Innovative ICT Solutions and Entrepreneurship Development in Rural Area Such As Michael and Cecilia Ibru University (MCIU) Community, Agbarha-Otor, Delta State, Nigeria

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***Abstract* - The use of internet and information communication technology (ICT) infrastructures is an essential aspect of learning, this is why a lot of information on entrepreneurship career choices are available online. However, the emerging growth in the use of information and communication technologies and services towards entrepreneurship development is a challenge for efficient information dissemination and learning especially in rural areas. This paper pointed out an area in which MCIU can use Information and Communication Technology (ICT) resources/infrastructure it possess for entrepreneurship development and poverty alleviation in its community. Thereby, encouraging social and economic growth, and overcome the gap between urban and rural areas entrepreneurship development. An online learning platform, using video may contribute greatly in rural entrepreneurship development such as MCIU community. Some examples of some programmes like learning make over, headgear tying, bead making, cake designing, etc online for a period of 4 to 6weeks.**

Keywords: **Internet, ICT, Infrastructures, Innovative, Services, Entrepreneurship, Platform, Agbarha-Otor, Delta State, Nigeria.**

I. INTRODUCTION

A rural area is a geographical area that is located outside towns or cities. Typical rural areas have a low population density and fewer buildings. Meanwhile, education remains the main tool for the rapid development of any community. Nations, therefore, strive to improve their educational systems to ensure they meet up with the societal needs, and to achieve the best for their citizens in terms of economic and social development thereby affecting the entrepreneurship development positively.

MCIU is situated in a small community known as Ibru Village in Agbarha-Otor, Ughelli-North area of Delta State, Nigeria. The mission of MCIU is to empower her students, community and close communities through functional education and services that will eradicate poverty on the development of communities and Nigeria. It also empower members of the community to utilize their talents to better themselves and the community. Agbarha-Otor community is a small village in Ughelli-North local government area of Delta State. Rural areas across the nation develop, through its educational programs and ICT plays a significant role in developing communities.

Information and Communication Technology (ICT) can be described as "technologies that facilitate communication, the processing and transfer of information by electronic means." ICT encourages a major change in all areas of our lives, including dissemination of knowledge, economic, social interaction and business methods practices, political engagement, health, media, leisure, education and entertainment (Abhay, Kumar and Singh, K. M).Information and Communications Technologies(ICTs), which includes the Internet, are producing changes in entrepreneurship and economies development in the developing nations. Some changes are largely significant such as business services, education, and agriculture while others are till date little. But they are seen and advancing in every area of social and economic activities. However, ICT investments in rural areas are often least prioritized because of the increasingly high investment costs, slow developmental impact, low ICT awareness, low or no internet connectivity and need for a long period of time to reap actual profits. However, the importance of information and communication technology investments is that once information is taught, understood, and translated into knowledge, the knowledge also can be stored, further developed and passed on to others in a very short time.

There are today widely disparate views on the relevance of information technology for dealing with poverty. ICT provides developing countries with an unrivalled opportunity to meet important entrepreneurial development goals such as education and poverty alleviation activities far more than before. Those nations that succeeded in exploiting the potential of ICT can look forward to significantly expanding the economic growth and dramatically improving human welfare.

However, the emergence of ICT as a tool in our nations have added better services by making systems and businesses and operations more stable and productive. Many countries in the world have made an attempt to provide the public with access to information technologies in rural areas, and each has

employed some strategies to attain it. However, the common strategy to achieve public access to information and electronic benefits in rural areas has been in the form of telecommunications centers and information technology centers such as business centers own by private individuals.ICT can also facilitate equality decision making in entrepreneurship career choices making. It has being observed that people are only aware of using ICT for academic and social purposes than using it for career and entrepreneurship purposes thereby reducing the entrepreneurial skills in the society. The reason for this is that most people tends to take academic career more importantly than vocational opportunities.

The objectives of this paper are:

1) To encourage youth's learning of Computer operations, entrepreneurial expertise and vocational studies using ICT, and ICT infrastructures.
2) To demonstrate the innovative role of Michael and Cecilia Ibru University in contributing to national education and development goals through ICT entrepreneurial development in the community.

A. Related Research work

(Alikem, Tamakloe, 2014)in his paper presented the experience of Volta Regional library, Ghana Library Authority, Ho, Ghana, in bringing new educational chances to school children from rural and poor communities through mobile library Information and Communication Technology services. The library travels to five different schools in a van, equipped with solar power, bringing fully-charged laptops for the children to use during Information and Communication Technology classes. The service was evolved with support of a Public Library Innovation Program (PLIP) The paper draws conclusions built on the favorable result of this service to improve the educational levels of the communities.

(Ali, Hossein Moeinnemati , 2015)described in his paper how the development and applications of information technologies in rural areas, facilitates services and improving welfare indexes in Village Tourism which increases its income, in the Village Farming and Animal Husbandry, in the development of Electronic Hygiene and Medicine in Villages and also in the Social Welfare benefits of the Village.

(Akpomuvie, Orhioghene Benedict , 2010)In his paper explores ways in which Information and Communication Technologies and traditional media could become effective tools in the campaigns and mobilization for acquiring of innovations, which is mainly on rural development in Africa. The findings in this paper revealed that the majority of the people in Africa lived in the rural areas and were not aware about any government programmes aimed at improving them. Apart from acknowledging the basic challenges opposing policy makers, development communicators and other stakeholders in the nation's development process, this paper recommends that governments in Africa should create a conducive environment for the Information and Communication Technologies to be effectively used and collaborated with traditional media in gaining development communication goals at all levels.

(Chieme, Azubuike; Nyekwere, Endwell Onyinye; Nwaubeta, Grace Nnennaya, 2017) Describes the functions of ICTs in rural development in Nigeria, for instance through Information and Communication Technologies, health, education and agriculture has improved. In this article the challenges of ICTs in rural development such as literacy was described. Literacy has continued to be a major disadvantage to the growth of Information and Communication Technology (ICT) in developing countries like Nigeria. Most Nigerians are illiterates and don't have enough training to understand the use of Information and Communication Technologies (ICTs) and its gadgets for accessing information that will no doubt, enhance their lives. Most of the literates are even so hungry and poor that they cannot afford Information and Communication Technology (ICT) facilities. Other challenges are network breakdown, digital divide etc.

(Ananth, P.N and Karthikeyan, M. , 2014)Proposed that Science and technology has to be adopted in rural areas to increase its efficiency in production, productivity and marketing phases.

(Usman, J.M.; Adeboye, K. A.; Oluyole, K.A. and Ajijola, S, 2012)In their study investigated the role and impact level of use and possibilities of integrating Information and Communication Technologies (ICTs) into agricultural development processes in Oluyole area of Nigeria. The study observed that as much as infrastructure and finance are important factors in developing agriculture, much more were required in the form of ICTs to adequately extend innovations to effectively employ resources, and took advantage of innovative ICTs) and markets to better the living standard of the farmers. Based on the findings, it was recommended that Information and Communication Technologies (ICTs) should be included into all aspect of agricultural development processes. Awareness should also be made among young and middle-aged farmers about availability of ICT services in order to increase farmers' participation in ICT new enterprises.

(Bello, O.A. and Aderibigbe, F.M., 2014)Highlights some of the advantages developing countries can achieve from the adoption and use of ICT, as well as some problems they encounter and what the government of these developing countries can do to help in the implementation of ICT. This paper also described how ICT can support poverty reduction and economic development, ICT can help in meeting development challenges in many ways, such as enabling information and comprehension to travel faster and further, it also helps business to perform better in different, ICT in health care, ICT in Education (e.g. e-learning) etc.

(Ankur, Mani Tripathi; Abhishek Kumar Singh and Arvid Kumar, 2012) Described that due to the lack of comprehension and especially the use of Information and

Communication Technology (ICT) in rural areas, development is at a very low rate. There are some improvement in the technologies provided by the government in the urban areas but there is no much improvement technology-wise in the rural areas. Information and communication technologies (ICTs) are developing everyday but are not or less applicable in rural areas. One main factor is lack of ICT resources in rural areas. The most important problems in rural areas are no electricity which result to lack of communication. Meanwhile, government and non-governmental organizations can develop rural areas with the use of technology devices. At the conclusion of this paper, it was said that by use of ICT, development of rural areas can easily be increased. At the conclusion of this paper, it was said that the by use of ICT, development of rural areas can easily be increased. Though, the primary factor of development in rural area is electricity, transportation and communication media but the introduction of ICT resources can increase the interest and knowledge of people settled in rural areas. Which can improve the interaction of people with outside and increase in farm productivity thereby increasing the economic growth of the rural areas and the country at large.

(Jayita, Pramanik;, Bijan, Sarkar and Shyamalendu, Kandar, 2017) Described how the use of information and communication technologies can contribute to the socioeconomic development of rural areas. This work have mainly concentrated on the improvement of education, agricultural process, disaster management, health care facilities, tourism etc. with the use of Information and communication system and thus contributing towards economic growth and changing quality of life in the rural area.

(Ebo, I. O; Amosa, B. M. G and Adenusi, D.A, 2012)Investigates what ICT is, examines the offering of Information and communication technologies to rural development and identifies ways by which Information and communication technology can bring about rural development, its challenges and suggested some solutions to the entrepreneurial development of rural areas in Nigeria.

(Ahsanullah) Exposed the application of Information and communication Technology (ICT) and find out means to convey, the benefit of new "Technology Innovations", towards socio-economic discharge of rural communities and "Poverty Alleviation" of teaming millions. A Case Study was described on the basis of series of activities performed in some selected rural areas, and evolved some practical solution of problems of some communities. This is extensively achieved by the application of ICT tools like telecommunication Solutions linking with computer Network as well as of the application of Video-Tapes, Library Information processes etc.

B. ICT Resources/Infrastructures

Information and Communication Technology (ICT) resources are electronic and digital devices, such as mobile phone, Computer System, Television set, Radio Set, Automated Teller Machine, GPS, projector, Digital Cameras, Point of Sale Machine Automated Cash Register (POS ACR), interactive devices etc, which are used to handle telecommunication and technology services, broadcast media, artificial intelligent management systems, electronic learning systems, electronic health systems, transmission systems and audiovisual processing, network-based control functions etc.

To provide quality solutions and entrepreneurship development in rural areas such as MCIU community using ICT, a strong infrastructure is required. Information and Communication Technology infrastructure which includes computer system, high speed network (preferably wireless network infrastructure), Projection unit, interactive devices, video conferencing equipment's, printer etc. This process aims in providing free service or service at low cost. To encourage youths learning of computer operations, vocation and entrepreneurship development programmes such as make over, headgear tying, bead making, shoe making, cake designing, bag making etc place of learning must be set up in some convenient locations, that is, accessible walking distance. Proper selection of application and interactive software must be done for smooth operation using ICT. Nowadays Cloud computing are becoming popular to provide support to a good number of users without buying individual software copy. The services provided by cloud computing may be thought as `whenever and whatever needed'. It reduces the implementation and maintenance cost of ICT infrastructures. Software as a service, Platform as a service and infrastructure as a service are various cloud computing models as per the user requirement. Therefore, the kinds of video needed to train the youths of the community can be downloaded and stored easily from the internet. Technical support is also one of the infrastructure to keep the program in good shape. Knowledgeable technicians in the field of information and communication technology must be employed to provide the technical support.

C. Innovative ICT Solutions And Entrepreneurship Development

The eTransform Africa report in (The World Bank, 2012) identifies innovative use of ICTs in some major eight (8) areas: 1). agriculture, the Kilimo Salama software in Kenya is helping them to manage natural disasters such as drought better . 2). Climate change adaptation, for example in Malawi, a deforestation project was established training rural communities to map their villages using GPS devices and empowering them to develop localized adaptation strategies by engaging communities. 3). financial services. 4). Government. 5). Health 6). Education. 7). Trade facilitation and 8). Regional integration.

In (Gregor Jagodic and Valerij Dermol, 2015) the following innovative ICT solutions and entrepreneurship development were formulated: 1). due to development of ICT many operations can be performed more easily, efficiently and successfully. 2). many people also believe ICT can be used as a tool for creating and processing entrepreneurial skills. 3). ICT may offer learning opportunities, business planning solutions, database tools as well as business training opportunities with the help of business plan simulators. Lastly, 4). ICT can help to develop and enhance communication and social.

D. MCIU ICT Unit

MCIU ICT laboratory has over 300 desktop computer systems which is also properly equipped and furnished for conducive teaching and learning. Other ICT infrastructures available in the MCIU ICT laboratory are: Interactive Whiteboards, Air Conditions, projectors, printer (networked) etc. There are also qualified technician and ICT personnel working in this unit.

MCIU tapped her power supply from the Benin Electricity Distribution Company (BEDC). However the university has functional industrial electricity generating set that supplies at least ten (10) hours of non-interrupted power supply and this is an advantage to youths for smooth learning.

E. The role of MCIU in the community entrepreneurship development using innovative ICT solutions

Although, YouTube and other hundreds of online learning platforms can achieve the aim of this study, but the following challenges are also faced by most individual involved in rural areas(Obadaki, 2016):

- Connectivity Challenges: most people can't afford compactible ICT tools such as mobile phone for internet connectivity while some cannot afford the high internet charges of watching videos on their devices for like one to two hours daily.
- Power: It is a fact that irregular or constant power supply is a big challenge in most of our rural areas in which Agbarha-Otor is not an exception, therefore, individually power might be a big problem to the use of ICT tools, for those that have.
- Lack of knowledge. Even if power, Internet services and power are present, there is still this problem of if the people involved have the knowledge to access and use the technologies effectively.

Meanwhile, with MCIU ICT tools and facilities, all of these mentioned above will be offered by MCIU with little or no payment attached.

The role of MCIU in contributing to national education and development goals through entrepreneurship development in Agbarha-Otor community is to give the youths of the community, especially those who are unemployed to learn some vocational studies through innovative ICT and entrepreneurial development programs by downloading free video of this programmes such as head gear tying, bead making, shoe making, cake designing etc from internet for training for short periods of 2 to 4 weeks for free or low cost. This will alleviate poverty in the community and thereby facilitate entrepreneurial development through innovative ICT solution in the community. Fig. 1 shows the suggested model for the programme.

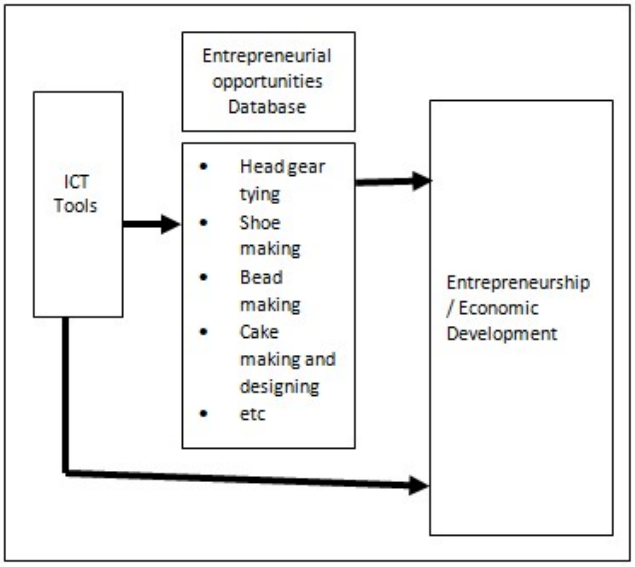

Fig. 1: Innovative ICT solutions on entrepreneurial opportunities for rural area entrepreneurship / economic development

II. CONCLUSION

This study attempted to contextually encourage youth's learning of Computer operations, entrepreneurial skills and vocational studies using ICT, and ICT infrastructures and also to demonstrate the role of Michael and Cecilia Ibru University in contributing to national education and development through entrepreneurship development in Agbarha-Otor community, Delta State, Nigeria. The study observed that MCIU has the necessary ICT Infrastructure needed to achieve this goal of developing the community through training the youths of the community in any vocational studies like bead making, shoe making, head gear tying, caking making and designing thereby alleviate poverty in the community, increasing entrepreneurial development in the rural area. From the aforementioned, it is clear that the role of information and communication technology (ICT) in rural development efforts cannot be overemphasized, that is it is not limited to agriculture, health, even education using a sort of curriculum. This will definitely increase entrepreneurial development in the rural area such as MCIU community.

Limitation to This Study

One major limitation to this study is that the factors affecting the acceptability of the innovative ICT solutions for entrepreneurship development in the rural was not done before embarking on this study. Therefore, for future work the

factors affecting the acceptability of the innovative ICT solutions for entrepreneurship development should be looked into.

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