

# ***ICT Entrepreneurship in Developing Countries and Poverty Alleviation***

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## **How The Service Unit Influences ICT development**

When computer started out it was initially a working tool for Mathematicians and Scientist, Charles Babbage and others would have been shocked to find out that computer is become an essential tool in very industry today. It is a well-known fact that the need to do more and perform more efficiently is what as brought us to this stage of development in ICT. For what has brought us from the DOS environment to the more friendly windows, security consideration environment. The need for a graphical or picture representation of our system as also affected the hardware in use today. For example, the 64Bytes ISA slot patented by IBM just before the introduction of Windows was not able to power the software enhancement. The introduction of the graphics card which has been able improved to the level we have today to meet the ever increasing thrust to achieve a 3D graphics or virtual reality, this as also given room to TV card and other innovations that are leading us into the future.

In the software industry, the end-user especially the corporate users' demand for better security is one of the major factors that have brought us to Windows XP and other highly enhanced security operating systems. Different versions of software are developed because of the ever increasing demands of the end-users and this is propelled by the different competitions to provide better software for the users. these enhancements often comes with a corresponding demand for better accessories and hardware to operate these software, hence putting a pressure again on the hardware industry to provide accessories that can adequately man the software.

It can be stated that as that the need for improved capability of the software is often based on demand by the end users, the software industry is put under pressure to develop and enhance software that can meet these demands and as they try to meet these demand by developing better software, they in turn end up tasking the hardware industry to provide system or hardware to match demands of the software developed.

## **THE ROLE OF ENTREPRENEURSHIP**

For the purpose of this paper, I will like to define the Entrepreneur not just as a sole proprietor but one that can in significant way absorb the unemployed labour, demanding a high productivity and services from his business in a competitive market where he must make profit from. The main driving force for any business or economy in the developing nations should be services been rendered which will be increased demand by the end-users for the services of the firm, hence creating a healthy competition among the entrepreneurs. The collapse of the world economy especially developing countries can be traced to three main factors which are, the roles of the government which in most developing countries are the largest employer of labour. In some countries the government absorbs over 60%-75% of the labour which on the long-run produces inefficiency in the economy that lacks healthy competition and proper supervision or monitoring that is found in the entrepreneur economy. The government should in these economies, encourage individual entrepreneur to absorb part of the labour market hence produce on the long-run a society that is productive, a good example of a nation that as been able to achieve this is Korea which is become one of the biggest industrialized nations of the world today.

The second factor is the over emphasis that government is placing on a single income generating produce which when it fails makes the economy of the country to totally collapse. A

good example can be found in Coffee production which is presently almost a shadow of its old self, fossil fuel is soon to go this way as the cost of fuel even in the countries that produces is ever increasing and moreover, the world is gradually changing her source of source energy. If on the other hand entrepreneurship is allowed to develop in an economy, that economy can be amoebic in nature growing and transforming into an economy which makes adequate provision to secure the future through the foresight and proper coordination at the grassroots.

The third factor I will like to consider is the role of the big corporate bodies or industries, which are set to stamp out the small-scale industries. The Indian ICT industry that is outline in the abstract is a very good example of an economy where the small-scale entrepreneur exists side by side with the big and giant corporate firms providing services for these industries in a number of ways. And because of this situation, the ICT software industry especially has been able to employ directly and indirectly over 1.2million people a very high percentage above the projection of McKinsey. This figure is made up of both people (Indians) employed within and outside of Indian, exporting the service unit (knowledge-base) apart from the software outside that country's shore.

As of present, the International communities namely UN, EU are beginning to focus one way or another on the entrepreneur as a key to not only put an end to poverty but, they are beginning to understand that the entrepreneur can play a key role in the economy of a nation. Moreover, the international organs are beginning to wakeup to the role that ICT will play in such economy as can be deduced from the theme of the High-level segment of the Economy and Social Council of the UN in 2000 which is - Development of Information technology in a knowledge-based global Economy. I want to at this point make a strong assertion that in alleviation of poverty, the entrepreneur will be playing a pivotal role. For the future economy of the world and in particular of the developing Nations to thrive the Entrepreneur will be brought back into play and in doing this, the level of unemployment will be reduced, *visa vice* alleviating poverty.

It should be understood that for every one person that is employed in any developing nation, at least 2-3 family members are affected or have their livelihood improved upon because in most developing countries, the extended and communal family system is still in existence, though in a different way compared to the days where all members of a family live together in the same compound. People still are obliged to give to their family members and relatives even if it is just a meager amount. Entrepreneurship is a strong creator of jobs in the Developing Nations and as such should be encourage strongly by the government and International Organizations and NGOs

At this point I will like to make mention of the effort of the Ethiopian government for instance concerning the Training and Vocational Schools, this program as a whole is giving potential to the generation to come, especially in the area of technology, making room for a people who could become self-employed in the future.

### **AREAS OF ICT ENTREPRENEURSHIP**

I will like to examine some of the areas of ICT that an entrepreneur can invest, looking at the development in some areas, and possible factors that have contributed to the growth of such areas within the Ethiopian context. I will also examine the possible development that could come to such areas in the not so distant future.

#### **a. The Business Centres**

One of the first businesses in terms of ICT run by entrepreneurs that as given birth to the present generation of Computer Centres we have now is the Business Centres where, photocopying machines, typewriters, telephone and others tools which can be considered as ICT tools (because they are used in both processing and communication of information) are present. These centres provides services for communication of information and practical all were owned and run by one man business that is to say they are run by the Entrepreneurs who provide service for people who require them. These centres get to employ most often

between two to three people. As technology improved the Business centres gradually shifted from using first the manual typewriters to the electrical typewriters and then into using computers and other more sophisticated modern tools in the process and communication of information. Also, the kind of services provided by the Business Centres also changed to include more interesting services which are required by the Service Unit, namely the customers.

### **b. Graphics Centres**

One area ICT that has improved the lives of many people in a country like Nigeria for example is in using the ICT tools computers, scanners, and other accessories to design graphics which are even being exported to other countries, especially of Africa. Many young people have mastered graphics software like CorelDraw, PhotoShop, Photo Paint and other graphics tools and with it they are able to provide services for different industries like the Printing Presses and even create animations for television stations and many other things that are being used within and outside of the country. This graphics Centres evolves from the traditional Business Centres and presently combines the services of the centre. A company for instance who has made a lot of money from this entrepreneurship scheme is a called *famous Design Limited* the company employs over 20 young brilliant graphics designers presently and from the benefits it has derived over the years from the Graphics Centre, it is able to expand and move into other related business. This company was started by a young man who had only a secondary school leaving certificate then, the boy first worked with a traditional business centre, typing documents but later on when the computer came into use, he was able to get a 486 computer with which he started out with, presently that company has over 40 computers with the best capacity you can imagine having clients that range from individuals to government and other agencies. Below is a statistics of the development of Graphics centre within Area 10, Wuse Abuja the capital of Nigeria.

Area	1996-1998	No of People Employed	1999-2001	No of People Employed
Cultural Centre Area 10	None	None	36	84
Area 10 Shopping Centre	4	8	180	420

The figures show the rapid development in the number of graphics and related computer centred businesses within the years, over the years, these numbers keep increasing geometrically showing the impact ICT is playing in the employment of labour and alleviation of poverty of the people who are involved in such businesses.

In Ethiopia for instance more individuals are beginning to go into graphics designs considering that more advert and information communication needs are beginning to rise within the country. In the past only few people are investing in this area but presently, this area of ICT is beginning to provide services for the printing presses and other mass media agencies.

### **c. Music Studios**

The role that ICT tools is playing in music and entertainment industries cannot be over emphasized considering that entrepreneurs are now investing time and money at providing services for musicians and television stations. Advertisements and musical studios are now opening up everywhere and quality competitive services are now being provided by the entrepreneurs. Most music that is being produced presently even within Ethiopia, now has ICT input. World class music is now being arranged and produced within the country. This development is a common phenomenon in most developing nations. And through this more individuals are becoming gainfully employed. Also, television adverts and motifs are now being produced through the use of ICT tools. These tools are areas the Entrepreneur can easily invest.

### **d. The Internet Centres**

Internet centres are just one of the few ways computers and ICT tools can be utilized, these centres provide Internet services for people with a minimal cost. The rise in the number of

Internet Centres is so phenomenon, for example in Bahir Dar, the capital city of Amhara Region in Ethiopia, in the year 2002 has only 3 internet centres providing services at a very exorbitant price but by this time 2004 there are over 80 Internet Centres of various form within the same city providing quality services at a very much reduced price compared to just two years previously. Apart from the service been provided, hundreds of individuals are now being employed directly or indirectly by the entrepreneur who are into this line of business. With the 2004 Diversity Visa Lottery where the American home office required that the form should be filled and submitted via the Internet, many more Internet Centres sprang up within the shortest time with individual entrepreneur improving their services and finding ways to keep their customers by creating incentives moreover, the increase in number of Internet Centres as created a healthy competitions among the Centres. Mention should also be made of the increase in the number of Internet Centres in Addis Ababa.

There is going to be a continuous rise in the number of Computer Centres but in the nearest future, the services being offered by these Centres will greatly change and diverse services will be offered by them. Moreover, many Internet Centres will begin to offer graphics design and implementation. Some of these Computer Centres with large capital base will be what will transform into the private ISPs when the Telecommunication finally get to that stage in the ICT master plan when Private ISPs are allowed.

#### **e. Computer Training Centres**

The Computer Training Centres have played and is still playing a pivotal role in creating jobs and educating the knowledge-based users. Previously in Bahir Dar for example, only 3 computer Centres were open in 2002 but presently the number of computer Centre as increased also geometrically, some of these centres are having about 30-40 people for each class and the run 3 sessions per day, bringing the number of people attending a 3months program for example to an average of about 110 students. In Addis Ababa, the number of Computer Training Centres can not be counted any more. The investors in Computer Training Centres are also the Entrepreneurs who are through these centres, getting thousands of people employed from the level of the cleaner to the secretariat staff and the trainers also. This development in the knowledge-Based users or the Service Unit, is so interesting that even presently many people who are some of the best trainers in Ethiopia (as well in many developing countries of Africa) need not attend university education. For example, in one of the computer training centres, in Addis Ababa, one of the trainers, wrote a book on programming in C++. Also many, people are now been equipped through these centres with tools namely knowledge they need to get employed anyway because they can perform through the knowledge they have gained in these Centres. For the future, the number of Computer Training Centres will increase but the standard and quality of the curriculum been taught in the Training Centres will be a strong factor which will determine which Centre finally stands. Moreover, the society here in Ethiopia as well as in many developing countries like Nigeria, Kenya, South Africa are so on are gradually evolving into an information society that are aware of the latest developments in ICT. Mention also should be made about the Curriculum High School as dictated by the Ministry of Education here and elsewhere, students in grade 11 and 12 and now required to take ICT as a subject. This also is a contributor to the number of people we will be having in the not so far future as trained knowledge-based service centres. The future indeed of ICT is indeed very bright considering the number of people who have become aware of the technology know-how.

While I have mentioned that Entrepreneurship economy is an Osmotic one, in the future, with the knowledge-based Service Centres, it will be expected that with the help of the government and NGO the developing nations will get to a level, just like Indian where they begin to export these knowledge-based services centres outside of the country providing various services for industries all over the world. The only thing is just that the Service Centre need to master and specialize in a specific area.

#### **f. Computer Technicians**

With the increase in the number of Computer Training Centres as mentioned above a new level of Service Unit is evolved namely, the Computer Technicians. Many people are now making a living being Technicians providing maintenance services for the computer users. The cost of this Entrepreneurship business is just your screwdrivers and a good knowledge of how the computer works or experience in general maintenance. Some of these Computer Technicians can compete anyway in the world because they are very good. The United Nations in recent times in different advertisement for vacancy for ICT related positions only require that the applicant have a high school certificate and that they are experienced in various aspects of Computer maintenance. This is a pointer that more and more people within the developing nation are acquiring the knowledge of ICT and are providing service in different capacity. Many Computer Training Centres are now beginning to train and give certificate in computer engineering and many of the computer technicians that are been trained are now passing their A++ certification examination.

#### **g. Web Design**

This is one area of entrepreneurship that is gradually finding its feet in Ethiopia. Many computer centres are now beginning to include this as part of their portfolio. Many individual and organization are now having web presence and in the years to come this area of entrepreneurship will improve greatly. Before now, just about a year ago only the telecommunication was more or less providing this service but as of now many individual can design and implement websites. This phenomenon is not limited to Ethiopia alone it is something that is found in most developing countries. Moreover, this form of ICT entrepreneurship is not so cost intensive to start but it is a lieu way for the development that will come into ICT within these developing countries, it will be a great employer of labour and visa vise alleviate poverty of many countless people directly or indirectly. Moreover, the websites that are being designed will as of time need modification and updating, this also will be one of the things that will sustain the entrepreneurs' market in this area of ICT. Furthermore, the Web Design Centres in the future will begin to include web advertisement and other related web issues into their profiles hence greatly increasing the demand for better technology to ensure that they stay marketable and also further developing the Knowledge-Base Service Centres.

#### **h. Web Hosting**

Presently within Ethiopia it is only the Telecommunication that is host websites but in the future, one of the services that the private ISPs will be offering will include web hosting. However, with the present development of Internet it is possible to still host websites through Webmasters outside of Ethiopia, in fact more and more Webmasters are now offering space for individuals who can source for sites and web advertisements. Small amount of space is given to these individuals at a very reasonable price and all you need to do is get the websites and host them through this webmasters. In some cases you can even host other websites through your own domain name. Also, one of the things that is developing very fast in e-marketing is acting as agents for other companies outside of your country, in some cases you don't even need to go to the offices, you can just work at home and your cheque will be deposited accordingly. This is not only happening in Europe but gradually most web companies are discovering that there is market in these developing nations.

#### **i. Internet Employment Agency Services**

With the increase in the number of Website designers (or as they are now called Websites Architects), different innovate ideas are been implemented through the Websites. The websites is not only presently being used for advertisements as mentioned earlier but most websites now provide job search engines within them. Agencies can be organized through the websites, in fact the Entrepreneur need not have his own personal website, and he could subscribe for space in other websites, acting as agent for the bureaus and organization that have a need for employment. He could be providing and connecting business to Customers or clients, in this case people who need employment. The entrepreneur need not just be an agent he could go as far as creating a good database for prospective jobseekers. The database will help him to

select from a pool of individuals thereby liaising between the bureau that needs to employ and the jobseekers. He could organize so that he could collect agency fee which should be as minimal as possible both from the jobseeker and the Bureau that is interested in finding workers. This kind of knowledge-based service centre will get a chain of people employed. It is a means of Employment Agency Service that will find a place even in the future of ICT where everything will be found on the Net.

#### **j. Internet Advertisements**

Presently, practically anything is advertised on the Internet. This area of ICT is also a forum where individuals who do not even have computer can make money, all they need to do is search for advertisement, thereby acting as advertisement agencies, after they get the advertisement proposals from prospective individuals and organizations they could find websites that are willing to display adverts, pay for the services and then collect commission from the advertiser and the sites from which the advert is done. Entrepreneur can act as a link between two separate businesses. Moreover, the Advertisement Agency could also develop their own websites where people who want specific services can visit. Most Websites earn their stay on the Internet through web advertisements.

#### **k. B-2-B**

Through the Internet Advertisements, it is possible that people or company that want to connect to a particular service. The entrepreneur can consider a business of been the middle man. This connection I am talking about may be in terms of transmitting the services from one buyer to a buyer or one Business to another Business. Take for example a supermarket that as a web presence, buyers or customers can make a request for products, the entrepreneur been the middle man that connects the two individual or business can offer to move the goods or services to the right destination, thereby connecting buyers-to-buyers. This area of ICT will find great development in the future in most developing countries as the technology is expanding and people are beginning to relay more and more on the net.

#### **l. Internet Tourist Agency**

It is a common knowledge that Tourism is one of the fastest growing industries in most developing nations. People want information and they need to visit site first hand, the private entrepreneur and can make his presence available on the Internet so that tourist interested in visiting the country can easily get the needed information from the site before the get into the country. The tourists' agency can make various arrangements for the visitor. This is one area that the entrepreneur can invest in.

#### **m. Internet Traveling Agency**

Traveling Agency will invariable go fully on the Net. Presently, ticketing and booking of airlines can be done on the Internet. However, in most developing countries this kind of service is not being provided, the entrepreneur can invest in such business. Traveling Agencies can make booking and liaise with the national airlines or other airlines, making traveling arrangements for travelers.

I must mention that the lists are inexhaustible considering that ICT is about providing services for individuals, organizations and other services. Some of the other areas that may be of interest are Internet Fashion Mall, Bookshops, Internet Shopping, Economic Investment consultancy etc.

### **POSSIBLE HINDRANCES TO THE SUCCESS OF ICT ENTREPRENEURS IN ALLEVIATING POVERTY**

#### **1. Tax system**

The Tax system in most developing countries does not encourage entrepreneurs to invest in business that could on the long-run promote the economy and provide job opportunities for individuals. This situation is what every government should look at because if the entrepreneur

is driven out of business many other people are directly and indirectly affected hereby increasing the level of dependence on government. Tax relieve should be given to serious and upcoming entrepreneur to encourage them to contributed positively into the economy.

## **2. Cost of ICT tools**

The cost of ICT tools like computers and other accessories is quite high in most developing countries. These high cost is often associated with the import tax and other issues, Government on her part should consider ways to encourage these tools to be brought into the countries so that the average entrepreneur can afford them, understanding of course that he is responsible for providing services and employment that is supposed to foster development in the country. Government should provide a way of supervising and encouraging such serious small scale entrepreneur.

## **3. Administrators Knowledge of potential of ICT as a poverty alleviation tool**

Until recently, most people who are part of decision making do not understand what ICT is all about and this has always influenced the kind of decisions made by them. If the administrators are educated on ICT tools they will be able to make better decisions in relation to the subject, they need to understand that ICT goes beyond typing document.

## **4. Opening up the Communication Services: Private ISPs**

I need to acknowledge that the Ethiopian Telecommunication is taking giant stride and doing a wonderful job in enforcing the ICT master plan, presently the Telecom is almost at that stage where private control ISPs will be allowed into the service of providing Internet services to public, when this is done it would be expected that the Telecommunication will be able to focus on more intricate issues like monitoring, standard and equipments. It will not be expected that Telecom totally hands-off ISP services but a healthy competition will be one of the factors that will drive the availability of modern communication within the country. Few months Nigeria was rated as the fastest growing technology and communication nation in the world, this rating can traced to the contribution of the Private Entrepreneur in the telecommunication industry. I do understand however, that a nation should be able to decipher what information leaves and enters her shore especially in this era of terrorists' acts and national and international security.

## **CONCLUSION AND SUMMARY**

Like Indian, every developing nation as a potential of rising export revenues from software and IT-enabled services especially since it will not be so easy to march into the production of hardware components of ICT, it will be easier for developing nations to utilize the benefit of the knowledge-based Service Unit. If the nations could use this as the starting block it would be able to advance better in the technology and hitherto, provide employment thereby reducing the rate of unemployment and also alleviating the poverty level of the people. Moreover, considering the fact the government can not be the sole employer of labour, the role of the Entrepreneur is very substantial in the alleviation of poverty especially when the entrepreneurs invest in the area of ICT which is a huge employer of labour directly and indirectly.

Some areas in ICT knowledge-based Service Unit in which the entrepreneur can easily invest in include: The Business Centres, Graphics Centres, Music Studios, The Internet Centres, Computer Training Centres, Computer Technicians, Web Design, Web Hosting, Internet Employment Agency Services, Internet Advertisements, B-2-B, Internet Tourist Agency, and Internet Traveling Agency. If the entrepreneur invest in any of these it is sure that he will promoting ICT, earning an income into the national economy and more importantly helping to alleviate poverty. Furthermore, some of these businesses do not necessarily need a high capital investment; all that is needed is proper organization.

However, for this laudable investment to be possible, the government and the telecommunication authority has a role to play.

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