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Social Implications of ICTs: Views of Academic Librarians in Nigeria

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Social Implications of ICTs: Views of Academic Librarians in Nigeria

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Abstract

The paper tries to explore social implications of ICTs, their positive impacts and potential dangers. In addition, the study examines some important imperative factors that sustain favourable social implications as well as critical factors that pander to unfavourable social implications of ICTs. Descriptive survey method was adopted. Population consisted of 88 academic librarians who are working in four Federal University libraries in South East Nigeria. A 59-item structured questionnaire was used for data collection. The instrument was face validated and the reliability of the instrument was established through Cronbach Alpha reliability coefficient. Eighty-eight copies of the questionnaire were delivered to respondents and eighty-five copies were completely filled and returned. The data collected were analyzed using mean scores and percentages. The paper found out that core factors of social implications of ICTs were the Internet and other ICTs which facilitate development in developing countries and aid propagation of indigenous knowledge. It was found that ICTs do not induce unemployment in developing countries, nor promote social exclusion. They neither aid mass destruction of property nor induce organizational stress. It was also found that gender inequality and ethnicity/racism do not constitute challenges that affect social implications Other findings showed that while quest for current information was the greatest factor which could facilitate favourable social implications of ICTs, lack of Internet skills was the greatest challenge which could affect social implications of ICTs. It was also identified that the greatest strategy for enhancing social implications of ICTs would be by posting ICT compliant teachers to schools. Some of the practical implications of the paper were that favourable social implications of ICTs could be hampered by factors which focus on domains purported to create digital divide, cultural neo-colonialism, popularization of pornography and breakdown of law and order. The value of this paper lies in the identification of core factors of social implications of ICTs as well as rebuttal of the impressions that ICTs induce mass unemployment in developing countries, promote social exclusion, cause mass destruction of property and induce organizational stress. Innovative strategies for enhancing favourable social implications of ICTs have also been articulated

Introduction

Antecedents of the current ICTs started with the radios and telecommunications which were delivered by copper wire. Because it was costly to string along, the telecommunications facilities were concentrated in urban areas especially in developing countries. Nonetheless, they delivered an array of services to consumers ranging from rendering newscast, dissemination of information, to provision of relaxation and entertainment. Advances in ICTs brought a paradigm shift from analog to digital systems. In this connection, more complex tools that have wide applications are now prevalent. The new ICTs include mobile phones, television, computers, video conferencing outfit, the internet and expert systems to name but a few. In spite of their remarkable potentials in development, there are favourable and unsavoury aspects when they are applied to social interactions.They have also become

instruments of digital divide, social inclusion (Caidi and Allard, 2005) and social exclusion (Valentine, Holloway and Bingham, 2002). Nonetheless it is being anticipated by United Nations that ICTs could be used to reduce poverty and homelessness as well as provide education and better health services within the Millennium Development Goals (FAO, 2005). ICTs have transformed work patterns and have ushered in a new paradigm in which many activities such as shopping, banking, learning and examinations are available online. Recognizing the possibility of ICTs in facilitating global peace, databases for online sourcing of information for conflict resolution have been established by some universities such as the Conflict Resolution Information Source (CRInfo) of the University of Colorado (2007). The new technologies have reduced erstwhile wide world to a global village where time, space and finances are maximally economized. Like the industrial revolution, it is reasonable that some people will be hurt, some will benefit and a few may be unaffected by the ICTs evolution. The social implications of the itemized ICTs will be discussed and the information professionals who are competent users of these ICTs, namely, academic librarians, will be the respondents to this empirical study which will provide the first literature on this topic in Nigeria. The first ICT which social implications will be explored is the mobile phone.

Mobile Phones

Mobile phones can raise the knowledge economy of countries. It raised Finland from obscurity to a second position "in overall innovativeness" among European Union (E.U) countries, when she successfully produced Nokia handset. (Okoye & Nwegbu, 2008). Mobile telephony has increased peoples' sense of security and has fundamentally altered the volumes, practices and overall culture of communication. Text messaging provides novel means of creating and strengthening social bonds particularly among the youths. They provide a platform for teleconferencing and can be used to transfer money to a recipient's phone, thereby saving the recipient from financial embarrassment. They are a source of self-employment. Conversely, mobile phones have been deceptively deployed because people sometimes falsify the destination they are phoning from and somebody's conversation or private information can be bugged (Aliogo, 2009). They therefore pander to insincerity and meddlesomeness in the society. However, they have become robust enough to be transformative. Oder (2009) quoting Griffey (2009) says that cell phones are the most popular and ubiquitous information device worldwide. He affirmed that currently, more than 60 percent of people have a cell phone subscription, and that three quarters of them use text messaging.

Television

With the help of satellites, television broadcasts can be viewed across continents. In addition to educational, informational as well as relaxation and entertainment programmes which televisions provide, pictures from television broadcasts convey horrors of war, disasters and famine. Considerable population of some developing countries including Nigeria copy the fashion and lifestyles of developed countries with consequent assimilation and demand for the new products. Contrary to the positive social implications, television has its threats to society. For example, foreign television stations are fond of shooting criminal films such as kidnapping, armed robbery, drug abuse and drug trafficking, prostitution and unbridled use of short guns by the underage. Many unemployed citizens of developing countries who became addicted to watching these nefarious and vicious foreign films have unleashed such vices on their respective societies. CD-ROM and Video Cassettes are also powerful means of introducing foreign cultures into countries (Chaozhu, 1993, 179).

Computers

It is generally believed that while computers do not change the principles of work, they normally affect the work patterns. As a result of modifying the process computers have skilled some staff but have deskilled (hurt) others. Computers have contributed significantly to advancement in education and knowledge. Indigenous knowledge which is becoming extinct could be retrieved and disseminated to a large cross-section of rural communities. They facilitate efficiency in management including data management. They enable prompt, accurate and swift payments at pay points thereby obviating or shortening queues. With respect to social implications in developing countries, success stories from Asia are instructive. Towards this goal, access to databases across government departments, and analysis, facilitated planning and provision of basic amenities such as education, drinking water, roads, telephones and television viewing centres in rural areas. ICT/computer applications were captured in three domains of public administration, improving services to citizens and empowering citizens to access information and knowledge (Bhatnagar, 2000). One of the endearing advantages of information was that up-to-date information on markets were provided to rural producers of all varieties of goods and services to obviate the possibility of dividends of their

efforts being disproportionately short-changed by middle men while exporting their goods and services to other regions (Bhatnagar,2000).
Adverse social implications of computers in developing countries stem from the facts that computers have been implicated in deskilling some categories of labour force especially the clerical staff and middle-level manpower whose duties are repetitive, thereby causing unemployment. Computers, except laptops, expose habitual users to health hazards such as eye-strain and exposure to electromagnetic radiation (EMR). Other health hazards include neck pain, headache, backache, carpal tunnel syndrome (CTS) and addiction (Onugha, 2006).

Video Conferencing

Video conferencing aides the process of governance. It eliminates bureaucratic bottlenecks which currently characterize governance. The barriers and limitations in regular communications are eliminated, and participants can share visual information while in session. It provides affable forum. For instance, the President can discuss official or national issues with his ministers or state governors in situ. This facility will soon become operational in Nigeria where it is being piloted and implemented by Galaxy Backbone plc (Nkanga, 2009).
Video conferencing can also be used in training healthcare workers. This has been demonstrated in Nigeria also. A team of surgeons led by a United States of America based surgeon, Dr. Fiemu, Nwariaku organized a skills' training session involving the use of a live surgical procedure. The patient underwent cholecystectomy (removal of the gall bladder) (Osuagwu, 2009). Nigerian surgeons in Abuja were able to interact directly and ask questions to the surgeons in Dallas and they got tips on how best to perform the procedure (Osuagwu, 2009). The ICT infrastructure was provided by Galaxy Backbone Plc and Compufix Intercom Nigeria Ltd.
In another development, a non-governmental organization named FANSUA started a training programme in their small health facility situated in Kafanchan, Nigeria. They used ICT to communicate with doctors in far away areas and got results (Osuagwu and Akinboade, 2009).

The Internet

Internet has broken national boundaries in information dissemination, data processing, storage and retrieval. It can provide employment as shown below:

- Cybercafés are now established for self employment and as a means of income generation
- Information about any job in any part of the globe can be accessed through the internet.
- Internet itself is growing into a big job provider for academics, cataloguers, web designers, web masters and programmers to name but a few.

It has commendable potentials in its capacity for research, education including e-learning and e-examinations, cultural importation and exportation, electronic banking and shopping for both local and international trades, electronic mail and electronic conferencing. These attributes have buoyed up positive social interaction globally.

Speed

This can be appreciated if one considers a Google search which retrieves 3,640,000 items on ICT and social implications in 0.31 seconds and similar Google search which retrieves 306,000 items on ICT and job creation in 0.27 seconds. The implication is that a quantum of destructive or edifying information which is retrieved and disseminated from one end of the globe to another in a fraction of a second can cause societal discontentment or relief within seconds.

Negative Aspects

In spite of the positive impact of Internet to the society, it has pervasive, destructive and unfathomable potentials for misinformation, disinformation, cultural adulteration and pollution. Through the internet, American culture has been exported to many parts of the globe. The words "hi guy" and "hi men" have been so captured by African undergraduate students that those words have become clichés. Omekwu (2003) citing Lloyd (1997) itemized some of the ugly aspects of the Internet as fraud and hacking. He illustrated the import of hacking by narrating an incident relayed by Lloyd (1997). Succinctly, he disclosed that "When the Communication Decency Act, which sought to impose controls over content on Internet sites, was being debated in the United States' Legislature, hackers secured access to the Department of Justice's WWW pages and replaced the Department's logo with a pornographic picture.

In addition to the aforementioned, access right violation, spam, computer viruses and pornography are adverse influences of Internet which are afflicting the society (Omekwu, 2003)."

Expert Systems

Expert systems play ambivalent roles also. Chaozhu (1993) reported that some of the first applications of the new technology were in the military where a whole range of skilled activities of soldiers, sailors and airmen have been trained and equipped with a vast range of chip-based weaponry, ranging from automatic guns, guided missiles to automatic responses, to attacking missiles.

Laudable as this innovation in military is, it encourages aggression on the part of the technologically advanced war-loving countries, with consequent decimation of population. Although they are an asset for national military defense, more often than not, they are applied for aggression. Applications of these expert systems in industries have caused many unskilled and routine labour forces to be relieved of their jobs
Expert systems can also play edifying roles. They are used to preserve knowledge that might be lost if a company expert retires, resigns or dies. Another rationale is "to enable novices at different locations to be trained to perform as the expert does" (Sanders, 1988:122).

Effects of ICTs on Organisations

Information technology has changed social relations in the workplace. For instance truck drivers have had their freedom of the road checked by traffic lights. It has caused deskilling and contrarily, has caused reaction, adoption and upgrading of new skills. To buttress the point, typists are now re-designated data entry clerks. A good number of jobs have been re-designed, enabling the same person to perform several functions as a result of acquisition of multiple skills. Consequently, many middle-level managers have lost their functions and the organizational pyramids have flattened further to a broader base of skilled clerical workers (Chaozhu, 1993).

Potential Dangers

Computer usage sometimes produces displacement and unemployment. Significant displacement problems accompany increased use of computer controlled robots in production operations in automobile industry where jobs hitherto performed by welders and spray painters are now done by robots. Sanders (1988) quoting Society of Manufacturing Robots stated that 20 percent of the people who were once needed to assemble cars have been displaced by programmable robots and that the 25 million manufacturing workers in the United States of America could be reduced to an estimated 3 million by the year 2010.

Data Gathering Problem

It has earlier been stated in this paper that the Internet has unbelievable potential for fast delivery of information. So, in the event of any error in the gathered data, the speed with which such inaccurate information would be spread or made available to system users would be much faster than the speed with which errors could be found and rectified. There are also questions about data integrity, system security and the right to privacy. Other potential dangers for ICT using organizations include the fact that data and programmes could be stolen and sold. Data could be deleted, changed fraudulently to influence public opinion, or for outright embezzlement of a firm's assets. The devious acts could be done from a remote station. In the same vein, there could be organizational stress resulting from disbanding, realignment and creation of new work groups when ICTs are introduced.(Sanders,1988).

Positive Impact of ICT on Organizations
Sanders (1988) listed such positive indices which include the fact that organizations using computers are generally active in fields of government, law, healthcare, education, the humanities, science, engineering and business.

Statement of the Problem
Information Communication Technologies (ICTs) have been portrayed as double-edged saws. They have been acclaimed as very useful tools which have changed the work processes, endowed people with skills and have advanced development especially in developing countries and provided employment.

Yet, they have been implicated in de-skilling some people, rendering some categories of workers redundant and consequently making them unemployed. Their role in cultural adulteration and pollution is unfathomable. They have found favour in the military where in conjunction with other arsenals, they aid and abet mass destruction of lives and property. They could be used to change or delete data. The devious act could be done from remote stations.
The above situation, no doubt, presents ambivalent influences of ICTs with regard to social implications on people, organizations and society. The problem of this study, therefore, is to identify social implications arising from use of ICTs.

Objectives of the Study

The objectives of the study include the following:

1. To identify social implications of ICTs.
2. To identify factors that facilitate favourable social implications of ICTs.
3. To identify factors that pander to unfavourable social implications of ICTs.
4. To identify problems affecting social implications of ICTs.
5. To suggest strategies for enhancing favourable social implications of ICTs.

Research Questions

The following research questions guided the study.

1. What are the social implications of ICTs?
2. What are the factors facilitating favourable social implications of ICTs.
3. What are the factors that pander to unfavourable implications of ICTs?
4. What are the problems affecting social implications of ICTs?
5. What are the strategies for enhancing favourable social implications of ICTs?

Scope of the Study

The study was limited to librarians in four Federal Universities of South Eastern Nigeria. Librarians were chosen because they rank among core Information Professionals.

Significance of the Study

The result will show ambivalent (favourable and unfavourable) implications of ICTs. The awareness of potential dangers of these implications should evoke optimism on the part of national and world leaders including Nigerian leaders, to use ICT solely for services to humanity. They, the world leaders, would then appreciate the need to enforce laws which would guarantee favourable social implications of ICTs.

Literature Review

This section reviewed literature pertinent to the study. Succeeding the Industrial revolution is the information and high-tech revolution, ushered in by the advent of Information and Communication Technologies. It is generally believed that ICTs are instrumental to displacement of some category of workers. Other contentious issues include their impact in creating unemployment, possibility of being a conduit to social exclusion, whether they exacerbate women's marginalization at work places and their ambivalent influences on organizations. These are some of the issues discussed below.

ICTs and Employment

Chaozhu (1993) stated that the high rate of unemployment in industrialized countries could not be solely ascribed to the new technologies. Citing the case of automobile industry in United States of America in the 1990s, he stated that robots displaced about 100,000 workers but conversely, many jobs were created with the new technologies. Supporting Chaozhu's latter neutral disposition of ICTs, Castells (1999) corroborated his argument by citing Carnoy (1999), who analyzed the statistical relationship between job creation and various indicators of information

technology for Organization for Economic Cooperation and Development (OECD) countries between 1987 and 1994 and demonstrated that "there is no relationship between technology (ICT) and employment (Castells, 1999: 02)." In spite of his observation, Castells (1999), conceded that for developing countries and those in economic crisis, there would certainly be a major unemployment problem. While affirming that ICTs provide jobs, Sanders (1988) believes that ICTs are also instrumental to mass unemployment".

Social Exclusion and Inclusion

Social exclusion arises when there is a breakdown in relationship between two individuals or groups or societies. With reference to ICT, denial of access to information and all associated technologies can induce social exclusion. Labour Government in Britain defined social exclusion as "a shorthand term for what can happen when people or areas suffer from a combination of linked problems such as unemployment, poor skills, low incomes, poor housing, high crime environment, bad health and family break down" (Valentine, Holloway and Bingham: 2002:297). Foley (2004) observed that the characteristics of social exclusion such as non-participation in economic and social activities, isolation and a perceived lack of opportunity could be exacerbated through lack of information and communication. He added that whilst lack of access to ICT could not be the cause of social exclusion, it has the potential to exclude individuals and groups, (Foley, 2004).

Concerned with unequal access to ICT and the possibility that it could promote social exclusion in children, Britain and United States of America emphasized the need to provide schools with computers, Internet facilities and well-trained ICT teachers (Valentine, et al., 2002). However, they opined that access to ICT alone could not equate with either use or the development of skills, because ICT is understood, valued and taken up or rejected differently by different groups of children. They therefore proffered that technophobic children could be encouraged by promoting ICT technology in ways that related to the social content of their everyday lives and peer group cultures such as encouraging them to use e-mail and the Internet online activities. Foley (2004) believes that other factors hindering the adoption and use of ICTs are life characteristics such as age, gender, disability and ethnicity as well as lack of basic literary skills.

Does ICT Empower or Marginalize Women?

"One of the United Nations International Development Goals by 2015 is "to promote gender equality and empower women" (FAO, 2005: 16). The critical role of ICT in fostering women's empowerment was not recognized when United Nations and the International Telecommunications Union organized the World Summit on the Information Society (WSIS) which sought to develop a global framework to deal with the possibilities and challenges posed by the information society. "The summit was first held in Geneva in 2003," (Gurumurthy, 2004. 9). It could be recalled that earlier attempts by women advocated the inclusion of gender issues in relation to ICTs. The first of this advocacy was during the Fourth World Conference on Women at Beijing on 15th September 1995. It was succeeded by the 47th Session of the U.N. Commission on the Status of women; held at New York U.S. in 2003. The Session discussed Participation and Access of Women to the Media, and Information Communication Technologies and their impact on and use as an instrument for the Advancement and Empowerment of women. The implication was that there was gender inequality with respect to ICT. "Such core challenges could be occasioned by structural barriers, such as unequal access to education by women, glass ceilings in industries and research institutions and lack of financial resources" (Gurumurthy, 2004; Huyer & Sikoska, 2003). Huyer and Sikoska (2003) lamented that in spite of tremendous increase in number of women graduate engineers in ICT fields each year, there were few opportunities for women to engage in technology due to persistence of barriers resulting from disabling socio-cultural and managerial environments at work and at home, (Huyer and Sikosha,2003).

Optimistically, Anand (2002) and Gurumurthy (2004) believe that the potential of ICTs in women's empowerment is tremendous if the inequalities are addressed. They proffered ways of addressing the inequalities such as having a policy, networking and advocacy to promote gender equality, lobbying and concerted follow-up, granting women access to public information and dissemination of rights-based information for women, (Anand, 2002 and Gurumurthy, 2004).

ICT and Women's Empowerment

ICTs are instrumental in helping women break from the stereotypical structures and narrow outlooks of the society and from the hegemony of male dominated societal structures. ICT has also ushered in empowerment of women through employment. Nath (2001), reports that a high proportion of jobs outsourced by big firms are going to women. She supported her argument by stating that "Ford and General Electric have moved their backend operations to Asia and employed a large number of women workers having basic information technology and data management skills." (Nath, 2001:324). A number of ICT models have been used to support the empowerment of women all around the world. Some of these include "Africa Women's Network of the Association for Progressive Communications (A.P.C.) which has conducted training workshops to support electronic networking among women's group, Ugandan Forum for Women in Democracy. This group uses the Internet and e-mail to conduct research on issues for the country's female M.Ps, and the Women's Net which is a similar initiative in South Africa (Nath, 2001).

The potential of ICT to connect every woman in a network of information offers endless possibilities for women to play a pro-active role and impact on governance processes at both local and global levels. ICT has also minimized the stereotypical mindsets of women. The impact of ICT media compared to conventional media with respect to women's participation in governance has been aptly demonstrated by Nath (2007) as shown below.

Comparison of Women's Participation in Governance Processes through Conventional Media and ICT Media

	Conventional Media	ICT media
Mode of participation	Representative	Individual/collective
Forms of participation	Passive/Reactive	Pro-active/Interactive
Impact of participation	Indirect	Direct.

(Nath 2001)

Use of ICT for Poverty Alleviation

Direct use of ICT for poverty alleviation is possible through the Net Aid Initiative which website is given as (*http://www.Netaid.org*) (Nath, 2001: 338/339). This initiative uses Internet to fight extreme poverty. Through it, funds, technical expertise and skilled human resources could be explored from corporate entities and sent to developing countries to relieve poverty as in Rwanda (Nath, 2001:338/339). The instrumentality of ICT for poverty alleviation has also been advanced by FAO (2005).

Research Method

The study adopted the descriptive survey method. The area of study is Nigeria. Population of study consisted of academic librarians in four Federal University Libraries of South East Nigeria. The University Libraries included, Federal University of Technology, Owerri (25), Michael Okpara University of Agriculture, Umudike (6) Nnamdi Azikiwe University, Awka (7) and University of Nigeria, Nsukka (50). There was no need for sampling due to the smallness of the population. The population was 88.

A 59-item structured questionnaire was used for data collection. Face validation of the instrument was done by two experts in the Department of Library and Information Science, University of Nigeria, Nsukka; while the reliability was determined through a trial test which was carried out using six (6) librarians each from two state University libraries in Enugu and Anambra States. The Cronbach Alpha reliability coefficient was used to establish the reliability of the instrument. The reliability was 0.76.

Respondents were asked to indicate their level of agreement or disagreement on each of the identified items on a four-point Likert weighting scale of Strongly Agree 4, Agree 3, Disagree 2 and Strongly disagree 1. Decision was taken based on the mean score value of the scale which is 2.50. Any mean score that was less than 2.50 indicated a negative opinion (D) and vice versa (A)

Only 85 copies (96.59%) of the questionnaire were completely filled, returned and analyzable. Three of the remaining copies of the questionnaire were not retrievable. The data collected were analyzed using mean scores.

Results and Discussion

Table 1: Social Implications of ICTs

S/No	Items	$\bar{X}$	Decision
1.	ICTs induce mass unemployment in developing countries	2.10	D
2.	ICTs provide employment in developed countries	3.24	A
3.	ICTs (Internet) expand existing social networks	3.61	A
4.	ICTs promote social exclusion	2.48	D
5.	ICTs promote social inequality	2.57	A
6.	ICTs induce poverty alleviation	2.63	A
7.	They facilitate women empowerment	3.15	A
8.	They facilitate development in developing countries	3.31	A
9.	ICTs influence cultural pollution	2.67	A
10.	They aid mass destruction of lives	2.76	A
11.	They aid mass destruction of property	2.20	D
12.	They foster social inclusion	3.10	A
13.	They facilitate retrieval of indigenous knowledge	3.12	A
14.	They aid propagation of indigenous knowledge	3.30	A
15.	They facilitate social transformation	3.27	A
16.	They induce organizational stress	2.38	D

Data in Table 1 shows that respondents disagreed with the statement which says that ICTs induce mass unemployment in developing countries. Their opinion is contrary to Castells (1999)'s view. Their disagreement implies that acquisition of ICT skills is a gateway to mass employment in developing countries. This also implies that developing countries should embrace ICT in order to solve their mass unemployment problems. They also did not agree that ICTs promote social exclusion. Their opinion is at variance with the observation of Foley (2004) who maintains that ICT has the potential to exclude individuals and groups. Respondents did not also identify with the fact that ICTs could aid mass destruction of property . These views are also at variance with that of Chaozhu (1993) who observed that first implications of ICT were in the military where ICTs were applied in weaponry, ranging from automatic guns to guided missiles. Respondents did not identify with inducement of organizational stress caused by ICT. The result contradicts Sanders' (1988) view which stated that organizational stress could result from disbanding, realignment and creation of new work groups when ICTs are introduced.

Table 2: Factors that Facilitate Favourable Social Implications

S/No	Items	$\bar{X}$	Decision
17.	Quest for current information	3.62	A
18.	Inquisitiveness	2.89	A
19.	Search for friends	3.15	A
20.	Search for employment	3.40	A
21.	Need for communication purposes	3.48	A
22.	Need for research purposes	3.56	A
23.	Need to facilitate coordination of programmes	3.28	A
24.	Need to provide enabling environment for cooperation	3.36	A
25.	Need for creativity through ICT facility	3.38	A
26.	Possibility of popularizing oneself through the Internet	3.30	A
27.	Need to facilitate development	3.32	A
28.	Need to secure foreign grants through the Internet (ICT)	3.23	A

Table 2 shows that respondents agreed that all the items facilitate favourable social implications of ICTs. Respondents identified, quest for current information as the greatest factor that facilitate favourable social implications.

Table 3: Factors that Pander to Unfavourable Social Implications of ICTs

S/No	Items	$\bar{X}$	Decision
29.	Passion for cultural neo-colonialism	3.20	A
30.	Intent to create digital divide	2.94	A
31.	Lust for avarice by the virus programme writers	3.18	A
32.	Need to conceal the truth by hackers	3.02	A
33.	Zeal to popularize a product through pornography,	3.15	A
34.	Breakdown of law and order	3.09	A
35.	War between nations	3.01	A

Table 3 also shows that respondents agreed to all the items being factors that could pander to unfavourable social implications. They identified passion for cultural neo-colonialism as the greatest factor

Table 4: Challenges Affecting Social Implications of ICTs

S/No	Items	$\bar{X}$	Decision
36.	Lack of literary skills	3.36	A
37.	Lack of ICT (Internet) skills	3.43	A
38.	Unavailable support to overcome Internet's problems	3.36	A
39.	Lack of computer skills	3.36	A
40.	Unavailable support to overcome computer's problems	3.22	A
41.	Old age	2.81	A
42.	Gender inequality	2.37	D
43.	Ethnicity/racism	2.44	D
44.	Disability	2.60	A
45.	Dominance of English Language in Internet content	2.62	A
46.	Cultural restrictions	2.81	A
47.	Lack of relevance of Internet's content to one's life.	2.80	A

Table 4 shows that respondents did not support the view that gender inequality and ethnicity/racism could be challenges affecting social implications of ICT. Their views contradicted those of Huyer and Sikoska (2003) who lamented that in spite of tremendous increase in women graduate engineers in ICT fields each year, there were few opportunities for women to engage in technology due to persistence of barriers resulting from disabling socio-cultural and managerial environments at work and at home.

Table 5: Strategies for Enhancing Social Implications of ICTs

S/No	Items	$\bar{X}$	Decision
48.	Social exclusion should be averted	3.35	A
49.	Use of ICT should relate to social content of everyday life	3.27	A
50.	Governments should provide public Internet access points	3.50	A
51.	Governments should provide public telecentres	3.32	A
52.	Computer facilities should be provided in schools	3.58	A
53.	Internet facilities should be provided in schools	3.55	A
54.	Competent ICT compliant teachers should be posted to schools	3.71	A
55.	Parents should regulate television programmes watched by their children	3.45	A
56.	Parents should regulate Internet programmes watched by their children	3.38	A
57.	Educational institutions should devise means of censoring undesirable Internet programmes watched by students within the institution's cyber café's.	3.43	A
58.	National bills against cyber crime should be enacted and passed into laws.	3.36	A
59.	The United Nations should provide regulatory laws against pornography in Internet programmes.	3.48	A

In Table 5, respondents rated all the strategies identified for enhancing social implications of ICTs as effective. Competent ICT compliant teachers should be posted to schools, was rated highest. It had a mean score of (3.71).Other strategies for enhancement of social implications of ICT which respondents rated very high were, provision of computer and Internet facilities in schools as well as provision of Internet facilities to the public by governments. This implied that they appreciated the importance of imbibing culture of ICT early in life. It buttresses the need for mass human capital development in ICT

Conclusion

The paper has highlighted favourable and unfavourable social implications of ICTs. Conclusions drawn from the findings of this study include the following:

Respondents accepted Internet as having very relevant social implications in expanding existing social networks. Internet was rated the most beneficial factor of social implications of ICTs. However, issues relating to inducement of mass unemployment in developing countries, promotion of social exclusion, aiding of mass destruction of property and inducement of organizational stress by ICTs were not accepted by respondents. Their views imply that acquisition of ICT skills is a gateway to mass employment in developing countries. Respondents' rejection of promotion of social exclusion by ICTs implies that with acquisition of ICT skills by citizens of developing countries, there could be social inclusion and cohesion.

Respondents identified, quest for current information as the greatest factor that facilitate favourable social implications of ICTs They also rated need for research and communication purposes as vital factors of social implications. This implies that quest for current information, and need for research and communication purposes are core factors that facilitate favourable social implications of ICT.

Respondents accepted that all the factors listed under unfavourable social implications of ICTs could play negative roles. They identified passion for cultural neo-colonialism as the greatest factor. The implication is that ICTs play positive and negative roles. While positive implications of ICTs should be projected, the negative aspects should be eschewed.

From this study, the greatest problem affecting social implications of ICTs is lack of Internet skills. Gender inequality and ethnicity/racism do not affect social implications of ICTs

Among strategies for enhancing social implications of ICTs, provision of ICT compliant teachers in schools is the greatest. Other strategies for enhancement of social implications of ICTs which respondents rated very highly were provision of computer and Internet facilities in schools. Respondents' core choices buttress the need for mass human capital development in ICT

Recommendations

The following recommendations are made in the light of the findings of the study.

Nigeria and other developing countries should embrace ICTs in all their ramifications in order to solve mass unemployment plaguing their nations. Acquisition of ICT skills by these countries could also narrow digital divide between developing and developed countries.

Nigerian government and other developing nations should provide facilities for dissemination of current information. Provision of conducive environment to conduct research and facilities for unfettered communication are necessary since these factors are crucial to favourable social implications of ICT.

Developed countries should beware of their cultural neo-colonialism. Nigeria and other nations should try to solve international disagreements through dialogue rather than war. Efforts should be made to narrow digital divide by reducing the cost of software and hardware which are sold to Nigeria and other developing countries as well as reduction in the cost of skills' acquisition and knowledge transfer. A policy geared toward checking proliferation of virus programme writing should be established and enforced, possibly by United Nations Organization. Activities of hackers should be controlled and use of pornography in popularizing products should be censored. Nigeria and

other nations should strive to control breakdown of law and order as these factors could pander to unfavourable social implications of ICTs.

Nigeria and other developing countries should equip their citizens with Internet skills. This is necessary since lack of Internet skills has been identified as the greatest problem affecting social implications of ICTs

Provision of computer and Internet facilities in schools as well as provision of ICTs compliant teachers in schools should be of top priority to governments of developing nations especially the Nigerian Federal Government. This could be used as a strategy for inculcating and enhancing favourable social implications of ICTs in the citizenry

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