The Impact of Technology on the Aged in Zambian Society

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Abstract: **The study sought to investigate the impact of technology on the aged in the Zambian society.**

The objectives of the study were to,establish what kind of technology is being used by the aged. To determine how technology has affected the aged. To determine how the aged cope with the ever changing technology. To assess what the aged feel are the best solutions to solve the problem of technology

This was a case study that used an interview guide to collect data. The sample included 12aged people at the divine providence home in Chawama Lusaka district.

The major findings of the study were that most of the aged were not aware of the new kinds of technology around because they had been isolated from the Zambian society when it came to technology and that the only kinds of technology they were aware of were telephones, radios and televisions. Therefore, the remedy would be that the government should formulate policies that aim at integrating the aged and having them imparted with some basic technological knowledge, to enable them move at the same pace with everyone else in this fast growing world. As well as educating the entire society around them on how best to integrate them in this technological world.

*Keywords***: Technology, Aged,Society , Impact**

I. INTRODUCTION

One of the most important features about the aged in Zambia is the rapid increase in the absolute number of the elderly population from the age of 60 years and above in rural and urban areas. In 1990 there were 216, 196 aged people in the country. Almost 1 in every 25 people was aged. Recent demographic projections indicate that the number was expected to increase to 290, 168 in the year 2010; 598,687 in 2030; 1045, 247 in 2040 and 1, 452, 706 in the year 2050 (Kamwengo, 2001: 24).

Social isolation and the feelings of loneliness are common problems for older people living in Zambia today. Recent research documents shows a worrying trend that many who work with older people have observed for themselves. Fear of being alone is a major source of anxiety as people grow old. Some older people go for days without seeing another person; many die alone, 16% of older people in deprived rural areas suffer severe loneliness. Certain traditional groups are particularly vulnerable. Isolation and loneliness can damage both mental and physical health in older people (Hutto and Bell 2014). The immediate causes of social isolation are varied and depend on individual circumstances.

Technology has been said to contribute to some factors that cause isolation of the aged which include. A scattered family, the death of a partner, a chronic health condition, diminishing sight or hearing are only some of the factors that can leave older people feeling alone, whatever the causes, social isolation and loneliness take their toll on the quality of life of a significant proportion of the population. Not only in Zambia, in many other countries around the world, the aged experiencing the same problem of being isolated from technology even in the most developed countries like the United Kingdom

In the last decade, an array of technologies has changed the way many people in the world interact. Internet communication systems such as email and social networking sites like Facebook and Twitter have revolutionised personal communication for younger people. Government service provision is being transformed by technology, too, for example, the use of mobile money by many banks and many people are enjoying faster, easier access to public services through digital means (Hill and Cudney, 2006).

In Zambia less than half of people aged 60-69 have access to the internet at home, but this falls to 3% among the over-70s (Van der Heide, 2012). Adults over the age of 60 are also less likely than younger adults to get internet access and this is because for instance, they have poor eye sight, they still believe in the traditional way of doing things and many other reasons.

The central reason for not having or seeking access to technology is that older people don't feel they need it. Some of the ways in to which older people are accepting digital technologies include: Lack of home access to the internet: Only half of people aged 60-69 have access to the internet at home, but this falls to 17% among the over-70s in developed countries whereas in Zambia, not even half of the old people have internet access in their homes.

Secondly, technology offers low awareness to the aged. Of the 3% aged population that can access internet in Zambia, even denser population uses it. For example, at the University of Zambia, the management introduced the astria system which is an e- learing tool in order for lecturers to teach and mark distance education students assignments but despite this improved technology, many of them that have been lecturers for over 30 years prefer using the old way of teaching and marking. They feel that digital technology has no relevance for them and that they would gain nothing by using it.

Additionally, there are inadequate ways of marketing Technology in Zambia. Marketing is generally aimed at the young, promoting gimmicky aspects of products that do not interest older people, Or marketing is aimed at the frail elderly, a group with which older people do not identify. Similarly there is use of inappropriate designing the digital equipment because these equipments only attract the young people (Hutto and Bell 2014). Take for example, the use of smart phones. For instance the use of emojies, many who are aged and have had a chance to use these applications do not even pay attention to the use of emojies because they are not attracted by them. Digital equipment is designed to attract young buyers who have grown up using technology. Small buttons, fiddly controls and unnecessarily complicated interfaces are all barriers to older, or less skilful, users. The appearance of 'special' equipment is also a deterrent for some older people who do not want ugly objects cluttering up their homes.

Older people tend to have certain fears regarding technology. One of them is cost, they assume, for example, that computers cost more than they actually do. Another is breaking equipment or doing something wrong. In a developing country like Zambia, people prefer investing in more durable things like building houses, hence buying a computer for others would be costly instead they save the little that they have. The one third is security, although older people do not know enough about technology to be familiar with common security problems, many know enough to be concerned.

Objectives of the Study

1. Establish what kind of technology is being used by the aged.
2. Determine how technology has affected the aged.
3. Determine how the aged cope with the ever changing technology.
4. Assess what the aged feel are the best solutions to solve the problem of technology.

Research Questions

1. What kind of technology is available for the aged?
2. How has technology affected the aged?
3. How do the aged cope the ever changing technology?
4. What do the aged feel are the best solutions to solve the problem?

II. LITERATURE REVIEW

Technology For The Aged

Many fear the aging population will place intergenerational stress on the economy while other researchers see a positive scenario, where a cohort of motivated senior citizens remain valued and productive members of society through their creative use of digital technologies. According to (Cohen 2010), innovation means more than new widgets therefore, social innovation through existing devices and applications can be important in solving the critical demographic problems people now face in their health and welfare systems. Remaining productive and socially connected as people can be a major contribution to the societies people live in, their health and wellbeing. However, this is not always easy for many senior citizens. Isolation, either at home or in residential care, can increase as people get older and this can reduce their quality of life in many ways.

It is worth mentioning that the current role technology is playing in the learning activities undertaken by older people in society are not much compared to that of the young ones. Learning can be defined as the acquisition of new information through practice or experience (Howard and Howard, 1997). Of particular interest in this chapter is learning that occurs in everyday life and that often occurs in response to a need or a problem. For example, the older adult acquires new information on various treatment options as a first step toward medical decision making. When technology is involved in acquiring this information, the older adult must not only learn the new substantive information, but may also need to acquire knowledge and skills required to use the technology.

In a context in which the elderly, people over 65 years old, are considered to have accumulated a large amount of knowledge and experiences, eliminating them from social life, especially through retirement, and considering the aging issue of the population, can bring an important social capital deficit. Thus, the new technologies (devices that can help with communication and in monitoring certain behavioural or medical issues) help reintegrate the older persons within the natural process of life (Bertera, Bertera, Morgan, Wuertz, and Attey, 2007). Technology has the capacity of improving the quality of life especially for the elderly, mainly by monitoring their health conditions through remotely controlled technologies, by increasing self-esteem through not being dependent any longer on other people, by integrating them into specific online communities, thus reducing loneliness levels, or by keeping the elderly active through the possibility of online communication (United Nations, 2015). The aged are not entirely ignorant about the new technologies going on around the world. For example in the context of Zambia, even the aged are now having smart phones even though there is an exception because majority of the aged in Zambia are in rural area and care homes.

Additionally, there are examples of technologies that are already being utilised in the United States communities which include; a pressure sensitive underlay that can measure people's gait, a carpet fitted with a fibre-optic mid-layer which detects the pressure of each footstep and sends data to a computer where they can be analysed. These technologies are of great importance as they not only detect a fall (a common occurrence among the elderly), but also pick up changes in a person's gait over time, and so act as a predictor of a likelihood of falling, allowing a health care professional to be alerted if required. This is vital because by detecting a potential to fall and admission to hospitals to ultimate surgeries can be averted (Griffith 2013).

Despite the advantages listed above which the new technologies are coming with, there has been some criticism aired towards the use of telehealth technologies. According to Professor Goodwin (Griffith 2013), these are a) validity and reliability) acceptance of the intrusion and loss of control by the elderly over the machines and, c) cost effectiveness in health institutions. Other technologies include; blood sugar monitoring devices like Gore-Tex patch which is placed on the upper arm fitted with a chip, which transmits data back to a mobile phone and displays a warning similar to that on a traffic light system of red,amber or green meant for diabetes control. Regardless of age, it is not uncommon to forget to test one´s own blood sugar levels, and this is even worse particularly in the elderly because of cognitive changes. By installing this device in their homes, the level of compliance and adherence is certainly made easier in the elderly and encourage independent living. Therefore, looking at the cones of the new technologies that the United States has, one is able to see that the aged need human care and not the machines to look after them. Also, bringing it to Zambia, only a few people can afford these types of machines to take care of their loved ones.

Technology designed for the elderly has tremendously grown in popularity not only in western world but also in Africa and Asia. These technologies are available in Zambia, Hong Kong and Ireland and are been utilized to access health information electronically from the comfort of their homes. This community information focus is seen globally in the design and implementation of the applications as well. For example, residents in a village in Zambia, Africa worked together to get the radio and internet technology and maintain it, the use of an alarm system connecting a community in Hong Kong with health care givers and a group of elderly people taking computers classes from a fellow age mate in United States (United Nations, 2015).

How Technology Has Affected The Aged

Technology is in many ways its own life force. It is changing the way we interact with the world and the way the world interacts with us. Perhaps most notably, technology is changing the world today. It has an important role in the lives of senior citizens. So important, in fact, that technology is changing the very face of aging process.

Safety And Security

Technology advancement in the sector of safety and security have moved forward in leaps and bounds. Today, there are a variety of tools that the elderly can use to ensure they are safe and secure in their homes for many years. Security system, web cams and built in communication system can protect the elderly from intruders as well as home health issues. Web cams and communication system can also help family feel more secure about leaving an elderly family member home alone. But when we look at how technology has isolated the aged in the Zambian societies we can tell that there is no safety among them (Mboto, 2002).

Home Health And Wellness

Technology has also affected the aged under the home health and wellness. Health management applications and system can help ensure the elderly are reminded to take medications and deal with their personal health on a daily basis. Management health, for example can help the elderly keep track of their overall wellness, and the portal can allow access to another family member who can monitor all situations. Therefore, due to lack of technological skills and awareness the aged have been isolated (Mboto, 2002).

Communication

Perhaps the largest category when discussing technology and its impact on the elderly is communication. There are more ways to communicate with the outside world than ever before, and the engagement helps to keep the mind sharp and the elderly feeling like they have a solid quality of life for longer than ever before, cell phones serve multiple purposes in this space. They ensure that the elderly population cannot only reach out to those around them for social calls, but their very presence ensures that the ability to make emergence calls is always within arm's reach. Email and social media helps to connect the community with family and friends who are scattered across the nation, fostering closer bonds and better relationships overall (Abidemi, 2005).

Challenges

Growing old in the olden days in African society was quite different from what is obtainable in contemporary African society. Traditionally, elderly care was the responsibility of the family and was provided within the framework of the extended family system at home. However, changes in the structure of African society resulting to the geographical dispersion of the extended family system and the tendency for family members to be educated and work outside the home affected older people. Culture contact with the Europeans through colonization marked the beginning of African perspective of taking care of their elderly ones (Abanyam, 2011 and Abiodum, 2002).

Emphasis on formal system of education introduced by the Europeans had enormous (tremendous) effects on the elderly. Firstly, the access to knowledge through formal education has led to the reduction in the power and prestige given to the accumulated wisdom and knowledge of older people. Their knowledge and experiences are seen as not being directly relevant to the needs of the modern age (Mboto, 2002).

Secondly, the linkage of education with occupation and income has considerably or highly reduced the economic status and privileges of older people completely. Giddens (2009:301) observed that "In industrial societies, by contrast, older people tend to lack authority within both the family and the wider social community". With the emergence of industries, the desire of every young person is to acquire material wealth. The need to acquire material wealth resulted to geographical dispersion or mobility of families to be

educated and search for white color jobs, which has affected the care that was given to older people by their extended families. Similarly, Abanyam (2011:95) opined that ,Modern literacy and its ties to technology are putting the elderly at a disadvantage. Formal educational systems are replacing old peoples with highly trained people for transmitting socialized knowledge. When the children have grown, married and pursue education or find a job the aged are often left alone without any person to socialize with.

Many families in African society today, isolate their old people and put them in elderly homes. Abuse of elderly people in resident's home in Africa is a sad reality. Most of these elderly homes are under-funded and understaffed (Abanyam, 2011).

Elderly people are discriminated against by economic and social policies, which benefit theyoung employed, and the well off. Thus, poverty in old age and the dependent status of elderly people are related to low resources and restricted access to resources through the life cycle.

Nevertheless, older people deserve much care because at old age, the body loses its viability. Indeed, the body reaches its peak of efficiency before the age of thirty (30) years. However, deterioration sets in and it is after the age of forty (40) years that people begin to notice the loss of efficiency and changes in the body. Charles et al (2011:65) noted that, In old age, loss of weight is now more definite and as the body dries up and the subcutaneous fats disappears, the skin becomes dry and wrinkled and the eyes sunken and lusterless. Bones become brittle whilst teeth decay and loosen. Movement becomes slow, awkward and difficult.

Consequently, people in Africa today fear old age and are beginning to see it as an age of increasing tension and insecurity. The challenges facing the elderly people are largely asocial creation. These challenges are exacerbated by the existence of ageism. However, elderly applicants are discriminated against when they apply for jobs. Majority of them areunemployed since they were young. These elderly people live in extreme (absolute) poverty and cannot provide their daily needs. Having retired from labour, especially few of them that managed to secure jobs, they may be poorer than ever before in their lives.

It is obvious that the attitude of taking care of the elderly people in African society has undergone a radical transformation. Prior to the introduction of western education, elderly people were highly respected and they enjoyed many privileges in the society for example, they spent much of their time telling stories to their grandchildren which have changed now due to technology. Changes in the structure of African society today deprived older people privileges as they are facing the challenges of basic needs like medical care, and other essential needs. Because of the way the standards of life are changing globally, everyone wants to make it and earn some money hence, upon growing up .children leave their parents in villages and go to cities searching for greener

pastures and when their children bring them to the city to live with them, these elderly reciprocate by serving as "Watchdogs" when everyone is out of the house (Couples go to work and children, school). This is in addition to doing household chores, cooking washing and cleaning. Indeed, some elderly have been known to commit suicide because of the loneliness they experienced (Abidemi, 2005).

Because the adult children are too busy, they sometimes ignore the need for them to give some attention to their aged parents. This explains why some elderly women in Sijuwade's (2008) study in Lagos, claimed that they were ignored by their married children whenever they reported that they had headaches and when they felt really sick, their children were reluctant to take them to see a doctor.

According to Abanyam (2011) Elderly people should be cared for by their entire extended family system. African society had their own peculiar arrangement in which elderly people were cared for. This arrangement should be reinstated. Young members of the family should cultivate the habit of visiting older people regularly. This affection may reduce the amount of depressions in the elderly. Also, Intensive education should be mounted by social workers to enlighten elderly people on how to cope with the challenges of old age. The government should pay monthly allowance to both the retired and the unemployed elderly persons to enable them to take care of their daily needs.

Solutions Needed To Solve The Problem

Local Languages Should Be Integrated.

Linguistic issues are of major policy importance in many countries, given the dominance of the English language in software and the Internet. The desire to promote cultural diversity is one reason behind interest in linguistic issues, but so is the avoidance of social exclusion among non-English-speaking populations. Hence, these matters are critical to various aspects of learning's digital divide. How can they best be addressed? One Roundtable example came from New Zealand, where language especially Maori is a prominent feature of political, cultural and educational life. The New Zealand Web portal for teachers is bi-lingual, with the Maori contents presented before the English version.

Improve Infrastructure.

The communication network towers should be set up especially in rural remote areas to accommodate other social Medias who may be curtailed because of the social or communication network challenges.Many people in Sub-Saharan African rural areas are living in poverty and have no access to electricity. This means that many are excluded from access to ICT. Furthermore it is often the most poor that continue to be excluded due to the fact that electricity companies (and internet service providers) do not consider investing in areas with a high poverty rate to be profitable. Therefore the people living in these areas stay disconnected. The lack of connectivity in these areas also causesbusinesses

to stay away from these areas, leading to a lower chance of job opportunities and income.

Provide Free Adult Education In Order To Reduce Illiteracy.

One of the most widely studied benefits of literacy is its impact on self-esteem (Stromquist, 2008). Studies have been carried out on this subject in a number of countries, including Brazil, India, the United States and several African countries. Adult literacy programmes have been found to have a positive effect on the self-esteem of participants (Abadzi, 2003). Adult will have confidence in themselves and on top of that they will begin to appreciate the benefits of technology especially in this modern age. This is because the rapid progression of technology can result in the need for ongoing support and there can also be concerns about viruses, privacy and fraud. A lack of confidence can be a problem among older people who do not have immediate family or friends who effectively engage withtechnology, and so do not get thehelpand guidance that many new users find valuables. Institutional learning environments are also not appropriate for older people and detract from, rather than build up, their confidence.

III. RESEARCH DESIGN

A case study design was be used to answer the research problem.

Population

The population consisted of all the aged that are being kept atdivine providence home in Chawama.

Sample Size

The sample comprisedof Twelve (12) aged people atdivine providence home in Chawama.

Sampling Procedure

The procedure used to select the sample was probability sampling, which involved a simple random sampling procedure. Simple random sampling means that every member of the sample is selected from the total population in such a manner that all members of the population have essentially the same probability of being selected.

Data Collection

Data was collected using interview guide. The interview involved direct contact between the researchers and the respondent for the purpose of having the latter answer questions posed by the former.

Data Analysis

Qualitative data was analyzed using coded themes of the questions to meet the objectives of the study.

IV. FINDINGS

Awareness of the kinds of technology

The response given by the respondents on the awareness of the kinds of technology include the following: radios, televisions and telephones. On the other hand, majority of the respondents were not aware of any kind of technology at all.

How they knew about the kinds of technology

The respondents who know about the kinds of technology came to know about them through media such as; the radio, televisions and through family and friends. For example, one respondent , responded by saying *" I came to know about a radio in a beer hall"* .

Individual benefits of the kinds of technology to the aged

When asked how these kinds of technology have benefited them, a few respondents mentioned that phones help them communicate with their relatives on visitations and whenever they need help. However, majority despite not being exposed to phones said the radio helps them to follow political issues as well as to know what is going on around the world.

Respondents' views on the effect of the kinds of technology in society

The respondents' views on the effect of technology in society were as follows: technology brings families together. For example, phones are used to communicate to family members that are far away, technology through social media has however corrupted people and some people end up joining Satanism through the same. Furthermore, a few indicated that technology breaks marriages because a husband or a wife will be focused on their phone instead of giving attention to their spouse. Other respondents explained that parent-children relationship bonds are breaking because the children prefer phones and television to spending time with their parents which has in turn spoiled their culture and can be seen even through their dressing and talking as they imitate the Western culture.

How the aged are coping with the ever changing technology in the society

Due to being enclosed in the same place, the respondents said they have little or no ways of coping with the ever changing technology as they are not exposed to the society. However, some stated to have been learning some new things through the church. For example the skill of using an electric sawing machine for those are able to.

Problems faced in the use of technology

It was discovered that most of the respondents faced problems in the use of the various kinds of technology that was available to them. Among the problems faced were: lack of understanding due to not having attained any form of education, this also includes difficult in reading and writing that could also have arisen as a result of their physical and psychological state. A few expressed having no use for a telephone or being on any form of social media because they cannot read nor write.

Kinds of technology being used by the aged

Most respondents according to the interview guide reviewed that the only kinds of technology available are; televisions, radios and phones. Furthermore, few respondents failed to answer because of physical and psychological challenges that come with age. The respondents also reviewed that the only kind of technology available to the aged are televisions, radios, and very few possess phones.

V. DISCUSSION OF THE FINDINGS

Kinds of technology being used by the aged

Most respondents according to the interview guide revealed that the only kinds of technology available are televisions, radios and phones. Furthermore, few respondents failed to answer because of physical and psychological challenges that come with age. The respondents also revealed that the only kind of technology available to the aged are televisions, radios, and very few possess phones.

How technology has affected the aged

Some respondents stated that they were not affected in any way by technology. However, the few explained that technologies available for the aged in the institution help the aged stay entertained and keep them company. However, some views of other respondents' views were as follows: technology brings families together. For example, phones are used to communicate to family members that are far away.

It was also discovered that most of the respondents faced problems in the use of the various kinds of technology that was available to them. Among the problems faced were: lack of understanding due to not having attained any form of education, this also includes difficult in reading and writing that could also have arisen as a result of their physical and psychological state.

Furthermore, the respondents also expressed that technology has isolated them from family and friends. As a result, there are gaps and groupings in the family which brings about division and isolation. This explains why some elderly women in Sijuwade's (2008) study in Lagos, claimed that they were ignored by their married children whenever they reported that they had headaches and when they felt really sick, their children were reluctant to take them to see a doctor.

How the aged cope with the ever changing technology.

The respondents in the interview guide said they have little or no ways of coping with the ever changing technology as they are not exposed to the society. However, some stated to have been learning some new things through the church. For example, the skill of using an electric sawing machine.

In a context in which the elderly people over 65 years old, are considered to have accumulated a large amount of knowledge and experiences, eliminating them from social life, especially through retirement, and considering the aging issue of the population, can bring an important social capital deficit. Thus,

the new technology help reintegrate the older persons within the natural process of life (Berteraetal, 2007).

What the aged feel are the best solutions to solve the problem of technology.

In the interview guide, the aged at the Devine providence home recommended that they should be offered some basic literacy on the use of phones, how to operate radios and televisions by the institution so as to help them move with the ever changing technological world and for their self-esteem. A few even expressed interest in knowing how to use Automated Teller Machines (ATM) at the banks as they felt left out by not having knowledge.

VI. CONCLUSION

Technology is an important and undeniable aspect in people's lives due to the fact that in today's dynamic world, life without technology is almost meaningless. It basically brings an ease in creation's use and exchange of information as a major goal of making tasks easier to execute, as well as solving many of mankind's problems. In relation to the impacts of technology on the aged in the Zambian society, technology has brought in both positive and negative impacts on the aged. Despite having positive impacts as alluded to above, technology also has negative impacts on the aged of which some are; failure by the aged to move on the same page with the modern world due to lack of technological skills and curtailment from family ties.

VII. RECOMMENDATIONS

1. Government should formulate policies that aim at integrating the aged and having them imparted with some basic technological knowledge, to enable them move at the same pace with everyone else in this fast growing world.
2. Non-governmental and governmental organisations should come up with programs that aim at creating awareness on the usage of technology equipment amongst the aged.

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