



Bridging Policy and Practice: ICT Tools and Instructor Support in Adult Education Centers in Coastal Tanzania

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Abstract: The integration of Information and Communication Technology (ICT) in adult education is widely recognized as a critical driver of inclusive learning, instructional effectiveness, and lifelong skills development. Despite supportive national policies in Tanzania, evidence suggests that the translation of these policy intentions into practice within adult education centers remains uneven. This study examined the availability of ICT tools and the nature of instructor support services in adult education centers in the Coastal Region of Tanzania, with the aim of understanding how policy commitments are reflected at the implementation level. A mixed-methods approach within a cross-sectional research design was employed. Quantitative data were collected through structured questionnaires administered to 40 adult learners and 16 instructors, while qualitative data were obtained through semi-structured interviews with 4 adult education center coordinators and direct observations using checklists. Descriptive statistical analysis was conducted using IBM SPSS, while qualitative data were analyzed thematically. The findings indicate that while basic infrastructure such as electricity and limited internet connectivity is generally available, critical ICT tools including computers, projectors, and printing equipment are insufficient and unevenly distributed across centers. Both instructors and learners demonstrated positive perceptions of the usefulness of ICT in teaching and learning; however, actual integration of ICT into instructional practices was irregular. Instructor support services, particularly training, mentoring, and technical assistance, were found to be inconsistent and largely inadequate. These gaps contribute to a disconnect between ICT policy aspirations and classroom realities. The study underscores the need for targeted investment in ICT infrastructure, sustained professional development for instructors, and strengthened institutional support mechanisms to enhance effective ICT integration in adult education settings

Keyword : ICT integration, adult education, instructor support services, ICT tools, policy implementation, Adult Education Centers Coastal Region, Tanzania

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Introduction

The integration of Information and Communication Technology (ICT) in education has become a global focus as countries recognize the growing role of digital tools in improving teaching and learning. ICT supports education by making content more accessible, encouraging interaction, and helping learners develop skills needed in today's digital world. According to UNESCO (2023), ICT improves education by expanding learning opportunities, connecting students and teachers to more

resources, and supporting inclusion for learners who are often left behind. These advantages have led to increased investments in digital tools and training, especially in public institutions (World Bank, 2022).

In more developed countries such as those in North America and Europe, ICT is already a regular part of teaching and learning. In the United States, for instance, the National Education Technology Plan focuses on teacher training and access to digital materials (U.S. Department of Education, 2024). The plan encourages continuous learning for instructors so they can keep up with changes in technology and use it confidently in their classrooms. In the European Union, programs are in place to help instructors learn how to use ICT and integrate it into their lessons. Lavonen and Salmela-Aro (2022) explain that these efforts are not just about providing tools but also making sure that teachers are ready and supported to use them. These regions show that even where infrastructure is good, instructor support services such as professional development, mentorship, and hands-on guidance are still important for successful ICT use.

However, in many developing countries, using ICT in education comes with major challenges. Infrastructure is often weak or missing, internet access is limited or unreliable, and electricity is not always available. These issues are even more serious in rural and underserved areas. Across Africa, efforts to introduce ICT in education often run into problems due to a lack of basic tools and training for teachers. While some countries like South Africa and Rwanda have made progress in urban areas, the situation in rural areas is very different. According to Habimana et al. (2023), rural institutions often do not have working computers, internet access, or electricity. Mogotsi (2023) adds that even when tools are available, teachers lack the training and follow-up support to use them properly. Many teachers are left to figure out ICT on their own, which limits the benefits technology can bring to the classroom.

In Tanzania, ICT is part of the national education agenda. The Ministry of Education, Science and Technology (2024) has developed policies that promote the use of digital tools in both formal and non-formal education. These policies recognize that instructors must be supported through training, materials, and technical help. However, putting these policies into action has proven difficult. In many areas, especially rural ones, ICT tools are not available or are in poor condition. Internet connections are weak, and instructors rarely receive the training or support they need. Peter (2022) observed that most teachers are not confident in using ICT because they do not receive enough practice or guidance.

These challenges are especially visible in adult education centers. Unlike formal schools, adult education centers often operate with fewer resources and receive less attention in national planning. Many serve learners who are trying to improve their literacy, vocational skills, or basic education. But the lack of ICT tools such as computers, projectors, and internet access makes it hard for these centers to offer

digital learning. Studies by Sanga (2022) and Warioba et al. (2022) found that adult education instructors face many difficulties when trying to use ICT. They often have limited knowledge of how to use digital tools and rarely receive help when problems arise. Without consistent support, instructors struggle to keep up with technological demands, and their teaching remains mostly traditional.

In Coastal Region, the situation reflects many of the national problems. Efforts have been made to expand adult education, but ICT use in these centers remains low. Infrastructure is often poor, and even when tools are available, instructors report that they do not feel supported in using them (Fidelis & Onyango, 2021). Some centers have computers, but they may be outdated or not working. There is little to no technical assistance when problems occur, and training opportunities are rare. As a result, instructors feel isolated and unprepared, which reduces their willingness to use ICT in their teaching. The lack of instructor support services such as refresher training, mentoring, or follow-up sessions creates a gap between national ICT goals and what is actually happening on the ground.

Research Objective

1. To determine the availability of ICT tools in adult education centers in Coastal Region.
2. To examine the instructor support services provided to adult education centers in Coastal Region.
3. To assess the adequacy of existing ICT resources and support services adult education centres in Coastal Region.

Literature Review

1. Theoretical Review

This study used two theories to help understand the problem: Policy Implementation Theory and the Technology Acceptance Model (TAM). Policy Implementation Theory, developed by Mazmanian and Sabatier (1983), focuses on how well policies are carried out. It emphasizes the need for clear goals, proper resources, and active commitment from the people involved. In this study, it helps to examine whether instructor support services such as training programs, guidance, and troubleshooting are available and being used in adult education centers in Coastal Region. The theory is useful for looking at system-level factors like how well the policy has been translated into action.

The Technology Acceptance Model (Davis, 1989) focuses on the instructor's side. It explains how people decide whether to use a new technology based on how useful and easy they think it is. This is important for the current study because even if ICT tools and training are provided, instructors may not use them unless they see a

real benefit and feel confident in their skills. TAM helps to explore the individual beliefs and attitudes that influence technology use in adult education.

Together, these two theories provided a broader perspective. Policy Implementation Theory explained the external environment, including policies, resources, and support, while the Technology Acceptance Model (TAM) accounted for the internal motivations and behaviors of instructors. Applying both frameworks helped this study assess not only the availability of support services but also how these services influenced the actual use of ICT in teaching.

2. Empirical Review

The empirical literature consistently shows that the effective use of ICT in adult education is strongly influenced by the availability and quality of instructor support services. These services include training, access to instructional materials, mentoring, and continuous technical assistance, all of which help instructors develop confidence and competence in using digital tools. Abel et al. (2022) demonstrated through a meta-ethnographic review that instructors who participated in regular training workshops and received technical support developed stronger digital skills and more positive attitudes toward ICT adoption, which improved learner interest and achievement. Similarly, Law et al. (2018) found a strong relationship between professional development opportunities and instructors' willingness to adopt digital technologies, highlighting the importance of sustained institutional support.

Evidence from well-resourced contexts further emphasizes the role of structured support systems in promoting ICT integration. Eickelmann et al. (2021), in a study of adult education in Germany, revealed that continuous professional development, peer collaboration, the availability of technical support staff, and supportive leadership significantly enhanced instructors' use of ICT. These findings are reinforced by the European Commission's (2020) Digital Education Action Plan, which stresses the need for structured digital skills training for adult educators. However, most of these studies are situated in formal education systems or well-funded environments, limiting their relevance to adult education centers in low-resource settings such as Tanzania.

In contrast, studies from less resourced regions highlight persistent shortcomings in instructor support. Adarkwah (2021) found in Ghana that despite the existence of ICT policies, many instructors lacked adequate training and follow-up assistance, leading to uncertainty and low confidence in using technology for teaching. Adegbenro et al. (2019) similarly reported that reliance on one-off workshops without sustained follow-up was a major factor contributing to low ICT adoption in sub-Saharan Africa. These findings indicate that the absence of continuous support mechanisms significantly undermines ICT integration in adult education contexts.

Comparable challenges have been reported in East Africa. Manyasa (2022) observed in Kenya that instructor support varied widely across adult education centers, with some offering sporadic ICT training while others provided none at all. This inconsistency resulted in unequal opportunities for instructors to develop digital competencies. In Tanzania, Juma and Mwila (2024) documented that adult education instructors often lacked structured ICT training, mentoring, and regular technical support, despite policy directives promoting ICT integration. Peter (2022) also reported low levels of confidence among instructors in Mtwara Region, which were attributed to limited training opportunities and weak institutional encouragement.

Beyond instructor support, the literature identifies broader challenges affecting ICT tools and their effective use in adult education centers. Globally, underfunding remains a critical barrier, as adult education is frequently marginalized in budget allocations, leading to inadequate ICT infrastructure, unreliable internet connectivity, and limited digital learning materials (UNESCO, 2024). The International Telecommunication Union (ITU, 2022) further noted that the digital divide continues to disproportionately affect rural adult learners, even in developed countries, where outdated equipment and weak connectivity remain common in rural adult education centers.

Studies from developing contexts reveal that infrastructural constraints are often compounded by shortages of trained personnel and weak technical support systems. Manyasa (2022) reported frequent electricity outages, unstable internet connectivity, and recurring equipment breakdowns in Kenyan adult education centers, while Adarkwah (2021) found similar challenges in Ghana, where the absence of technical staff and follow-up training limited effective ICT use. In Tanzania, the Ministry of Education (URT, 2024) acknowledged persistent infrastructural challenges, particularly in rural areas, where power outages and poor connectivity hinder ICT use even when equipment is available.

Additional challenges relate to instructor digital skills, cultural attitudes, and financial sustainability. Peter (2022) highlighted that ongoing technical breakdowns and lack of maintenance services in Mtwara Region discouraged instructors from relying on ICT tools, while Juma and Mwila (2024) noted cultural resistance to technology among some instructors and adult learners. Financial constraints and reliance on short-term donor funding further undermine ICT initiatives, as many programs collapse once external support ends (Nwokolo, 2023). Taken together, these studies reveal that challenges to ICT integration in adult education are multi-layered, involving infrastructural, institutional, financial, and human capacity issues.

Methodology

The study adopted a mixed-methods approach that integrated both quantitative and qualitative techniques within a cross-sectional research design to allow the two approaches to complement and enhance each other. This design was considered appropriate for determining the availability of ICT tools in adult education centers in the Coastal Region. The study involved a total of 60 participants, comprising 40 adult learners, 16 instructors, and 4 adult education center coordinators drawn from centers located in Kibaha, Kisarawe, Mkuranga, and Kibiti. Purposive sampling was used to select instructors and coordinators who possessed relevant knowledge and direct experience in the use, management, or coordination of ICT tools and learning sessions within their centers. Adult learners, on the other hand, were selected through random sampling to ensure a diverse and representative range of perspectives across different levels of enrollment in adult education programs.

Data were collected using three main methods: structured questionnaires, semi-structured interviews, and observation checklists. Questionnaires with closed-ended items were used to gather quantitative data on the availability of ICT tools, the frequency and reliability of technical support, and the common challenges encountered in using ICT in adult education contexts. Semi-structured interviews were conducted with selected center coordinators to obtain deeper qualitative insights into ICT-related challenges and existing support systems, allowing participants to share detailed experiences such as difficulties in accessing, maintaining, or effectively utilizing ICT resources. Observation checklists were employed to physically verify the availability, condition, and actual use of ICT tools within the selected centers, including computers, internet connectivity, electricity supply, and multimedia equipment, as well as how these tools were integrated into instructional practices. Quantitative data were analyzed using IBM SPSS software through descriptive statistics such as frequencies, percentages, means, and standard deviations, while qualitative data were analyzed thematically to identify key patterns related to ICT tools, instructor support, and training opportunities. Ethical considerations were observed throughout the study, including obtaining informed consent from participants, ensuring confidentiality, and securing ethical approval from the relevant authorities.

Findings and Discussions

This section presents the quantitative findings of the study, organized according to the specific research objectives. The data were collected through structured questionnaires administered to adult learners and instructors from selected adult education centers in the Coastal Region of Tanzania. The analysis primarily focused on descriptive statistics, particularly mean scores and standard deviations, to evaluate respondents' perceptions and experiences regarding ICT support services. Each

subsection addresses one research objective, beginning with the availability of ICT facilities, followed by their effectiveness, the challenges faced in their use, and finally the support services provided to instructors. The results are interpreted in relation to the research questions and discussed in light of relevant literature and the study's theoretical framework.

Table 1. Availability of ICT Facilities in Adult Education Centers (n = 56)

ICT Facility	Group	N	Mean	Std. Deviation
Computers	Adult Learners	40	2.25	0.707
	Instructors	16	2.50	0.894
Projectors	Adult Learners	40	1.95	0.735
	Instructors	16	2.25	0.683
Internet Availability	Adult Learners	40	2.50	0.707
	Instructors	16	2.69	0.602
Printers and Scanners	Adult Learners	40	2.30	0.732
	Instructors	16	2.56	0.629
Electricity Stability	Adult Learners	40	2.75	0.550
	Instructors	16	2.81	0.403

Source: Field Data (2025)

The aim of the first research objective was to determine the availability of ICT facilities in adult education centers in the Coastal Region of Tanzania. The analysis was based on descriptive statistics from both adult learners and instructors, as shown in Table 1. The findings reflect differing levels of availability across various ICT components, and these results provide a clear insight into the current infrastructure landscape within the studied centers.

The availability of computers was reported with a mean score of 2.25 by adult learners and 2.50 by instructors. Since the scale used ranged from 1 (not available) to 3 (fully available), these scores suggest that computers are only moderately available in these centers. In practical terms, this means that while some computers are present, they may be insufficient in number, outdated, or not easily accessible to all learners. A likely scenario is that learners may need to queue or book limited computer time, which could affect their ability to complete assignments or access online materials. Instructors, who rated computer availability slightly higher, might have some priority access, but even then, the limited mean score indicates that the situation is far from ideal for instructional delivery.

Projectors, which are essential for visual demonstrations and multimedia presentations, were rated at 1.95 by learners and 2.25 by instructors. The low learner score, which is close to the threshold of 'not available,' suggests that many adult

learners have minimal exposure to projector-supported lessons. This likely means that instructional sessions are often limited to traditional methods, such as chalk and talk, which may not fully engage adult learners or accommodate diverse learning styles. Instructors' responses imply that while projectors may exist in some classrooms, they are not consistently available across the centers, or their usage might be hindered by technical issues, lack of training, or time constraints.

Internet availability received one of the highest ratings, with a mean of 2.50 from learners and 2.69 from instructors. These scores indicate that internet services are generally present and accessible, although not perfectly reliable or fast. For adult learners, this access is crucial, especially in a distance learning setting where study materials, assignments, and communication with tutors often occur online. The relatively higher score from instructors suggests they may have dedicated access or better knowledge of how to use available internet resources. However, even with moderate internet access, its impact may be constrained if learners lack personal devices or digital literacy skills to use it effectively.

Printers and scanners were rated at 2.30 by learners and 2.56 by instructors. This shows that while some printing and scanning equipment is present, it may not be evenly distributed or consistently functional. For example, in some centers, learners might depend on instructors or administrative staff to print materials or scan assignments, which can lead to delays and dependency. Such equipment is vital for managing paperwork, especially for adult learners who may have limited time on-site due to work or family commitments. The slightly higher rating by instructors could reflect their more frequent access to office equipment, which learners might not be permitted to use directly.

Electricity stability received the highest scores among all the items, with learners reporting a mean of 2.75 and instructors 2.81. These figures indicate a strong level of confidence in the availability of consistent power supply across the centers. Reliable electricity is fundamental for any form of ICT usage; without it, computers, internet, and other digital tools are rendered useless. The high scores in this area suggest that the foundation for ICT implementation exists and can be capitalized on to improve service delivery. For example, this stable electricity supply means that any investment in new ICT equipment will likely be usable without frequent interruptions or the need for expensive backup systems like generators.

In light of these findings, it becomes clear that although some essential conditions for ICT use are in place such as electricity and a fair level of internet connectivity critical learning tools like computers, projectors, and printing equipment remain inadequately available. This gap limits both the reach and the quality of ICT-integrated education in adult learning centers.

Interpreting these findings through the lens of Policy Implementation Theory (Mazmanian & Sabatier, 1983) reveals systemic issues that affect the translation of ICT

policy into practice. According to this theory, effective implementation depends on factors like the availability of resources, clarity of institutional goals, and administrative capacity. In this case, the relatively low availability of hardware points to gaps in resource provision or coordination at the implementation level. It suggests that although national policy may promote ICT in education, the necessary tools and infrastructure do not fully reach the local centers where learning takes place. The theory also reminds us that implementation is affected by both internal and external conditions, such as budget allocations, procurement processes, and administrative follow-through.

Furthermore, the Technology Acceptance Model (TAM) provides an individual-level perspective. It argues that technology use is influenced by users' perceptions of usefulness and ease of use. If instructors perceive ICT tools as beneficial for teaching but find them unavailable or difficult to access, their motivation to adopt such technologies may diminish. This could explain why even when facilities are partially available, their usage remains inconsistent or low.

The findings from this study also align with insights from existing empirical literature. For instance, Juma and Mwila (2024) found that despite government efforts to promote ICT in Tanzania, many adult education centers suffered from lack of proper equipment and structural support. Similarly, Adarkwah (2021) reported that in Ghana, instructors faced overwhelming barriers due to the absence of structured ICT resources, even when policies were in place. In contrast, studies from more resourced contexts, such as Eickelmann et al. (2021) in Germany, revealed that access to tools like computers and projectors, combined with supportive leadership, made a significant difference in promoting ICT use in adult learning. This contrast highlights the importance of not only having supportive policies but ensuring their execution in low-resource settings.

Instructor Support Services Provided and Accessed

This section presents findings related to the second research objective, which aimed to assess the types of instructor support services available in adult education centers and the extent to which these services are accessed. Data were collected from both adult learners and instructors through structured questionnaires. The analysis focused on orientation/training and the availability of assistance when technical problems arise.

Table 2. Instructor Support Services Provided and Accessed in Adult Education Centers (n = 56)

Support Service Item	Respondent Group	N	Mean	Std. Deviation
Learners received adequate orientation on using ICT tools	Adult Learners	40	3.25	1.28
There is enough assistance when ICT problems arise (learners)	Adult Learners	40	2.93	1.37
Instructors received adequate training on using ICT tools	Instructors	16	2.63	1.54
There is enough assistance when ICT problems arise (instructors)	Instructors	16	2.63	0.96

The results reveal a moderately positive perception among adult learners regarding the support they receive. The mean score of 3.25 for the statement “*Learners received adequate orientation on using ICT tools*” suggests that learners generally agree that some orientation is provided. However, the standard deviation of 1.28 indicates substantial variability, implying that while some learners may have received detailed, helpful guidance, others may have received none or minimal support. In practical terms, a learner might have attended a brief group session on how to log in to an online portal or use a projector, but without consistent reinforcement, such orientation might be forgotten or rendered ineffective when actual ICT challenges arise.

A more concerning result is the learner mean score of 2.93 on the availability of assistance during ICT-related issues. This score, falling just below the neutral midpoint of 3, suggests that many adult learners do not feel adequately supported when they encounter technical problems. For example, a learner attempting to use a tablet to access e-learning materials may not receive timely help if the device fails to connect or if software malfunctions. The high variability (SD = 1.37) further suggests that the presence or absence of technical support varies widely across centers.

Among instructors, the results are less encouraging. The mean score of 2.63 for “*Instructors received adequate training on using ICT tools*” reflects a general dissatisfaction or uncertainty about the sufficiency of training. The high standard deviation of 1.54 implies inconsistent experiences, with some instructors receiving perhaps a single training session and others none at all. This aligns with empirical observations by Agyei (2021), who found that in many African countries, instructor support is often reduced to isolated workshops without ongoing mentoring or follow-up. In this study, an instructor might recall attending a half-day seminar two years ago but having had no hands-on engagement or refresher since then.

Similarly, the instructors' perception of assistance when ICT issues arise received a mean of 2.63, mirroring their rating of training support. However, the lower

standard deviation of 0.96 indicates a more uniform consensus that technical support is lacking across most centers. This could mean that when projectors fail, internet connectivity drops, or classroom software malfunctions, instructors are left to manage on their own. Without access to IT support staff or troubleshooting resources, such challenges likely discourage the continued use of ICT tools, reinforcing dependence on traditional teaching methods.

These results affirm the relevance of Policy Implementation Theory (Mazmanian & Sabatier, 1983), which emphasizes that the successful execution of any policy such as the integration of ICT in adult education depends heavily on the availability of resources and institutional capacity. The data here suggest that while national ICT policies may advocate for training and support, actual implementation is hindered by logistical, financial, or administrative gaps. In many cases, the absence of training modules, personnel, and maintenance plans at the center level limits policy outcomes.

Furthermore, these findings are reinforced by the Technology Acceptance Model (TAM), which holds that individuals' willingness to adopt technology is shaped by their perceptions of usefulness and ease of use. In this context, instructors who lack training and reliable support are likely to view ICT as complicated or unhelpful, which deters them from adopting it in their teaching. For example, if an instructor is uncertain about connecting a projector or updating teaching software, they are less likely to use such tools regularly especially when time is limited and classroom outcomes are at stake.

The quantitative findings from this study also align with key empirical literature. Hennessy et al. (2022) emphasized the importance of ongoing instructor support in improving both the quality of teaching and the effectiveness of ICT use. However, this study reveals that in the Coastal Region, such support is rarely sustained. Manyasa (2022) similarly observed inconsistent training provision in Kenyan adult education centers, a pattern now echoed in Tanzanian settings. Additionally, Peter (2022) highlighted that even in formal secondary school systems, ICT-related instructor training was uneven, which raises concerns about how much more neglected adult education instructors might be.

More optimistically, research by Nwokolo (2023) showed that partnerships with donors can improve ICT support services by sponsoring structured training. While such models are not yet widely adopted in the studied centers, they offer a practical route forward particularly when governments and local institutions collaborate with the private sector to create sustainable training programs and provide accessible technical support.

Adequacy of ICT Resources and Support Services

The third research objective aimed to assess whether the available ICT resources and support services in adult education centers in the Coastal Region of Tanzania are adequate to meet the teaching and learning needs. Table 3 summarizes the responses from both adult learners and instructors concerning various dimensions of ICT adequacy, including availability, functionality, confidence in use, integration into lessons, and support mechanisms.

Table 3. Adequacy of ICT Resources and Support Services in Adult Education Centers (n = 56)

Item	N	Mean	Std. Deviation
Adult Learners			
ICT tools help improve the learning process	40	4.03	1.230
ICT tools are available and in working condition	40	2.85	1.350
Learners feel confident using ICT tools for learning	40	3.75	1.276
Learners use ICT tools effectively	40	3.20	1.305
Learners received adequate orientation on using ICT tools	40	3.25	1.276
There is enough assistance when ICT problems arise	40	2.93	1.366
ICT tools are regularly integrated into lessons and learning	40	3.10	1.429
Instructors			
ICT tools help improve the teaching process	16	4.69	0.479
ICT tools are available and in working condition	16	3.62	0.957
Instructors feel confident using ICT tools for teaching	16	4.63	0.500
Instructors use ICT tools effectively	16	3.25	1.238
Instructors received adequate training on using ICT tools	16	2.63	1.544
There is enough assistance when ICT problems arise	16	2.63	0.957
ICT tools are regularly integrated into lessons and teaching	16	3.31	0.873

Learners reported high agreement that ICT tools improve the learning process (Mean = 4.03), yet they rated actual availability of those tools much lower (Mean = 2.85). Similarly, instructors strongly agreed that ICT tools enhance teaching (Mean = 4.69), but they also gave a moderate score (Mean = 3.62) for availability. This contrast between perceived value and actual availability suggests that while ICT is seen as transformative, its practical implementation remains limited. For example, a center might have internet-enabled devices and educational software, but if there are only

three functioning computers for over 40 learners, the overall teaching-learning process becomes constrained, despite the technology's potential.

Moreover, learners rated their confidence in using ICT at 3.75, while instructors rated theirs at 4.63, showing that instructors are more assured in their digital skills. Yet, effectiveness of usage was rated at only 3.20 (learners) and 3.25 (instructors), indicating that both groups may be overconfident, or more likely, that external limitations such as poor maintenance, limited digital content, or unstable internet connectivity reduce their ability to apply those skills meaningfully in classroom settings.

When asked whether ICT tools are regularly integrated into lessons, learners responded with a mean of 3.10 and instructors 3.31 moderate scores that suggest occasional rather than routine integration. This may reflect inconsistent planning, lack of structured digital curricula, or even resistance from educators untrained in pedagogical use of ICT. For instance, a projector may only be used during examinations or special workshops, while day-to-day lessons remain traditional and disconnected from digital tools.

Critically, both learners (Mean = 3.25) and instructors (Mean = 2.63) reported inadequate orientation and training, and both groups gave similarly low scores for availability of technical assistance (learners = 2.93; instructors = 2.63). This demonstrates a clear shortfall in ongoing professional development and support systems, reinforcing a structural problem in ICT implementation. Instructors may attend one-time workshops, but without follow-up mentoring or onsite ICT support staff, their confidence and motivation to innovate may dwindle. For example, an instructor facing a frozen device mid-lesson may abandon the ICT approach entirely if no one is available to assist immediately.

These challenges align with Policy Implementation Theory (Mazmanian & Sabatier, 1983), which emphasizes that successful implementation of policies depends not only on well-articulated goals but also on the availability of resources, administrative capability, and contextual adaptability. In this case, although Tanzanian educational policies promote ICT integration in adult learning, implementation at the center level is hindered by poor infrastructure, insufficient support staff, and fragmented training programs. A policy goal such as “universal ICT access” becomes hollow without concrete inputs – working devices, reliable electricity, internet, and sustained support structures.

Furthermore, the Technology Acceptance Model (TAM) provides individual-level insight. It argues that perceived usefulness and ease of use influence whether users adopt new technologies. In this study, while both learners and instructors perceive ICT as highly useful, ease of use is undermined by systemic constraints. The model suggests that actual behavior (i.e., usage) will remain low if users face constant technical issues, inadequate support, or lack of relevant content. Hence, even positive

attitudes toward ICT are unlikely to translate into consistent usage under current conditions.

The findings align with UNESCO's (2024) Global Report, which identified lack of funding and infrastructure as key barriers to ICT implementation in adult education worldwide. For instance, learners' moderate ratings on availability and functionality suggest that adult education centers in the Coastal Region are under-resourced, similar to global patterns reported by UNESCO.

The International Telecommunication Union (ITU, 2022) also reported widening urban-rural gaps in ICT access. This is evident here as well: although internet connectivity is present in some centers, it may be slow or unstable, especially in rural districts of the Coastal Region. This results in inconsistent integration of digital content, further frustrating both instructors and learners.

In the African context, Manyasa (2022) found that adult education centers in Kenya often suffered from power outages and poor infrastructure. These same issues were observed in this study, where even confident instructors could not consistently integrate ICT due to unreliable hardware or lack of technical support. A vivid example is when projectors or printers are shared across multiple centers, or when connectivity is lost during digital lessons, leading educators to revert to traditional chalkboard methods.

Locally, the Tanzanian Ministry of Education Science and Technology (2024) acknowledged that adult education centers are less prioritized in ICT development compared to formal secondary schools. This explains the observed lack of structured ICT support services, limited technical training for instructors, and general scarcity of tools like tablets, projectors, and smartboards. For instance, instructors in Mtwara, as noted by Peter (2022), faced ongoing breakdowns of devices and had no technicians to assist them. The same applies in the Coastal Region, where this study identified low satisfaction with ICT support and training.

Conclusion and Recommendations

The findings from this study demonstrate that adult education centers in the Coastal Region of Tanzania are characterized by a clear imbalance between the recognized importance of ICT and the level of support and resources available to translate this recognition into consistent practice. While basic conditions such as electricity supply and limited internet connectivity are largely in place, the availability of key instructional ICT tools remains inadequate, and their integration into teaching and learning is irregular. Instructors and learners generally perceive ICT as useful and beneficial; however, this positive perception is undermined by insufficient access to equipment, limited training opportunities, and weak technical support systems. These conditions reflect broader implementation challenges in which policy intentions promoting ICT integration are not fully realized at the operational level. From the

perspective of Policy Implementation Theory (Mazmanian & Sabatier, 1983), the situation points to gaps in resource allocation, administrative capacity, and follow-through at the center level. Similarly, the Technology Acceptance Model helps explain why favorable attitudes toward ICT do not consistently result in actual use, as persistent barriers related to availability, ease of use, and support reduce instructors' willingness and ability to rely on digital tools in everyday instructional practice.

Addressing these issues requires deliberate and sustained action focused on strengthening both ICT infrastructure and instructor support systems within adult education centers. Greater emphasis is needed on ensuring equitable provision of essential ICT tools, particularly computers, projectors, and printing equipment, alongside improvements in internet reliability, especially in rural areas. Continuous and needs-based professional development for instructors should be institutionalized, moving beyond isolated workshops toward regular training, mentoring, and access to on-site or shared technical support. Strengthening collaboration among government agencies, local authorities, private sector partners, and community organizations would enhance resource mobilization and improve the sustainability of ICT initiatives. In addition, center-level leadership should be empowered to integrate ICT use into routine planning, supervision, and instructional practices, ensuring that available resources are actively utilized. Such measures would help align policy aspirations with everyday realities in adult education centers and create a more supportive environment for meaningful and sustained ICT integration.

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