

## ICT IN RESEARCH JOURNEY MAP: CHALLENGES AND PROSPECTS FOR BUSINESS EDUCATION DEVELOPMENT IN NIGERIA.

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### **Abstract**

Research has been the most effective tool in bringing tangible and outstanding development into the education system. It is clear that ICT offer opportunities not available previously to researchers. Using tools such as e-mail surveys, the Web, audio-, video-, computer-conferencing, software data analysis packages like SPSS and other ICT devices has made an interesting contribution to the research journey map. This paper examined the application of ICT in research journey map. Challenges and prospects of the application of ICT in research journey map for business education development in Nigeria was also discussed. The concept of ICT was examined in relation to different ICT needs for different stages within the research journey map. Different ways in which ICT may contribute to the improvement in the different stages of the research journey map was explored. Recent ICT initiatives designed to support processes of research development especially in the analysis of data were discussed. Implication for business education development in Nigeria was discussed in relation to application of ICT in research journey map. Useful strategies were recommended for using ICT in research for business education development in Nigeria.

ICT has brought tremendous changes in the research journey map. The availability of ICT components and software like SPSS, compact discs and CD-ROMs, videodiscs, microcomputer-based laboratories, the Internet, virtual reality, local and wide area networks, instructional software, Macs, PCs, laptops, notebooks, educational television, voice mail, e-mail,

satellite communication, VCRs, cable TV, interactive radio, etc. has changed the research journey map positively. (Hernes, 2002). This has equally brought in challenges as well as prospects to business education development and other areas of education generally. (Haddad & Draxler, 2002).

There are several initiatives available in the libraries of higher institutions which has improved the research journey map compared to some years back. An examination of the websites of most institutions of higher education revealed a number of digital library initiatives, services and systems. These include the following: • integrated library management system (LMS); • electronic resources – full-text databases, citation databases, e-books and e-journals, etc.; • reference service – Ask a Librarian; • library instructional services; • library portals – e-journal portal and subject portals; • online course reserves; • scholarly communication – copyright website, ETDS, digitized; • manuscript finding aids; and • electronic document delivery systems. (Na'Iya, 2006).

### **Recent ICT Initiatives Designed to Support Processes of Research Development**

Different ICT components have the potential for contributing to different stages of the research journey map. At the beginning of the research, the Internet is a useful tool that can help a researcher to check the intended research topic. This is important because different ideas comes to different people at

different places. It will be very sad for a researcher to start and complete a research on a particular topic only to find out that it is not different from what others have already done. In order to identify available gap in existing literature, it is important to check the Internet and find out what is already on ground. The Internet also gives a rich volume of data that can make referencing easier for the researcher. (Hernes, 2002).

There are online materials for surveys. A researcher may not need to produce new questionnaire because there are existing questionnaire that can be adopted online. This saves time for the researcher and ensure good quality questionnaire that has been tested and proved. At the data collection stage, e-mails can save the researcher the time and cost of traveling around for data collection because this can be done online. The data analysis stage also enjoys ICT by using software like SPSS and other electronic statistical packages. Finally, the research report writing can be done using computers for better quality.

The next stage in the research journey map that has changed is the storage of research report. This was previously commonly submitted in hard copy form to universities and institutions concerned.

Most universities and higher institutions now demand Electronic Thesis / Dissertations (ETD). ETDs are postgraduate thesis and dissertations that are originally produced only in electronic format and never in print, or in combination with the print forms. In this regard, ETDs could also be referred to those thesis and dissertations that were originally in print, but are later converted to electronic format, such as through scanning. Most of these are preserved online. This makes it impossible to lost data even if the institution is burnt down. (Andrew, 2004 and Na'Iya, 2006).

### **Challenges of the application of ICT in research journey map**

- **Health hazards**

There are several health hazards which are associated with the use of ICT components. This include radio waves from Wi-Fi hotspot and calls on a mobile phone. Too much exposure to electromagnetic radiation has been linked to brain cancer. However, scientists are yet to find any conclusive evidence. There are several chemical substance that can affect humans when they are exposed to some of the hazards associated with electronic products and e-waste in a variety of ways. Some of these chemical substance include brominated flame retardants in dust on computers, aluminium, chromium, copper etc.

Hydrocarbons, heavy metals, brominated substances discharged directly into rivers acidifying fish and flora; tin and lead contamination of surface and groundwater; air emissions of brominated dioxins, heavy metals and hydrocarbons are some of the identified problems associated with the disposal of the discarded ICT components. Another problem is musculoskeletal discomforts in different parts of the body in relation to the use of electronic devices. In addition, studies have shown that in some cases, due to excessive texting with mobile phones, inflammation of tendons and articular degeneration in the thumb joint and index fingers have been reported. Neck pain, shoulder pain, wrist and finger pain are also reported. These health related hazards poses Challenges to the application of ICT in research journey map. (Hazelwood 2015, Sthiannopkao & Wong 2012, Science Daily 2013, and Yuan, Zhang, McKenna, Korzeniewski, & Li, 2007).

Other challenges of the application of ICT in research journey map include the following:

- Cost of paying for Internet connectivity
  - recharge cards, modem bundles –

- need to use smart phones that can download pdf files etc.
- Risk of paying for Internet connectivity – Need for ICT compliance, ability to interact with ICT components – software usage – skill / training needs.
- Need for sorting to select from huge quantity of data.
- Filtering to prevent plagiarism.
- Secure web pages – need for online registration and credit card risk because of fraudsters.
- Slow network and network time out – “the server cannot be reached at the moment”.

### **Prospects of the Application of ICT in Research Journey Map**

The following are the Prospects of the application of ICT in research journey map:

- Fast, Easy and less effort required to complete a research.
- Research materials anytime, anywhere and any type.
- Speedy Analysis Empowerment – numerous resources and software online e.g. SPSS.
- Better Quality of softcopy / hardcopy output compared to typewriter method of correction of errors.
- Encourages creativity because of the ability to check plagiarism online.
- Makes people keep in line with evolving trend / changes in technology methods of research example availability of new research packages.
- Preserve the research report for very long time because of the availability of electronic copies of research reports.

### **Implication for Business Education Development in Nigeria**

Business education is one of the dynamic areas of study that has been positively impacted by ICT in its research processes. The need to use typewriters to type out research reports made it necessary for business education students and practitioners to always be the last bus stop after every research. No matter the discipline of a researcher, they always need a typist to type out the written report of the researcher. The use of ICT ushered in the need for business education students and practitioners to change technology. This accounts for the switch from the use of typewriters to computers. This is a notable positive impact on business education because it brings about new knowledge, both in terms of research and in the lives of the researchers. This in turn, brings about business education development in Nigeria. (Ukut, 2015).

Office work of shelf and cabinet storage is reduced. This is also part of the work usually handled by business education practitioners. Most research reports are now available in digital form. Digital resources have the following advantages: • the resources will never be out on loan and will be available at any time, any place, and anywhere; • access is provided to more complete sets of journals than, in many instances, now exist on many library shelves; • technical services cost of tracking the arrival of each journal issue, claiming, and periodical binding will be eliminated; • the need for added library space may decline; and • costs of retrieving and re-shelving materials will be reduced. (Ani, 2005).

### **Conclusion**

The prospects of ICT in research journey map as discussed in this paper is inviting and useful for researchers. The challenges facing the use of ICT in research journey map are serious and should not be

ignored. The recommended strategies if adopted can minimise the challenges and make the use of ICT in research journey map a pleasure rather than pain.

### **Recommendations**

The following recommendations if applied can help to check mate the challenges of the application of ICT in research journey map.

- Health hazards can be controlled by minimising excessive exposure to the computer screen. This can be done by downloading materials and printing them in order to use the hard copy. Brominated flame retardants in dust on computers can be prevented by covering up the computer when it is not in use. Appropriate and regular exercise can promote physical and mental health. Physiotherapists are experts on the structure of the human body system and pathological conditions. They are the ideal persons to promote, guide and prescribe exercises to members of the public, in order to achieve the specific goals of improving health and physical fitness. Physiotherapists can also teach the public how to perform appropriate stretching exercises in order to improve or prevent pain.
- Cost of paying for Internet connectivity and recharge cards can be minimised by buying airtime bundles. Airtime bundles are relatively cheaper than buying recharge cards in bits.
- Risk of paying for Internet connectivity can be controlled by opening a bank account that is kept separate from your major finances. This special account can be funded occasionally as the need arises. In case of fraudsters trying to play smart, they will discover that there is not much money in that account. This will prevent the risk of being a victim of fraudsters and at the same time gives confidence in online payment for software.

- Need for ICT compliance, ability to interact with ICT components – software usage – skill / training needs can only be remedied by taking the bull by the horn and going for ICT training.
- Need for sorting to select from huge quantity of data can be handled by using appropriate search terms and search combinations when searching for materials on the net.
- Filtering to prevent plagiarism is very necessary. This is possible if the researcher takes time to only pick key ideas from previous works found and use his / her own words to write his research. This however is on condition that every author whose material has been used is duly cited in the references and in the body of the research report.
- Secure web pages needs online registration in order to be allowed to access the materials. Researchers should however be careful and ensure to follow the suggestions given earlier to prevent risk of being a victim fraudsters.
- The best way to overcome slow network and network time out problem is to start the research on time. That way, the researcher will not be under pressure whenever the server cannot be reached.

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