Assessment of ICT Training Needs Among Officers of Farmers' Credit Cooperative Societies in Oyo State, Nigeria

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Abstract		Original Research Articles

Conducting training programmes without prior training needs assessment has constantly proved counterproductive. To improve the capacity of officers of farmers' credit cooperative societies in Oyo State, we examined the ICT knowledge, assessed the perceived ICT skills, determined the gaps between them and categorized the identified training needs of these officers. A multistage sampling procedure was used to select 204 respondents from the population comprising all members of the executive of farmers' credit cooperative societies registered with the Agricultural Cooperatives Corporation of Oyo State. A structured questionnaire was used to elicit information from respondents. Data were analyzed using frequencies, percentages, means, correlation analysis and the Borich Assessment Model. The respondents were knowledgeable in 64.71% and skillful in 47.06% of the investigated roles. WhatsApp messaging, use of Facebook, audio-visual recording, and GSM use as an electronic diary and reminders for meetings and events, all with MWDS of 2.08 are areas needing training the most. These gaps were then categorized. There was a significant relationship between the ICT skills and the identified training needs ($r = 0.081$, $p \le 0.122$). The gap between ICT knowledge and perceived ICT skills must be bridged while improving both.

Keywords: Knowledge, skill, and training needs, ICT and Assessment.

INTRODUCTION

A farmers' cooperative is an association comprising very many small-scale farmers. In planning, production, marketing and some other areas, it reaps the unique benefits of a big business organisation, which may not be attainable by its members when pursued individually. It has served as a source of finance for rural people and a veritable platform for their socialisation, training and education.

Cooperative societies have changed significantly over the last 200 years, becoming increasingly important to economies and societies worldwide (Velmonte, 2020). The change permeates every fabric of the cooperative life, including its leadership and their functions. This dynamism in leadership functions makes using a manual approach in documentation, procedural activities, information handling and archival purposes more cumbersome, vulnerable to errors and less effective, thus necessitating technology in information and communication. Food and Agricultural Organization (FAO) (2021) defines Information Communication Technologies (ICT) as any communication technologies, such as the internet, wireless networks, mobile devices, computers, software, middleware, social networking, video conferencing, and other media applications and services that let users access, retrieve, store, transmit, and work with digital information. ICT has proven to be a valuable companion in addressing sustainable development challenges in isolated regions by augmenting the productivity of rural inhabitants (Yekinni, Ladigbolu, Adeniyi and Adebisi, 2019).

In cooperative circuits in Nigeria, as obtained in most developing countries, Mwinga (2023) observed that the computer and mobile telephone are the commonly used modes

Ogunsakin, I. B. (2025). Assessment of ICT training needs among officers of farmers' credit cooperative societies in Oyo State, Nigeria. *ISA Journal of Arts, Humanities and Social Sciences*, 2(5), [27-33].

27

of ICT platforms and that the adoption of ICT is low over the African continent. It is reasonable to argue that current ICT usage does not have the resilience and adaptability needed to oversee a changing industry if it is to genuinely address the issues posed by the growing uniqueness of members' inclusive and exclusive demands. ICT, like any other leadership function, is hinged on the knowledge of individual leaders and their skills (termed 'importance' and 'competence' respectively by Borich, 1980). Knowledge and skills are never static in a changing world of technologies. The more technologies change, especially information and communication, the more the penchant and need to keep abreast of global best practices can be obtained through training and retraining. For instance, even though the use of ICT, especially mobile phones, radio and television, helped resolve reasonably the problems associated with tomato marketing in Kenya, training in ICT has been advocated as the overall panacea to agricultural marketing (Kavin, Ndirangu and Mwangi, 2021)

Holmienkemper and Haan (2024) remark that training equips people with the information necessary to succeed in their jobs. This process has changed over time due to technological advancements, combining more conventional approaches—like mentoring and on-the-job training—with more contemporary digital strategies to accommodate different learning preferences and organisational needs. Training is essential for organisations, and its benefits are immense as it shortens the learning curve, improves staff capacities, enhances commitment to the job, and develops workers' capacities (Herrity, 2023). Fatima (2019) emphasises the importance of training by recommending that every organisation commit quality time, substantial funds and appreciable other resources to it as this will not only sustain the organisation but also secure its future. According to the National Cooperative Business Association (NCBA) (2024), one of the seven cooperative principles is education, training and information. The attempt to assess the knowledge and demonstrable skills of officers of cooperative societies with a further view to training them is one deliberate way of upholding and enhancing this particular principle and equally aiming at the easy achievement of general cooperative goals and the Sustainable Development Goals (SDGs).

Training needs comes to the fore once a desire for change is contemplated or the necessity for increased productivity, mastery of new technology and responsibility to operate at higher levels are considered at individual or organisational levels (Jimoh, 2023). Training needs is a fall out of a deficiency or deficit in knowledge and skills and inappropriate attitudes (Muhammed, Othman and Rahmat, (2019)). Training needs is usually established when the level of performance is lower than expected. It is the basis for transition along the chain of productive activities. Needs assessment entails identifying the gaps between where the organisation sees itself today and where it wants to go (Grimsley, 2019). In contrast, Demeke and Tao (2020) view it as a study that pinpoints the precise nature of an organisational problem and looks for potential remedies. This study aligns with the observation of Sa'adu, Norsida, Jasmine, Nitty and Ahmadu (2022) that lack of training in ICT, illiteracy and poor ICT infrastructure were some of the problems militating against the use of ICT in agricultural extension work.

Farrell (2020) remarked that the diagnostic stage of a training plan is the assessment of organisational training needs, and that this assessment considers concerns with employee and organisational performance to determine whether training will help. Likewise, Mulder (2019) believes that assessing training needs is the first stage of the training process, the first step in any change, and that it should always be done whenever a new policy is being adopted or when significant changes are being considered for practices, methods, or the acquisition of new equipment. Prior assessment of training needs is usually necessary to ascertain the competencies or skills that training can upgrade. Borich (1980) defines a need as a difference or space between "what is," or the situation's current state, and "what should be," or the ideal situation. Similarly, the differential between learners' desired status and their current status amounts to a training need or 'gap' that training can address (Karpenkova, 2023). Therefore, a need confers a specific advantage when it is met. It can also be inferred that fulfilling or achieving specific desirable purposes is necessary. At any time that a need is identified in any organisation, it is more of a weakness or deficiency that should be addressed for the organisation's health or general well-being and progress. One significant way of turning the deficiency around or the weakness into strength is to apply training. Putting the needs in proper perspective, its assessment, as a business tool, can provide helpful introspections into the deeds and processes required for the efficient functioning of an organisation (Indeed Career Guide, 2021). Izuogu, Njoku and Olesin (2023) remark that effective digitalisation of agriculture requires training in skills, digital privacy, and security threats, and the usage of pertinent digital services, whereas Iwuchukwu, Eke, Arigbo, Chukwudum and Igwe (2023) identified the challenges of the use of social media as a means of communication by farmers to the presence of training needs in the use of some platforms which include Facebook, Instagram, WhatsApp, X (formerly called Twitter), and YouTube.

Statement of Problem

Most farmers' credit cooperative societies still struggle to render desirable services that will meet the yearnings and aspirations of their members. This scenario is partly due to the challenges these cooperatives grapple with, notable among which is the low managerial ability (Brai, Ehiomogue, Eriakha, and Okoduwa, 2019). Although cooperative societies in this country have witnessed tremendous successes (Idoko, 2023), some issues, which include poor management and lack of trained staff, are quickly eroding the gains of past years. This underscores the view of Bitonio, Acosido and Patron (2022) that cooperative education and training should be for every stakeholder and should mainly be directed more towards the members who are leaders-in-waiting instead of focusing only on staff and leaders as a means of enhancing sustainability.

Elee (2021) observed that information technology has a significant impact on cooperative services and influences the level of economic activities, while Bitonio *et al.*(2022) recommended that members and officers should receive

Ogunsakin, I. B. (2025). Assessment of ICT training needs among officers of farmers' credit cooperative societies in Oyo State, Nigeria. *ISA Journal of Arts, Humanities and Social Sciences*, 2(5), [27-33].

28

training and retraining as a preventive measure against the risk of cooperatives losing its identity and essence. One of the obstacles facing cooperative training in Nigeria, according to Omotesho, Akinrinde, Laaro and Olugbeja (2019), is the need for a clear needs assessment at the foundation of cooperative training, which has left the cooperative movement with unmet needs. According to Omotesho *et al.* (2019), trainings are conducted based on available trainers whose curricula or contents usually need to be in tune with the priority of members' needs at that particular time and trainees are often selected for economic or political reasons. Therefore, to build the capacities of officers of farmers' credit cooperative societies through doing a study that will be based on a precise analysis of needs, it is necessary to assess the ICT knowledge and competence levels of these officers in Oyo State. Moreover, researchers like Elee (2021) have established the need for ICT training. This study sought to assess the training needs of specific ICT components.

Objectives

The specific objectives of the study were to:

i. Assess the ICT knowledge of officers of farmers' credit cooperative societies in the management of their societies;

ii. Evaluate the perceived ICT skills of the officers of the farmers' credit cooperative societies in the management of their societies;

iii. Determine the gap between the ICT knowledge and the perceived ICT skills of the officers of the farmers' cooperative societies in the management of their societies; and

iv. Categorise the ICT training needs of the officers of the farmers' credit cooperative societies in the management of their societies.

Hypotheses of the Study

Ho_1: There is no significant relationship between the ICT knowledge of the officers of farmers' credit cooperative societies in the management of their societies and their identified training needs.

Ho_2: There is no significant relationship between the perceived ICT skills of the officers of farmers' credit cooperative societies in the management of their societies and their identified training needs.

MATERIALS AND METHOD

Study area

The study area was Oyo State, situated in the south-western part of Nigeria, with Ibadan as its capital city. It has thirty-three (33) Local Government Areas (LGAs). The state has an area of approximately 28,454 square kilometres (GIS Laboratory, 2012) and a population of 5,591,589, according to the 2006 National Population Census figure, although this was projected in 2016 to be 7,840,864. The area's average annual rainfall ranges from 1125mm in the derived savannah to 2000mm in the rainforest belt. The yearly temperature of the state varies between 25ºC and 35ºC, and two geographical seasons are identified in the state, namely, the rainy season starting in March and ending in October, and the dry season beginning in November and ending in early March. It lies on the coordinates 8.1574° N, 3.6147° E. It is bounded in the north by Kwara State, in the south by Ogun State, in the east by Osun State and the west by the Republic of Benin. For agricultural purposes, it is divided into four zones: Saki, Oyo, Ogbomoso and Ibadan/Ibarapa, consisting of 8, 6, 5 and 14 LGAs, respectively (nigerianinfopedia.com, 2022).

Study Population

The study population was officers of farmers' credit cooperative societies in Oyo State. The list of all registered cooperative societies was obtained from the Agricultural Cooperatives Corporation, Ministry of Agriculture, and Oyo State.

Sampling Procedure and Sampling Size

A multistage sampling procedure was used to select the respondents. In the first stage, fourteen LGAs with at least five farmers' credit cooperative societies registered with the Agricultural Cooperatives Corporation of Oyo State were purposively selected. In the second stage, 50 per cent of the registered farmers' credit cooperative societies in each of the 14 LGAs were proportionately sampled to obtain a total of 68 cooperative societies thus: Akinyele (6), Egbeda (6), Ibadan North East (3), Ibadan South West (3), Ibadan North (3), Ido (9), Irepodun (7), Iseyin (3), Ogbomoso South (3), Oluyole (7), Ona Ara (8), Oyo West (3), Saki West (4) and Surulere (3). In the third stage, three officers, namely, the Chairman, Secretary and Treasurer, were selected from each of the 68 societies to make a total of 204 respondents.

Data Collection and Analytical Technique

A structured questionnaire was used to elicit information from the respondents on areas like their demographic characteristics, ICT knowledge (Importance) and ICT skills (Competence). Respondents were asked to rate their knowledge and perceived skills of seventeen (17) ICT-related roles on a five-point Likert-like scale. The data obtained from the field was analysed using both descriptive and inferential statistics. Descriptive statistics such as frequency counts, percentages, mean and standard deviation were used to describe the data. Inferential tools like correlation analysis were employed to draw conclusions from the data output. Borich Needs Assessment Model was used to assess the training needs, taking cognisance of the discrepancy between the Importance and Competence to obtain the Mean Weighted Discrepancy Score (MWDS), which is the 'gap' between knowledge and skill. This gap is also termed the training need. Formula for the Borich model is given as

Training need (MWDS) = (Importance score – Competence score) X Mean of importance

For this study, a benchmark of 2.0 was set for both knowledge and perceived skills (i.e. 0+1+2+3+4 divided by the

Ogunsakin, I. B. (2025). Assessment of ICT training needs among officers of farmers' credit cooperative societies in Oyo State, Nigeria. *ISA Journal of Arts, Humanities and Social Sciences*, 2(5), [27-33].

29

total number of items, 5). At the same time, the highest two-thirds (2/3) of the MWDS were adjudged as areas of dire or severe training need, and an equal interval method was used to categorise them.

RESULTS

ICT Knowledge of the Respondents

Table 1 shows the knowledge means of the different ICT roles performed by the respondents. The results show that the respondents were knowledgeable in 64.71% of the roles. These include GSM for making calls or sending a text to colleagues and members (3.9), membership of social networks on the internet (3.7), GSM use as an electronic diary and reminders for meetings and events (2.9), PowerPoint preparation and presentation (2.8), WhatsApp messaging (2.8), account keeping (2.8), use of Facebook (2.7), computer for word processing (2.4), scripting and presenting television programme (2.0) and accessing information on the internet (2.0). These were areas with mean scores higher than the 2.0 benchmark earlier set.

Table 1: ICT Knowledge of Respondents

Role	Mean	Standard Deviation
GSM for making calls or sending text to colleagues and members	3.9	1.08
Membership of social network on internet	3.7	1.10
GSM use as electronic diary and reminders for meeting and events	2.9	1.25
Power point preparation and presentation	2.8	1.13
WhatsApp messaging	2.8	1.07
Account Keeping	2.8	1.14
Use of Facebook	2.7	1.07
Computer for word processing	2.4	1.08
Scripting and presenting television programme	2.0	1.11
Accessing information on the internet	2.0	1.13
Use of Internet Banking	2.0	1.14
Computer for data processing	1.9	1.18
Scripting and presenting radio programme	1.8	1.54
Documenting events through digital camera	1.8	1.64
Documenting events through video recording	1.8	1.09
Use of Audio recording	1.7	1.19
Use of Audio-visual recording	1.7	1.16

Scale of measurement: 0= no knowledge, 1= little knowledge, 2= moderate knowledge, 3= high knowledge and 4= very high knowledge

Source: Field survey, 2023

Perceived Skills of Respondents

The respondents perceived that they were skilful in 47.06% of the roles. They were competent in membership of social networks on the internet (23.2), GSM for making calls or sending a text to colleagues and members (2.8), GSM use as electronic diary and reminders for meetings and events (2.7), WhatsApp messaging (2.6), PowerPoint preparation and presentation (2.5), use of Facebook (2.5), account keeping (2.2), accessing information on the internet (2.0), and use of internet banking (2.0). Generally, the respondents knew a broader field of roles than they were competent, thus pointing toward filling a gap.

Table 2: Perceived Skills of Respondents

Role	Mean	Standard Deviation
Membership of social network on internet	3.2	1.21
GSM for making calls or sending text to colleagues and members	2.8	1.19
GSM use as electronic diary and reminders for meeting and events	2.7	1.15
WhatsApp messaging	2.6	1.15
Power point preparation and presentation	2.5	1.26

Use of Facebook	2.5	1.24
Account Keeping	2.2	1.31
Accessing information on the internet	2.0	1.27
Documenting events through video recording	1.8	1.28
Computer for word processing	1.6	1.19
Computer for data processing	1.6	1.23
Scripting and presenting radio programme	1.6	1.27
Scripting and presenting television programme	1.5	1.22
Documenting events through digital camera	1.5	1.29
Use of Audio-visual recording	1.5	1.22
Use of Internet Banking	1.5	1.32
Use of Audio recording	1.4	1.25

Scale of measurement: 0= no skill, 1= little skill, 2= moderate skill, 3 = high skill, 4 = very .high skill

Source: Field survey, 2023

ICT Training Needs

Mean Weighted Discrepancy Score (MWDS). It is the gap between the respondents' knowledge (i.e. importance) and perceived skills (i.e. competence). They were ranked in order of seriousness. From the table, WhatsApp messaging (2.08), use of Facebook (2.08), use of Audio-visual recording (2.08) and GSM use as electronic diary and reminders for meetings and events (2.08) are areas with the highest MWDS thus needing training the most. Some other areas need moderate and low level of training to bring out the best in the respondents. Similarly, roles like documenting events through video recording and accessing information on the internet fell within the threshold requiring no training.

Table 3: Identification and Categorization of Training Needs

Role	MWDS	
WhatsApp messaging	2.08	
Use of Facebook	2.08	High
Use of Audio-visual recording	2.08	
GSM use as electronic diary and reminders for meetings and events	2.08	
Use of Audio recording	1.39	
Scripting and presenting radio programme	1.39	
Computer for data processing	1.39	Moderate
Power point preparation and presentation	1.39	
Documenting events through digital camera	1.39	
Use of Internet Banking	0.83	
Scripting and presenting television programme	0.83	
Membership of social network on internet	0.83	
Account Keeping	0.69	Low
Computer for word processing	0.52	
GSM for making calls or sending text to colleagues and members	0.38	
Documenting events through video recording	0.00	
Accessing information on the internet	0.00	

Categorizing the Training Needs

Since two-thirds threshold was set as training needs, the first twelve ranked roles or skills, using their MWDS, were classified as areas needing training. The equal interval method was used to categorize these into three:

i. **High:** for items ranked 1st to 4th, namely WhatsApp messaging (2.08), use of Facebook (2.08), use of Audio-visual recording (2.08) and GSM use as electronic diary and reminders for meetings and events (2.08)

Ogunsakin, I. B. (2025). Assessment of ICT training needs among officers of farmers' credit cooperative societies in Oyo State, Nigeria. *ISA Journal of Arts, Humanities and Social Sciences*, 2(5), [27-33].

31

ii. **Moderate**: for items ranked 5th to 8th, namely use of audio recording, scripting and presenting radio program, computer for data processing and power point preparation and presentation, all with the MWDS value of 1.39.

iii. **Low**: for items ranked 9th to 12th, namely documenting events through digital camera (1.39), use of internet banking (0.83), scripting and presenting television

programme (0.83) and membership of social network on the internet (0.83)

Hypothesis 1

Table 4 shows the result of the correlation analysis between ICT knowledge and the training needs. There is no significant relationship between the ICT knowledge and training needs.

Table 4: Correlation Analysis Showing the Relationship between ICT Knowledge and Training Needs

Variable	r-value	p-value	Decision
ICT knowledge	0.953	0.004	Not significant

* p ≤ 0.10 level (2-tailed)

Hypothesis 2

Table 5 shows the result of the correlation analysis between perceived ICT skills and training needs. There is a significant relationship between the perceived ICT skills and training

needs at p≤0.10. This implies that the status or condition of ICT skills directly impacts training needs. In other words, the less ICT skills the officers of farmers' credit cooperative societies possess, the greater the need for them to be trained in such skills.

Table 5: Correlation Analysis Showing the Relationship between Perceived ICT Skills and Training Needs

Variable	r-value	p-value	Decision
ICT skills	0.081*	0.122	Significant

* p ≤ 0.10 level (2-tailed)

CONCLUSION AND RECOMMENDATIONS

The study concluded that officers of farmers' credit cooperative societies in Oyo State had 64.71% knowledge and 47.06% perceived skills of the seventeen ICT roles investigated, requiring training in identified areas of deficiency. This is when they can perform their functions effectively. It also concluded that the officers' low ICT skills will require requisite training. Finally, deficiencies and the need for training across both computers and mobile phones were established.

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

1. Officers of farmers' credit cooperative societies in Oyo state should have their knowledge base in ICT improved and be trained in ICT skills to enable them to deliver effective leadership services.

2. Cooperative societies in the study area should also invest heavily in the use of technology to reduce drudgery, overcome vulnerability to errors, and improve the timeliness of operations.

Every training programme should be based on the outcome of the credible assessment of training needs for exactitude in upgrading and relevance.

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32

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33