge and skills required to access, evaluate, create and effectively use digital information and technologies (Tamborg *et al.*, 2018). The development of digital literacy is closely associated with access to appropriate ICT facilities. Computers, internet connectivity, printers, projectors and other digital resources provide opportunities for individuals to acquire and practise digital skills. However, the presence of ICT facilities alone does not guarantee digital competence, as their availability, adequacy, functionality and accessibility influence the extent to which users can benefit from them (Beetham & Sharpe, 2019; Nwogu 2022). Inadequate equipment, unreliable electricity supply and limited internet connectivity can therefore constrain effective digital learning.

In Nigeria, efforts to promote digital inclusion have increased the demand for accessible ICT facilities. However, challenges including inadequate infrastructure, unreliable power supply, limited internet access and the cost of digital services continue to restrict effective ICT utilisation (Daramola & Aladesusi, 2023). While studies have examined ICT facilities and digital literacy in schools and higher education institutions (Omoisekejimi *et al.*, 2018; Okeagu et al. 2022) comparatively less attention has been given to their role within community-based learning environments. Community resource centres provide opportunities for people to access digital technologies, information and training outside formal educational institutions. Their ICT facilities can support digital skills development among community members, particularly those with limited access to personal computers and internet services. However, limited empirical evidence exists on the extent to which the availability and adequacy of ICT facilities in community resource centres contribute to digital

literacy in Southwestern Nigeria (Guo *et al.*, 2026). Therefore, this study assesses the role of ICT facilities in community digital literacy in Southwestern Nigeria. It specifically examines the availability and adequacy of ICT facilities in selected community resource centres and evaluates their influence on community digital literacy.

II. LITERATURE REVIEW

Information and Communication Technology (ICT) has become an important driver of education, communication, economic activities, and community development. It encompasses digital technologies such as computers, mobile devices, software, telecommunications, and internet services that facilitate access to information, communication, learning, and collaboration (Lembani, 2021; Al-Rahmi *et al.*, 2020). The effectiveness of ICT, however, depends largely on the availability, adequacy, accessibility, and functionality of supporting facilities. ICT facilities provide the practical foundation for developing digital skills. Computers, internet connectivity, printers, networking equipment, software, and related resources enable users to access information, communicate, learn, and perform digital tasks. Beyond physical equipment, effective ICT provision requires reliable connectivity, electricity, technical support, and skilled personnel (Muhammed *et al.*, 2026). Inadequate facilities can therefore limit opportunities for meaningful ICT utilisation and skills development.

Digital literacy refers to the knowledge and skills required to access, evaluate, create, communicate, and effectively use information through digital technologies (UNESCO, 2025). It extends beyond basic computer operation to include information evaluation, digital communication, problem-solving, online safety, and responsible technology use (Tinmaz *et al.*, 2022). Access to functional ICT facilities provides opportunities for individuals to acquire and practise these competencies, making ICT infrastructure an important condition for digital literacy development. At the community level, ICT facilities can support digital inclusion by providing shared access to computers, internet services, information resources, and digital training. Community resource centres, telecentres, libraries,

and ICT hubs can particularly benefit individuals who lack personal access to digital technologies (Nemer, 2018; Alikhan *et al.*, 2025). However, inadequate equipment, unreliable electricity, poor internet connectivity, and limited technical support can reduce the effectiveness of such facilities (Shehu *et al.*, 2023).

Although previous studies have examined ICT facilities and digital literacy, much of the literature has focused on schools and higher education institutions (Omosekejimi *et al.*, 2018; Onohwakpor, 2023). Comparatively limited attention has been given to how ICT facilities support digital literacy within community resource centres, particularly in Southwestern Nigeria. This study therefore assesses the availability and adequacy of ICT facilities and evaluates their influence on community digital literacy in Southwestern Nigeria.

III. METHODOLOGY

The study adopted a mixed-method research design to assess the role of ICT facilities in community digital literacy in Southwestern Nigeria. The study covered the six states of the Southwest region: Ekiti, Lagos, Ogun, Ondo, Osun, and Oyo. A field survey identified 56 community resource centres across the region, which constituted the sampling frame.

A multistage sampling technique was employed. The first stage involved stratifying the study area into the six states. In the second stage, the identified community resource centres were classified according to ownership, including government, private, and non-governmental organisations. In the third stage, six centres were purposively selected to provide geographical and ownership representation: Community Resource Centre, Oke-Gege, Ilora (Oyo); ICT Resource Concepts and Aitech Atman ICT Centre (Osun); Tech Skills Hack (Lagos); ATB Tech Hub (Ogun); and University Computer Resource Centre (UCRC), Ekiti.

The study involved community users and administrative staff of the selected centres. The recorded user population across the six centres was 820. Using the Slovin formula at a 5% margin of error, a sample size of 269 community users was obtained. In addition, 12 administrative staff, comprising the

director and deputy director of each selected centre, were purposively selected based on their knowledge of the facilities and operations. A total of 281 respondents therefore participated in the study. Data were collected using structured questionnaires and an observational checklist. The questionnaire assessed users' access to and utilisation of ICT facilities and their digital literacy, while the checklist was used to assess the availability and adequacy of ICT facilities in the selected centres. Secondary information was obtained from relevant scholarly literature and institutional reports. Data were analysed using the Statistical Package for the Social Sciences (SPSS). Descriptive statistics were used to assess the availability and adequacy of ICT facilities, while inferential statistics were used to evaluate their influence on community digital literacy.

IV. FINDINGS

A. Availability and Adequacy of ICT Facilities

The availability and adequacy of ICT facilities in the selected community resource centres are presented in Table 1. The findings show that basic infrastructure was more available than specialised ICT facilities. Power supply systems recorded the highest availability (65.0%), followed by water supply systems (59.1%) and computers (57.6%). Internet/Wi-Fi was available in 51.4% of the centres, while ICT training equipment recorded 45.9% availability. Digital library resources (39.3%) and multimedia projectors (37.0%) recorded the lowest levels of availability. This indicates that although basic infrastructure and computer facilities are relatively available, important resources required for effective digital learning remain limited.

Table 1: Availability and Perceived Adequacy of ICT Facilities in Selected Community Resource Centres (n = 257)

Panel A: Availability of ICT Facilities

S/N	ICT Facility	Available (%)	Not Available (%)	Rank
1	Power supply systems	65.0	35.0	1st
2	Water supply systems	59.1	40.9	2nd
3	Computers	57.6	42.4	3rd
4	Internet/Wi-Fi	51.4	48.6	4th
5	ICT training equipment	45.9	54.1	5th
6	Digital library resources	39.3	60.7	6th
7	Multimedia projectors	37.0	63.0	7th

Panel B: Perceived Adequacy of ICT Facilities

Adequacy Level	Frequency	Percentage (%)
Very inadequate	68	26.5
Inadequate	82	31.9
Fairly adequate	51	19.8
Adequate	36	14.0
Very adequate	20	7.8
Total	257	100.0

Source: Author's Field Survey (2026)

The adequacy assessment further indicates that existing facilities do not sufficiently meet users' needs. More than half of the respondents (58.4%) rated the infrastructure as inadequate or very inadequate, while only 21.8% considered it adequate or very adequate. A further 19.8% rated the facilities as fairly adequate. This finding suggests that the challenge is not only the availability of ICT facilities but also their capacity to support effective and sustained use. The result is consistent with Omoresejimi *et al.* (2018) and Daramola and Aladesusi (2023), who reported that inadequate ICT infrastructure remains a major constraint to effective technology utilisation. The limited availability and adequacy of facilities may therefore restrict users' opportunities to access,

practise, and develop digital skills within community resource centres.

B. Influence of ICT Facilities on Community Digital Literacy

Table 2. presents respondents' perceptions of the influence of ICT facilities on digital literacy in the selected community resource centres. The results show a generally negative perception across all the indicators. ICT facilities helping to improve digital skills recorded 23.4% positive responses compared with 55.3% negative responses, producing a Net Agreement Index (NAI) of -31.9%. Similarly, access to computers improving learning and information access recorded 25.3% positive responses and 51.4% negative responses, with an NAI of -26.1%. Internet

connectivity enhancing research and communication recorded 24.2% positive responses against 54.9% negative responses, resulting in an NAI of -30.7%.

ICT training programmes recorded the lowest NAI of -37.0%, with only 21.4% of respondents expressing positive perceptions compared with 58.4% negative responses. Likewise, ICT infrastructure supporting innovation and knowledge sharing recorded 22.2% positive responses and 56.0% negative responses, resulting in an NAI of -33.8%. Overall, the findings indicate that although ICT facilities are present in the community resource centres, their perceived contribution to digital literacy development remains weak.

Table 2: Influence of ICT Facilities on Community Digital Literacy (n = 257)

S/N	Variable	Positive (%)	Negative (%)	NAI (%)	Rank
1	ICT facilities help improve digital skills	23.4	55.3	-31.9	3rd
2	Access to computers improves learning and information access	25.3	51.4	-26.1	1st
3	Internet connectivity enhances research and communication	24.2	54.9	-30.7	2nd
4	ICT training programmes improve digital literacy	21.4	58.4	-37.0	5th
5	ICT infrastructure supports innovation and knowledge sharing	22.2	56.0	-33.8	4th

Source: Author's Field Survey (2026)

The findings reveal that access to computers had the least negative NAI (-26.1%), suggesting that respondents perceived computers as relatively more useful for learning and information access than other ICT components. Internet connectivity followed with an NAI of -30.7%, indicating that unreliable or limited internet access may constrain research and communication activities. ICT facilities for improving digital skills recorded an NAI of -31.9%, while innovation and knowledge sharing recorded -33.8%. The lowest rating was recorded for ICT training programmes (NAI = -37.0%), indicating that inadequate or limited training is a major constraint to digital literacy development. This suggests that the provision of ICT facilities alone may not translate into improved digital competence without regular training,

effective access, functional equipment and reliable internet services.

Overall, the findings demonstrate that the influence of ICT facilities on community digital literacy is presently weak. The result supports the view that digital literacy depends not only on the availability of ICT infrastructure but also on its accessibility, functionality and users' ability to effectively engage with the technology. This finding is consistent with Oshowole, 2024 and Onohwakpor (2023), who reported that inadequate ICT facilities and limited access constrain the development and effective use of digital competencies. Therefore, strengthening ICT provision, improving accessibility and ensuring continuous digital skills training are essential for community resource centres to function effectively as digital literacy hubs.

V. CONCLUSION AND RECOMMENDATIONS

The findings revealed that basic infrastructure was more available than specialised ICT facilities in the selected Community Resource Centres. Power supply (65.0%) and computers (57.6%) recorded relatively higher availability, while digital library resources (39.3%) and multimedia projectors (37.0%) were least available. Overall, 58.4% of respondents considered the ICT facilities inadequate or very inadequate. Therefore, improved provision and maintenance of computers, internet services, digital resources and multimedia facilities are recommended.

The findings further showed that ICT facilities had a generally weak influence on community digital literacy, with all indicators recording negative NAI values. Access to computers recorded the least negative NAI (-26.1%), while ICT training programmes recorded the lowest (-37.0%). This suggests that infrastructure provision alone is insufficient to improve digital literacy. Regular digital skills training, reliable internet connectivity and improved access to functional ICT facilities are therefore recommended.

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