APPLICATION OF ICTs IN THE MANAGEMENT OF INFORMATION IN NATIONAL FADAMA DEVELOPMENT PROJECT (NFDP) IN NIGER STATE, NIGERIA

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Abstract

ICT is increasingly being employed in organisations to generate, process and share information. However, adequate access remains a constraint in their use for development. The study examined the application of Information and Communication Technologies (ICTs) in the management of information in the National Fadama Development Project (NFDP) in Niger State. Survey research method was adopted for this study. The population of the study consisted of the entire staff of National Fadama Development Project (NFDP) in Niger State. A random sampling technique was used to select nine (9) Local Government Areas and the Head Office in Minna, Niger State. Questionnaire was the instrument used for collecting data for this study. The study discovered the availability of some ICT facilities and that these facilities were used for data processing, office support systems, etc. However, internet services were not available in their branch offices. The study concludes that stakeholders are likely to have untimely information and this may affect their effectiveness and efficiency. The study suggests that internet services should be introduced to facilitate dissemination of project information to all stakeholders.

Key words: ICT, Management, Information, NFDP

Introduction

The National Fadama Development Project (NFDP) originated from Niger State Agricultural Development Project; and it was executed under the Agricultural Development Project. It was first implemented in 1993 as part of government's effort to uplift the living standard of the less privileged (NFDP, 2008). The project objective was to increase crop production through "down stream" process (i.e sources of water for irrigation) and supply driven approach. To achieve this objective, facilities like tube wells, wash bores, irrigation pumps, roads and culverts were provided to fadama users' associations and individuals to increase their productivity in dry season farming activities across the State. Therefore, only crop farmers were the beneficiaries of the first phase. The success and gains arising from the implementation of the National Fadama Development Project I (NFDP I) made the Federal Government to request the World Bank's assistance in the implementation of NFDP II and subsequently continued with NFDP III.

The Second and Third National Fadama Development Projects (NFDP II and III) are joint programmes of the Federal, States and Local Governments in conjunction with the World and African Development Banks. The memorandum of understanding was signed in 2004 and the implementation of NFDP II was between 2004- 2009. Thereafter, the programmes of NFDP III began. The NFDP II and III addressed the impediments to the realization of the potential benefits of agricultural production activities in NFDP I. These included
(i)   Poor development and rural infrastructure
(ii)   Poor storage and marketing facilities
(iii)   Low investment in irrigation technology

(iv)   Lack of adequate techniques for greater productivity

The objectives of the NFDP II and III are to sustainably increase the economic activities of fadama users through expansion of farm and non-farm activities as against the failure to adequately consider the needs of other fadama resource users other than crop farmers (NFDP I), and empowering communities to take charge of their own development agenda and simultaneously reducing conflict among fadama users (NFDP, 2008).

Information management exists in NFDP in order to help them achieve the stated objectives, to plan and control their processes and operations, and also help deal with uncertainties. This implies that the NFDP will have to generate, process, organise, store and disseminate relevant information within and outside the organisation.

ICT is increasingly being employed in organisations and societies at large to generate, process and share information across the world. Schueber (2003) defined ICT as computing and telecommunication technologies, which enable the processing of information and communication by means of hardware and software. It is also the use of computers and other telecommunications in information generation, processing, storage and dissemination. Lucey (1997) viewed ICT as the acquisition, processing, storage and dissemination of vocal, pictorial, textual and numeric information by micro-electronics based combination of computing and telecommunication.

With ICT, organisations can generate relevant information through virtual conferences, World Wide Web (WWW), electronic-mail and voice mail. For instance, WWW assists to find available resources and e-mails allow fast enquiry about conditions and response to issues relating to the task of the organisation. Data processing is necessary to ensure that the day-to-day activities of the organisation are processed, and acted upon. Files are maintained which provide current data for day-to-day activities and also serve as basis for operation control in organisation (Lucey, 1997). This implies that development organisations are expected to generate and process information which are essential to keep the operations of the organisation running smoothly and provides the base for all internal information support.

ICT is useful in the management of information in organisations. Accurate calculations, manipulation, storage and retrieval of information can be achieved through the application of ICT. Most importantly, the use of ICT in the management of information in organisations lies between provision and use of relevant information to the end-user. One essential factor associated with ICT is its storage capacity. It helps in storing information in form of data and provides means to search for the information when needed. Hard disk drives, CD-ROM, DVD, flash memory cards can be used in organisations to store data.

The United Nations Development Programme (2001), describes ICT as "powerful enabler of development" because of its significant impact on the economic, scientific, academic, social, political, cultural and other aspects of life. In the same vein, technology plays an important role in the management of project information. Realising the worth of ICTs in organisations, Nicholas (2005) asserts that it is almost impossible for any organisation to carry out its job adequately without using any type of ICT. Development organisations can use these facilities to search for and acquire useful information, disseminate annual reports, educate and inform targeted users of their resources as well as share timely information within the organisation.

Information management is a term that involves a number of different activities in an organisation. The activities are facilitated by the way information is generated, stored and disseminated for use. Information management describes the process by which an organisation effectively and systematically controls the generation of information through its use. It focuses on the procedures and systems of generation, acquisition, storage, organisation, retrieval and dissemination of information for use.

Laffan (2008) viewed information management (IM) as the means by which an organization efficiently collects, organises, uses, disseminate and disposes its information and through which it ensures that the value of that information is identified and exploited to the fullest. Also, Wilson (2002) viewed information management as the application of management principles to the acquisition, organisation, control, dissemination and use of information relevant to the effective operation of organisations of all kinds. This is to say, information is an essential resource that need to be managed like any other resources in an organisation.

The fate of any organisation is connected to its ability to develop and exploit information relevant to its needs for day to day activities, using appropriate channels in disseminating the information. It is in this regard that organisations must make every effort to generate, process, organise, store and disseminate pertinent information with the aim of improving the use of organisational resources and driving innovation toward achieving their objectives. The ability of these organisations to manage information determines their success in achieving their objectives. Organisations rely on efficient access to appropriate and timely information. Such information supports decision making and also aids in general operational activities of the organisation. Lucey (1997) viewed this as a formal process that provides information at all levels, in all functions with appropriate information to enable them make timely and effective decision when planning, directing and controlling the operations of the organisation.

According to Graz (2005), the purpose of Information Management in development organisation is to integrate relevant data and information for monitoring economic conditions, planning for economic development with focus on the poor and disadvantaged. Information Management facilitates coordination among various stakeholders in information generation and dissemination. Information Management also supports the evaluation of economic projects in different communities and enhance better understanding of their interrelationship as well as serves as a base for information dissemination among stakeholders.

In a changing world, for organisations to effectively carry out their task, effective management of information is necessary. Sharing and use of quality information is a key requirement for the survival of any organisation. In other word, no organisation can effectively achieve its objectives without employing any form of ICT in carrying out its daily operational activities. Lynch and Bazaira (2008) asserts that implementation of ICTs is a pathway out of poverty alleviation as they are seen as change agents that are capable of empowering the populace with capacity building, self efficiency and education.

ICTs are being used in the management of information to improve organisational efficiency through generating, processing, and provision of relevant, needed and timely information. Organisations can rely on timely and appropriate information to plan, make decision and control activities. Effective use of ICTs in managing information would depend on the availability of these facilities and staff competence to use them. However, World Bank (2009), observed that

lack of access and capacity are still major constraints in promoting the use of ICTs for development. Similarly, previous visit to NFDP Head and branch offices in Niger State revealed that stakeholders do not have access to timely information. This may be attributed to lack of functional ICT facilities and unskilled staff. Application of ICTs in organisational function is necessary for increased efficiency and effectiveness.

Research Questions
The following research questions were formulated to guide the study:
(i)   What types of ICT facilities are available in NFDP, Niger State?
(ii)   How are ICTs applied in the management of information in NFDP, Niger State?

Research Hypothesis
There is no significant difference between the opinion of administrative staff and that of facilitators on the application of ICTs in the management of information in NFDP, Niger state.

Methodology
The instrument used to collect data for this study was questionnaire. The population for this study consisted of the entire staff of NFDP in Niger state. The composition of the population included administrative staff and the facilitators. Random sampling technique was used to give equal opportunity to every element of the target population. Nine (9) Local Government Area Offices and the State Head office were selected. Three Local Government Areas (LGAs) from each geo-political zone of the state were selected to ensure fair representation. The entire subjects in the nine (9) LGAs and seventeen (17) in the Head office were selected as sample of the study. In all, the study selected thirty five (35) administrative staff and thirty five facilitators, making a total of seventy (70) respondents. The hypotheses formulated for the study was analyzed using Mann Whitney test.

Result and Discussion
(i).   What types of ICT facilities are available in NFDP, Niger State?
    The research question sought to find out the ICT facilities available in the NFDP in the state. Below is the graphical illustration.
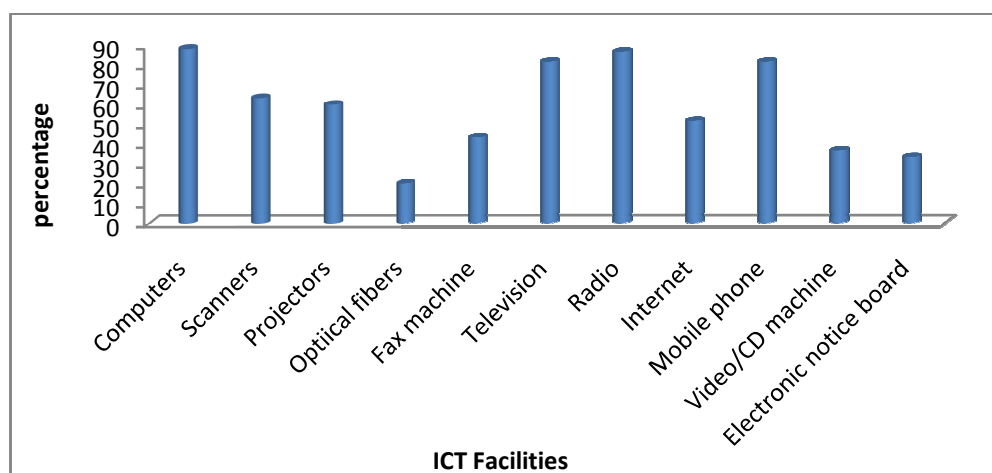

Fig. 1: Available ICT Facilities in NFDP, Niger State

Fig. 1 indicates that all NFDP offices visited in Niger State have computers, radio and television. Computers account for (88.3%), radio (86.7%) television and mobile phones for (81.7%) each respectively. Other facilities such as scanners score (63.3%), projectors (60.0%) and Internet (51.7%). The responses from the questionnaire indicated the presence of Internet service but from observation and interaction with some of the staff revealed they do not have internet service. Fax machine scored (43.3%). Video/CD machine and others were in use but below (37.0%) in most cases. These are indicated in Fig. 1. Even though from the questionnaire, the responses indicate the availability of Optical fibres, Internet, Electronic notice board but observation and interaction revealed that, no such facilities existed in all the Local Government Area Offices visited. This implies that accessibility to certain information could be difficult. Access to and use of information and communication technology plays an important role in effective management of information.

(ii).   How are ICTs applied in the management of information in NFDP, Niger State?

Fig. 2 shows the different ways in which ICTs are applied in the management of information in NFDP in the state. Each of the items is rated on a five point scale and the corresponding percentage scores are presented below:
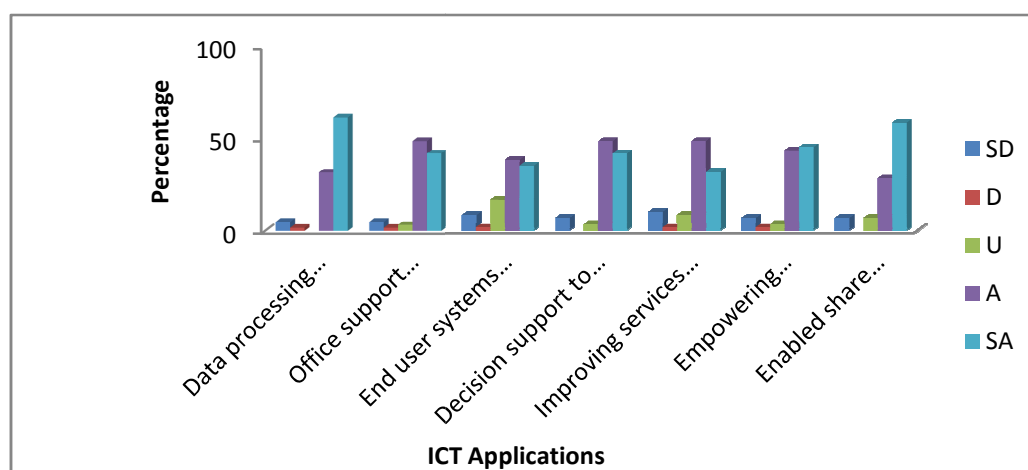

Fig. 2: Purpose for ICT Applications in NFDP, Niger State

Key: SD= Strongly Disagree, D = Disagree, U = Undecided, A = Agreed, SA = Strongly Agree

Fig. 2 revealed that out of the seven (7) identified purposes for ICT application, respondents strongly agreed with only three (3). (61.7%) respondents use ICT for data processing, (58.3%) respondents strongly agreed that ICT enabled them to share information and communicate with others beyond their organization and (45.0%) of the respondents are of the view that the use of ICTs empowers citizens to access information and knowledge. The figure also indicated that a number of respondents agreed that ICT was applied in their organisation to aid decision making, for improving planning and monitoring development projects, and services to citizens (automating the process of delivering service to people), and for office support systems each having (48.3%) response rate.   Although, there were respondents that strongly agreed or agreed, these were few. It can also be seen from the table that undecided, disagreed and strongly disagreed responses were very low. These are indicated in Figure 2 respectively. These observations are consistent with Nicholas (2008) who summed up the views that it is almost impossible for any organization to carry out its job adequately without using any type of

information technology. However, a careful investigation revealed that only the head office in the state capital had functioning ICT facilities. This means that timely access to information; data processing, etc are not efficient in all the branch offices in the LGAs of Niger State.

Hypothesis Testing
A null hypothesis was formulated for this study, to test the hypothesis; Mann-Whitney test was used. It aimed at determining possible difference in the opinion of the respondents based on their status (administrative staff and field workers) in management of information in NFDP, Niger State. Below is the hypothesis tested:

Hypothesis
There is no significant difference between the administrative staff and the field workers on the application of ICT in the management of information in NFDP in Niger State.

This hypothesis was tested with the opinions of the two groups on the application of ICT in their organizations. The scores used for the test were obtained from the expressed opinions on the items in fig. 2 which were measured on a five point scale. The Mann-Whitney Test procedure was used for the test and the result is summarized in the Table below:

Table 1: Mann-Whitney test on application of information by personnel of the organisations

Administrative staff	N	Mean Rank	Sum of Ranks	Mann-Whitney U	Wilcoxon W	Z	P
Administrative staff	31	31.35	972.00	423.000	858.000	0.396	0.692
Facilitator	29	29.59	858.00				

The test in Table 1 does not reveal a significant difference between the two groups as indicated with the observed Mann-Whitney U value of 423.0 and the Z-value of 0.396. The level of significance (0.692) observed in the test is higher than the fixed level for the test (P > 0.05). This means that the null hypothesis that there is no significant difference in the opinions of the administrative staff and the field workers on the application of ICT in the management of information in NFDP in Niger State is retained.

Summary of Findings
From the analysis of data above, the major findings of this study are presented as follows:
(a)   the study discovered the availability of ICT facilities like computers, scanners, projectors, television and radio in the offices of the NFDP.
(b)   These facilities were used for data processing, office support systems, empowering of citizens to access information, communicate and share information with others.
(c)   It was further discovered that NFDP does not have Internet services in the branch offices.
(d)   The study revealed that there is no significant difference between the administrative staff and the Facilitators on the application of ICT in the management of information in NFDP in Niger State, therefore the null hypotheses is retained.

Conclusion

Based on the findings of the study, it is concluded that access to ICT is of vital importance to information management. It can lead to a transformation in the lives of large number of people which is the main goal of NFDP and determine the extent of achieving the organisation's objectives. However, functioning ICTs facilities are not available. This implies that stakeholders would not have timely information and may affect their effectiveness and efficiency. Despite the apparent challenges, NFDP have continued to strive towards achieving their overall objectives.

Recommendations

Arising from the findings of the study, the following recommendations are made in order to improve information management in NFDP in Niger State:

(i)   Since all their offices have computer facilities and internet facilities were not available, internet services should be introduced to facilitate dissemination of project information to all stakeholders. This would improve the efficiency of the organisation in term of planning, implementation and evaluation of development projects. Electronic databases of all projects should also be installed so that stakeholders would easily access needed information via network.

(ii)   Use of ICTs can facilitate dissemination of information to a large number of users. Therefore, NFDP should embrace ICT so as to enable it harness and disseminate relevant information. Websites should be developed and maintained, as this is a good medium for information dissemination globally.

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