

**RELIGION AS A CORRELATE OF ADMINISTRATIVE STAFF'S ADOPTION OF
INFORMATION AND COMMUNICATION TECHNOLOGY (ICT) IN PRIMARY SCHOOLS
OF BUKOMANSIMBI DISTRICT, UGANDA**

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ABSTRACT

This paper presents part of the findings of the study which investigated the relationship between the demographic factors of the administrative staff in primary schools of Bukomansimbi district, Uganda and their adoption of Information and Communication Technology (ICT) in doing school work. Specifically, the findings on one of the research questions, namely: Is there a relationship between administrative staff's religion and their adoption of Information and Communication Technology (ICT) in primary schools of Bukomansimbi district, Uganda? Taking a sample of 150 members of the administrative staff (headteachers, deputy headteachers and Directors of Studies), 138 usable questionnaires were returned and 10 of the very questionnaire respondents were also subjected to oral interviews. The study took a descriptive correlational survey design with qualitative and quantitative approaches. The findings of the study were that there was no significant relationship between school administrators' religion and their adoption of ICT in primary schools of Bukomansimbi district ($Sig < 0.063$). Thus, the general conclusion was that the poor adoption of ICT by the administrators of the primary schools in Bukomansimbi district can best be explained by other factors, not the administrators' religion. It was therefore recommended that there is need for the Ministry of Education officials to unearth those factors which cause limited ICT usage and hence help the school administrators accordingly.

Key words: Religion, Administrative staff, Adoption of ICT

Introduction

Technology is the usage of computers, CD-ROMs, interactive media, modems, satellites, teleconferencing, and other technological means to support learning. As defined by the Merriam- Webster Dictionary, technology is the practical application of knowledge especially in a particular area (Clark, 2001). Uganda has responded to the Millennium Development Goals through the country's broad national development goals as stipulated in the Uganda Vision 2040 which identifies ICT and the knowledge sector as an industry with enormous opportunities that can be exploited to transform the economy and people's lives through job creation, accelerated economic growth and significantly increased productivity. This is further elaborated in the National Development Plan II (NDP II) that identifies ICT as one of the primary growth sectors. Many of the opportunities being presented today by the ICT revolution can, therefore, be harnessed by efficient deployment and utilization of appropriate technologies (Uganda Communication Commission, 2015).

The use of Information and Communications Technology (ICT) has transformed the world by providing opportunities for businesses, opening access to the global marketplace, delivering a wealth of information, enhancing social interaction and enabling greater community participation. ICT is one of the most important tools to achieve economic prosperity of a country.

The National ICT Policy (2014) builds on the ingredients of the National ICT Policy Framework (2003) in a structured manner with requisite updates necessitated by developments since 2003. The revised policy has also incorporated new policy directions in line with the ever-changing technological advancements in this area. The most remarkable changes that have been made in the revised National ICT Policy are inclusion of planned action items in conformity with existing policies and strategies for the underlying sub-sectors, as well as consideration of emerging policy areas brought about by technological changes and convergence of technologies (Muyanja, 2017).

This new National ICT Policy Framework 2014 enlists a number of interventions, which if funded and implemented, can bring about drastic and rapid change in the economy. It elaborates on the required actions in the traditional areas of Telecommunications, Broadcasting Infrastructure and Postal Services, but also goes into new areas of Information Technology and Information Management Services. Other areas considered are the Internet and Information Security among others. The key important requirement to enable ICTs is in getting the ICT policy and regulatory framework and infrastructure right. With this in mind, this document details the Government's objectives for Information and Communications Technology, and sets out a strategic framework for meeting those objectives. The Government is committed to translating these objectives into action (Gillwald&Esselaar, 2005). To this end, priority programs will be established for the Government to take the lead in adopting ICT within the framework of the National ICT Policy. There is need to take advantage of rapid technological advances in the era of ICTs that involve convergences of technologies for computing, communications, broadcasting, among others, for socio-economic transformation of the economy. If the government channels the right investments in human capacity development, it will have laid the foundations for the creation of an Information Society and Knowledge Economy in Uganda. By adopting the ICT Policy (2014), Government is renewing its commitment to overcome the lag in adoption of ICT in the country, so as to achieve Vision 2040, whereby Uganda will have become a middle income Economy (Muyanja, 2017).

Though the ICT policy is in place and although many schools are now using ICT, challenges still exist. Some schools cannot afford buying computers. Those which have them do not have money for the internet, and those that have access to the internet, the internet is slow (Muyanja, 2017).

Thus, a study was carried out among the administrators of secondary schools in Wakiso district. The administrative staff were the headteachers, their deputies, and the directors of studies. These were considered since they are the ones primarily responsible for the day-today management or running of the school activities. The Adoption of Information and Communication Technology (ICT) by Administrative staff was conceptualised as their usage of Social media platforms, Computer hardware, Computer software, as well as the Internet facilities while doing school activities/work'. The perception was that administrative staff's faiths or religions can influence their ability to use computers, projectors, internet, Power Point, Excel, as well as the Social media platforms like Whatsapp, Messenger, Facebook, Instagram, Youtube, Twitter, etc. The question is, do people of different religions adopt the usage information and communications technology (ICT) in the primary schools in the same way and at the same speed?

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Statement of the problem

Despite the new ICT revolution in place, many challenges exist especially in schools, both secondary and primary, for example some teachers and school administrators have a negative attitude towards ICT innovation. Some administrators are not responsive to the new changes of adopting ICT. In other instances, even if the teachers and administrators would be in place to use computers and the internet, those facilities are not readily available. Religious or cultural factors come in as some people have different beliefs and hence associate ICT with the devil, or consider it un-Godly since the founders of world religions did not use it (Muyanja, 2017; Kayindu, 2017). Claims are also in place that some schools in Bukomansimbi district are poor and hence find it hard to afford buying and using ICT. The school administrators are not well remunerated to afford internet usage much of the time, while not everybody has a Smartphone to be used in social media communication and those with smartphones may not have the data (Oiko, Kitooke, Asaba and Obonyo, 2018). This necessitated the current study.

RELATED LITERATURE

Different people believe in different religions as their inherent human right. Religion influences people's lives so much that some love their religions too much to the point of dying for them. Whatever people perceive to be from God is usually perceived to be unquestionable. There are a host of religions in the world, such as Christianity, Islam, Buddhism, Shikism, Hinduism, Zoroastrianism, African traditional religion, Shintoism among others. There also exists the religious cults whose beliefs and practices are usually considered by the surrounding community to be evil and dangerous. Sometimes these cults reject new innovations, claiming that they are Satanic (Kayindu, 2017).

Whereas some religions are responsive to change, such as embracing the use of ICT, others are not. Some religious cults do not accept the usage of the internet, the phone etc, claiming that they are un-Godly. African Traditional Religion, one of the dominant religions in Africa though practiced secretly has, for example spirit mediums who claim to get orders from the spirits they serve. These spirits deny them certain things such as eating fish, wearing shoes, receiving phone calls while in the shrines and in some instances they are totally denied accessing phones, arguing that they are displeasing to the spirit world or to the ancestors. Some people are married to spirits and are denied some ICT equipments. Spirits like Kiwanuka, believed to cause lightning as far as the Kiganda mythology is concerned, does not want the ones it possesses to use phones (Kaggwa, 1991).

Due to the different interpretations of the holy scriptures like the Bible and the Quran, some believers embrace technological changes such as ICT, whilst others are resistant. To them, whatever is not mentioned in the Holy Scriptures is evil. Since the holy scriptures are quiet on ICT, some religious cults consider ICT usage as being evil. Moreover, Jesus Christ and Prophet Mohammed did not use it (Kayindu, 2017). They also object schooling/ Western education, arguing that it is evil. Could some school administrators be holding the same or related beliefs on ICT which can finally impact ICT adoption in primary schools? This question could accurately be answered through empirical investigation, hence the current study.

Religion is spread not only through physical travels, missionary journeys and physical contacts but also through ICT. The radio, Television, social media platforms, such as Whatsapp, Twitter, facebook etcetera are used in spreading religion therefore, religion has embraced technology. Historically, the first Christian missionaries in Buganda in June 1877 were Protestants: Shergold Smith and Rev. C.T. Wilson, to be followed in November 1878 by Alexander Mackay a skilled Mechanical Engineer. As an Engineer from Europe, he must have had knowledge of ICT. This is probably why, since technology was not yet well developed in Buganda, the church employed a simple technology of ringing bells to invite Christians for prayers. The same method was used in Teso when Semei-Kakungulu, a Muganda Protestant, conquered and occupied the area in the 19th century. In all the counties he conquered, he put Baganda administrators all of whom were Christians. With time, the Christian missionaries introduced technology which impressed people, such as the printing presses at Kigwisa and Nabumali. The implication of this is that the church is fully in support of technological innovation (Kayindu, 2017). Nevertheless, the pornography and other dirty things on the internet and many social media platforms makes some religious fundamentalists develop a negative attitude towards ICT, arguing that it plays a big role in spoiling children.

It is important to remember that ICT is a new innovation and innovations are usually perceived differently. By taking an innovation of family planning methods, such as pills and condoms, different religions respond differently to them. For instance, whereas the Islamic faith and the Protestant Church have no problem with that innovation provided that they are used in marriage by the married partners who have consented, the Roman Catholic Church is against them, claiming that they are against God's will and command of producing and filling the world. The Catholic Church also argues that such new innovations can have detrimental impacts in marriage, as they can cause partners to over trust them and hence promote sexual immorality/unfaithfulness. By implication therefore, institutional administrators of different faiths can interpret new innovations differently. Even if the innovations are turned into policies as the case is with ICT in schools, the adoption of such innovations can differ according to religion.

Another aspect of human technologies that religion has shaped is communication. Religion was a driving force for humans to find new means to disseminate information about multiple teachings and practices. In the thirteenth century, Johan Gutenberg invented the first printing press, because he wanted to find a new way to publish his now famous Gutenberg Bible, and produce as many copies as possible for the public. Gutenberg's printing press was the first to introduce movable type and made printing much less expensive than before (Kroeker). Without religion,

Gutenberg might have never had a reason or the ambition to invent the printing press, thereby indicating that religion was the foundation for mass media communications, something that has revolutionized the exchange of information and transformed society. Religion has also played a role in notable scientific discoveries, while at the same time impeding and censoring scientific research. The church, for his belief that the earth was not the center of the universe, persecuted and excommunicated Galileo Galilee. However, it is interesting to note that churches have been associated with academia, and the research and discoveries made by famous scientists such as Copernicus, Robert Boyle, Rene Descartes, and Isaac Newton were sponsored and funded by religious institutions (Uyehara). Although religion was not directly the cause of many scientific breakthroughs, religion indirectly guided technological advancement and a change in cultural thinking (Uyehara-Kazuo, 2006).

Religions' role in influencing technology also expands into the realm of warfare and human violence. While there are numerous modern examples of religion being a cause of wars and conflicts, such as the current struggle in the Middle East with the radical Islamic group ISIS, religion was a driving force for many technologies of war, as well as the development of ideas and attitudes throughout the Middle Ages. One of the most notable religious driven wars were the Crusades. The Crusades were battles in the eleventh and sixteenth centuries between followers of the Catholic Church and Islam: with the church aiming to capture Jerusalem back from Islamic rule (Wyeth). The Crusades featured new battle armor that was lighter and slimmer, as well as new style of helmets and shields. The Crusades also introduced the importance of castle fortifications, making the outer walls out of stone instead of wood (Wyeth). Around the same time that the crusades were being fought, Chinese alchemists were trying to find a potion for immortality, in order to live as gods, and ended up accidentally creating gunpowder (Ross), irreversibly changing the face of warfare and the course of human history. Religion was a catalyst in changing how nations and groups of people responded violently, and affected the entire way that governments run and interacted with each other (Uyehara-Kazuo, 2006).

Whereas a lot of relevant literature has been reviewed, there are many gaps in it, thus prompting the current study. For example, much of the reviewed literature was not talking about primary schools in Bukomansimbi district of Central Uganda. It was talking of the technological experiences in Asia, the USA and Europe. This partly prompted the researcher to research about technological adoption in Bukomansimbi district primary schools. In addition, some of the related studies were carried out in the 1990s. Given the rapid social, political and technological changes in the world, what those studies found out may be different from what is on the ground now, hence the current study. Finally, many studies in the field of Educational management are carried out on students and the teaching staff; other categories of employees in schools are usually ignored. The current study filled this gap by taking only the administrative staff.

METHODOLOGY

A cross-sectional survey design was used, taking both quantitative and qualitative approaches.

The study was carried out in Bukomansimbi district which is found in Buganda sub-region. Since, on average, each school has three administrators, a sample of 450 administrators was taken from 50 primary schools in the district. There was no sampling of the respondents in the 50 primary schools because of the administrators' limited number. Thus, all of them were requested to participate in the study. School administrators (headteachers, deputy headteachers and Directors of Studies) are key people in doing school activities, such as monitoring teachers, monitoring students, communicating to parents and to the members of the School Management Committees, among other things. Therefore, their knowledge of ICT is necessary.

Data Collection Instruments

With the aid of seven research assistants, the researcher used primary data collection approaches. Primary data were collected using researcher-made questionnaires, made using the literature reviewed on ICT. Questionnaires were used as the data collection instruments because of their cost-effectiveness in a survey involving literate respondents. Ten (10) administrators, in addition to filling questionnaires, were also subjected to oral interviews so as to supplement quantitative data by getting detailed responses from them so as to give more meaning to quantitative data. Using SPSS Package 36.0, the data was analysed using Pearson's linear correlation coefficient.

Limitations of the Study

The researcher claimed an acceptable (0.05 level of significance) 5% margin of error in view of the following threats to validity with reference to this study:

Firstly, the questionnaire on ICT adoption by school administrators was designed with an assumption that all respondents were functionally literate and enlightened to the extent of fully understanding the requirements of the questionnaire. It was further assumed that they would take the exercise with all seriousness and respond faithfully to the questions. There was also an additional assumption that the respondents would not read meanings into the exercise for example they would not think that the questionnaire was requiring information for the purpose of terminating some administrators or transferring them. It is however one thing to assume something and it is another thing for the assumed thing to be a reality or to be what is on the ground. The researcher could not ascertain this with 100% certainty. This may have affected the results of the investigation

Secondly, the study was carried out in only one district of Buganda sub region. Because of this, there might be a problem in generalizing the findings of the study on ICT adoption by school administrators to the administrators in the sub-region. Further research should be carried out with larger samples, preferably covering the whole Buganda sub-region.

FINDINGS

In order to establish the influence of administrative staff's religion on their adoption of ICT, the researcher first calculated the arithmetic means of the various hard and soft wares which are relevant to the school administrators. The results are presented in table 2

Table 2 showing administrators' adoption of ICT in primary schools of Bukomansimbi district, Uganda

Practical use of ICT	Mean	Interpretation
Use of Social Media in doing school work		
Use of Watsapp in doing school work	2.14	Low extent
Use of Twitter in doing school work	1.11	Very low
Use of Instagram in doing school work	1.10	Very low
Use of Tiktok in doing school work	1.00	Very low
Use of Facebook in doing school work	1.35	very low
Use of Youtube in doing school work	1.00	Very low
Use of phone calls in doing school work	4.00	Very high
Average Mean	1.67	Very low
Computer hardware		
Use of the CD-ROM and other multimedia (MM) facilities in doing school work.	1.46	low
Use of the PC in general in doing school work.	2.25	low

Use of the PC scanner in doing school work.	2.15	low
Use of the PC printer in doing school work.	2.15	low
Use of the PC zips drive in doing school work.	1.15	Very low
Average mean	1.83	Low
Computer Software		
Use of spreadsheet software in doing school work.	2.29	high
Use of word processing software in doing school work	2.87	high
Use of operating systems in doing school work.	2.25	low
Use of utility software in doing school work	1.41	Very low
Use of graphics software in doing school work.	1.20	Very low
Use of statistical software in doing school work	2.12	low
Use of desktop publishing software in doing school work.	2.15	low
Use of database management software in doing school work.	2.15	low
Average mean	2.06	low
Internet facilities		
Use of e-mail services in doing school work	2.52	high
Use of www/ surfing in doing school work	2.33	low
Use of e-lib catalogues in doing school work	1.49	Very low
Use of e-databases in doing school work.	1.26	Very low
Use of e-journals/ newsletters in doing school work	1.39	Very low
Use of e-bulletin services in doing school work	1.13	Very low
Use of video conferencing in doing school work	1.17	Very low
Use of computer conferencing in doing school work	1.11	Very low
Average mean	1.55	Very low
Overall mean	1.78	low

Table 2 reveals that overall, the level of ICT adoption by the school administrators of Bukomansimbi district primary schools is low, as given by the grand mean value of 1.78.

Conceptualized in terms of social media usage in doing school work, use of computer hardware in doing school work, use of computer software in doing school work, as well as using internet facilities in doing school work, none of the aforementioned items was rated high or very high. This shows that the administrators in primary schools in Bukomansimbi district are still poor in the usage of those items.

Research Question: Is there a relationship between administrative staff's Religion and their adoption of Information and Communication Technology (ICT) in primary schools of Bukomansimbi district, Uganda?

Having presented the administrators' usage of various ICT packages and gadgets in doing school work, all that was correlated with religion of the respondents. On this research question, it was found out that there is no significant relationship between administrative staff's Religion and their adoption of Information and Communication Technology (ICT) in primary schools in Bukomansimbi district, Uganda as shown in Figure 1.

Figure 1 showing relationship between administrative staff's Religion and their adoption of Information and Communication Technology (ICT) in primary schools in Soroti district, Uganda

Correlations			
		Religion	ICT Adoption
Religion	Pearson Correlation	1	.119*
	Sig. (2-tailed)		.017
	N	150	150
ICT Adoption	Pearson Correlation	.119*	1
	Sig. (2-tailed)	.063	
	N	150	150

On this, it was found that there is no statistical significant correlation between the religion of school administrators and their adoption of Information and Communication Technology (ICT) in primary schools in Bukomansimbi district, Uganda ($\text{sig} < 0.063$). The meaning of this is that despite the appreciated global ICT usage, the administrators of primary schools in Bukomansimbi district, no matter their religions, have not fully adopted to ICT usage in the execution of their duties. Hence, the poor ICT adoption in doing school work can be explained by other factors, not their religions.

This was corroborated by the views of the oral respondents. One female headteacher from Kitanda sub County for instance said, *"In this school, teachers are of different religions. We all appreciate the role of social media in communication but we are limited by economic factors, not religion. Though there are people who are forbidden by the ancestors to embrace ICT, such people are usually the un-educated, not the educated ones like the school administrators and teachers. Teachers can reason"*

One male Muslim headteacher however noted that although the WATSAPP is quick in communicating to parents and teachers especially if members have formed a Whatsapp group, sometimes they are limited not only by lack of logistics (such money for buying MBs), but also by some non group members who send dirty materials to the Whatsapp groups. This makes some members to dislike ICT, perceiving it as an avenue for cultural and religious values' erosion. Her concern was therefore on the misuse of ICT; that it is good but if misused, it turns out to be bad. Another Seventh Day Adventist Christian Deputy headteacher reported that though they had computers in the school, power is usually low during working hours except on Saturdays and Sundays, but given the faith-based limitation whereby she does not work on Saturdays, ICT usage in doing school activities is usually crippled and because of that, in most cases they do not use the internet, emailing, etcetera Generally, the interviewees from Kibinge, Bigasa and Kitanda sub counties did not cite religion as a factor for limited ICT adoption in primary schools.

Discussion

The findings on this research questions unveiled an insignificant relationship between Religion and the administrative staff's adoption of information and communication technology (ICT) in primary schools in Bukomansimbi district, Uganda. Though people love their religions so much that they at times hate those who do not believe in the religions they consider right, the way people adopt to ICT is not based on their religions.

Kayindu (2017)'s observation on religion is seemingly relevant when he suggests that for anything to be quickly observed or adopted, there is need to use religion as a weapon. For example, if religious leaders are used to advocate the adoption of an innovation (such as ICT), many people are more likely to follow suit. Hence, if ICT adoption is to be embraced, it is necessary to bring religion/religious leaders on board to advocate its adoption. A related view is held by Davis, 1993; Owolabi, 1987; and Owolabi, 2005).

As Bakkabulindi (2007) claims, some religious organizations have embraced ICT for enhanced service delivery, others have increasingly weakened for failure of using the same. This notwithstanding, some religious groups have embraced ICT for the wrong reasons. It is used as a tool that provokes religious extremism. It is affecting religious practices and ethics in the form of hate speech, spread of misconceptions regarding religious notions, extremist views and brain washing through media, thus the school administrators who are exposed to such messages are more likely to import such biases in the day today running of the schools, than their counterparts who are not exposed to such messages.

Indeed, the findings of the current study seem to be in line with the views expressed by Byaruhanga-Akiiki (1991) whereby he reiterated that for any innovation to be highly appreciated by people and administrators, there is need to attach religious values and benefits on it, such as teaching people that they will be rewarded by God if they adopt it. He gave an example of the Baganda people who highly value the practice of the last funeral rites (Okwabya olumbe) because of the belief that it pleases the ancestors and failure to perform it can lead to curses to the family members. As applied to ICT in schools therefore, it is necessary for religion to get verses from the Holy Scriptures which talk of technological innovations, such as the theology of Co-creation. By emphasizing it while preaching, technological adoption will be promoted.

Conclusion and Recommendation

Based on the findings of this study, it can safely be concluded that the poor ICT adoption by the administrative staff in the primary schools of Bukomansimbi district while doing school work is not attributed to religion; it is thus other factors which are determining. There is therefore need for the Ministry of Education officials to unearth those factors which cause limited ICT usage and hence help the school administrators accordingly.

REFERENCES

Bakkabulindi, F.E. (2007). *Social correlates of innovation adoption in educational organisations: The case of ICT in Makerere University*. PhD Dissertation, Makerere University, Kampala, Uganda.

Burkhardt, M.E. (1994). "Social Interaction Effects Following a Technological Change: A Longitudinal Investigation." *Academy of Management Review*, (37: 4), December, pp. 869-898.

Byaruhanga-Akiiki (1991). *African world religion: A grassroots perspective*. Kampala: Makerere University Printery.

Clark, K. D. (2001). Urban middle school teachers' use of instructional technology. *Journal of Research on Computing in Education*,33(2), 178–195.

Cooper, R.B. (1994). The Inertial Impact of Culture on IT Implementation. *Information and Management*, (27:1), July, pp. 17-31.

Davis, F.D. (1989). Perceived Usefulness, Perceived Ease of Use, and User Acceptance of Information Technology. *MIS Quarterly*, (13), pp. 319-339.

Davis, F.D. (1993). User Acceptance of Information Technology: System Characteristics, User Perceptions, and Behavioral Impacts. *International Journal of Man Machine Studies*, (38), pp. 475-487.

Kaggwa, A. (1991). *Empisa za Abaganda*. Kampala: Crane Publishers.

Kayindu, V. (2017). *The role of religion in conflict escalation and resolution: Implications for educationists*. Kampala.

Muyanja, R. (2017). *Computer usage in secondary schools in Uganda: A function of schools' socio-economic factors?* Master of Science in Computer science, Uganda Martyrs' University, Uganda.

Oiko, D., Kitooke, P., Asaba, J. and Obonyo, G. (2018). *The comprehensive primary school atlas for Social Studies in Uganda*. Kampala: Longhorn Publishers.

Owolabi, S.O. (1987). *Political and cultural context of educational planning*. Ibadan: Adelribigbe Publishers.

Owolabi, S.O. (2005). Introduction to human resource planning. In Maicibi, A. N and Nkata, J.I. *Introduction to human resource management*. Kaampala: Masah Publishers.

Uyehara-Kazuo. Religion and Technology". Swarthmore College. 2 February 2006.