

## The influence of information and communication technology on Quaker worship at Kakamega Yearly Meeting

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<https://doi.org/10.51867/ajernet.6.4.60>

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### ABSTRACT

Quaker worship is deeply rooted in simplicity, silence, and direct communion with the Divine. However, the rapid advancement of Information and Communication Technology (ICT) has permeated religious practices, including those of the Kakamega Yearly Meeting (KYM). This study investigates the impact of ICT integration on Quaker worship, exploring both its benefits and challenges. This mixed-method research used the Sociotechnical Theory and involved a combination of qualitative interviews and focus group discussions in addition to quantitative surveys of 380 respondents representing 12 of KYM's ICT-compliant churches. The target population was 1184 registered church members. Key informants were sampled out using the stratified random sampling technique. These included church leadership, departmental heads of the United Society of Friends Women, Quakers, and Youth Friends. Data was analyzed thematically and descriptively by the use of SPSS. Findings reveal that ICT tools such as projectors, musical instruments, and online platforms enhanced accessibility, inclusivity, and engagement in worship. However, challenges include the potential dilution of Quaker values like simplicity and silence as well as disparities in access to technology. The study concludes with recommendations for balancing technological adoption with core Quaker principles, emphasizing educational initiatives, discernment, and community inclusivity. Further research is suggested to explore ethical considerations and the reasons for breakaway movements within Quaker communities.

**Key words:** ICT, Kakamega Yearly Meeting, Technology in Religion, Digital Divide, Quaker Worship

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### I. INTRODUCTION

Quakerism, which is formally referred to as the Religious Society of Friends, is a branch of Christianity that originated in 1650s in England and arrived in Kenya in 1902 in Kaimosi by Arthur Chilson, Edgar Hole, and Willis Hotchkiss (Kenworthy, 1952; Matasio, 2017). Kenya Kakamega Yearly Meeting (KYM) is one of the largest Quaker institutions in Kenya; which through its worship practices focuses on aspects of simplicity as practiced during worship, silence, equality, and community discernment, which has come to shape a distinctive spiritual identity within the region.

Information and Communication Technology (ICT) has transformed religious activities through extending the access of remote worship, effective communication, and involvement in the faith groups globally (McDonnell, 2014). In Africa, churches are using ICT to conduct virtual services, online bible study groups, and cross-country faith networks as internet penetration and smartphones continue to increase in the continent (Newton, 2024; Yamuremye et al., 2022). In Kenya, and even among the Quakers, ICT (live streaming, WhatsApp groups, the use of projectors and digital hymn books) has led to greater accessibility, engagement and theological education and transformed the way worship is conducted (Magezi, 2015; Freeman, 2017).

Although these outcomes are positive, there has been concern about the disruptive power of ICT in non-liturgical, contemplative traditions such as Quakerism where silence and simplicity of worship is key (Magezi, 2015). There is concern that technology may have some distractions, blur the inward center of the spiritual quest, and establish a digital divide that involves some congregants who may be excluded due to marginal access to the internet or the use of devices. Although the use of ICT in Pentecostal and mainstream worship was investigated in previous studies (Kathambi et al., 2021), not much scholarship focuses on how ICT interacts with simplicity-driven worship cultures and silent cultures and communal discernment of Quakers.

The current research has examined the application of ICT in religious practices, and its values in promoting communication, participation, and accessibility to worship materials by the Christian religions ((McDonnell, 2014). African notwithstanding, ICT has been identified as an important tool of worship facilitation, congregant connection across geographical divides through its value of interaction in the area of faith space in the community. Nevertheless,

in spite of these admitted advantages, there are still some crucial knowledge vacuums, especially those surrounding the ways in which ICT can melt with research-based worship lines, based on contemplation and respect of silence, e.g. Quakerism. The effect of the technology on the felt quality of silent worship, discernment, and the theological aspects of simplicity and spiritual inner focus which is the crux of the Quaker practices have little analysis about their role in technology. Furthermore, the possible ethical concerns with the use of ICT in Quaker worship have not received enough coverage, including the issues of distraction, digital inequality, and possible conflict of interests with other Quaker testimonies of simplicity and integrity (Yamuremye et al., 2022).

Moreover, whereas the role of ICT in strengthening participation and building community ties has been explored, the effects of technology on congregational processes, spiritual growth and community development among Quakers especially in Kakamega Yearly Meeting (KYM) have not been discussed. This is why the local context of KYM, including its own socio-cultural context and the pattern of technology adoption, has been underrepresented, and this is why targeted research is required to comprehend the impact of ICT on the Quaker worship practices in this particular Kenyan context. To have a comprehensive examination about how Quaker worship is changing in the digital era, these gaps need filling in order to have a clear picture. The study thus aims at determining the impact of Information and Communication Technology on the Quaker worship at the Kakamega Yearly Meeting and to present context-sensitive understanding that will affect future ways through which the community of Quakers can embrace the change of technology and maintain the spiritual identity of silence, simplicity, and community.

### 1.1 Statement of the Problem

The adoption of Information and Communication Technology (ICT) within the Quaker worship services of the Kakamega Yearly Meeting (KYM) creates a significant tension. On one hand, digital instruments such as live-streamed meetings, electronic songbooks, and online platforms can broaden participation and foster connection. On the other hand, their use threatens to undermine the tradition's foundational principles, which include simplicity, silent worship, and egalitarianism. Specific anxieties involve the potential for technological devices to fracture concentration during worship, the unequal availability of digital resources that may further marginalize some congregants, and the possibility that emphasis on novel tools could eclipse the central focus on spiritual reflection.

Although prior research has explored the general use of technology in religious settings (Mavhunga, 2019; McDonnell, 2014), there is a scarcity of focused analysis on its effects within traditions that prioritize unprogrammed, silent worship like Quakerism. The existing literature predominantly investigates technological implementation in the Pentacostal (Omatoyo,) and mainstream liturgical churches (Kathambi et al., 2021), leaving a gap in understanding how digital media intersect with non-liturgical, contemplative practices. Furthermore, while issues of digital access have been acknowledged (Freeman, 2017), the deeper spiritual implications of ICT-mediated worship, specifically its impact on communal decision-making and personal introspection, are not sufficiently studied. Addressing these omissions, this study investigates the strategies employed by the Kakamega Yearly Meeting to incorporate ICT while safeguarding its distinctive silent worship practice. The study aims to provide new perspectives on the interplay between technology and faiths that emphasize simplicity, ultimately proposing a framework for thoughtful technology adoption that respects both tradition and innovation (Yauremye et al., 2022).

### 1.2 Research Objective

The primary objective of this study is to investigate the influence of ICT on Quaker worship at KYM, focusing on its benefits, challenges and implications for community cohesion.

## II. LITERATURE REVIEW

### 2.1 Theoretical Review

This study is anchored in the Sociotechnical Theory and the Religious-Social Presence Theory, which collectively provide a comprehensive lens for examining how ICT integration interacts with Quaker worship practices at Kakamega Yearly Meeting (KYM).

#### 2.1.1 Sociotechnical Theory

According to Sociotechnical Theory, originally introduced by Trist and Bamforth (1951), and later elaborated by Williams and Edge in 1996, adoption and use of technologies is not deterministic as there are stipulated societal conditions or orientations that influence the interpretation of technology by individuals and groups in specific communities and culture. This theory disputes technological determinism by insisting on the interdynamics of a technological system (technology) and human values, applications and arrangements (social system). The framework has been utilized in any study that considers technology in organizations and in religious settings. An example of this is the work by Orlikowski (1992) that employed the Sociotechnical Theory in explaining how technology

implementation and adaptation in organizations are determined by the user practices, and the research by Campbell (2017) that employed the Sociotechnical Theory in analyzing the technology use negotiated by faith communities as a way of adjusting to their beliefs and practices. When applied within the context of the current study, Sociotechnical Theory may be applicable in examining the relationship between the values of simplicity, silence, inward light, and equality of Quakers at KYM and ICT adaptation and usage in the context of worship practices, as opposed to KYM becoming a passive recipient of the changes brought about by technology. It allows us to explore the ways in which technology is placed within the spiritual and communal patterns called Quakerism.

### **2.1.2 Religious-Social Presence Theory**

Campbell (2017) formulated Religious-Social Presence Theory to study the effects of using mediated communication technologies on religious spiritual experiences in communities. The theory is an evolution of the broader Social Presence Theory (Short et al., 1976), which involves the comparison of the communication media in terms of their abilities to transmit the other presence during the interactions. Campbell (2017) transferred such a framework to the religious environment claiming that technology could define the apparent presence of community, divine and spiritual connection in the environment of worship. Existing literature has used Religious-Social Presence Theory to evaluate the ability of tools like live streaming, online prayer groups, and digital worship activities to strengthen or weaken the feeling of divine presence when people engage in mediated practices (Kinya, 2023; Campbell & Vitullo, 2016). Regarding KYM, this theory plays a significant role in determining how the utilization of ICT; e.g., online worship, live streaming, and digital hymnals, improves or interferes with collective spiritual focus, silent worship, and the sense of divine presence upon which Quakerism is based.

### **2.1.3 Relevance to the Current Study**

Sociotechnical Theory and Religious-Social Presence Theory provide a scope through which to carry out an in-depth study of how the use of ICT tools interact with Quaker doctrine which entails analyzing how the adoption of technology is filtered to accommodate the values of the Quaker subculture but still transform spiritual experiences in the community. The theories offer a bifocal perspective by which we may look not just at the practicalities of incorporating ICT into the worship experience but also at the spiritual and community-related aspects of the matter.

## **2.2 Empirical Review**

Recent researches have demonstrated the various effects of Information and Communication Technology (ICT) in the religious arena especially on shaping worship activities and community involvement. According to a study by Omotayo (2017), which examined the use of ICT in the Pentecostal churches in Nigeria, it has been determined that ICT has a remarkable effect on youth involvement in church tasks. Nevertheless, the introduction of digital brought age differences in worship styles since younger members adjusted to digital-based tools to worship whilst the older generations were more partial to the traditional face-to-face style of interaction. The same can be noticed over at Kakamega Yearly Meeting (KYM) where more stressful emphasis is given to keeping contemplative and to maintaining the traditional aspects of worship, in spite of the increased reliance upon ICT as a means of virtual attendance.

Research conducted by Kathambi et al. (2021) on the Kenyan mainline churches showed that 68 percent of congregations reported improvement in their reach-out capabilities due to the utilization of digital tools, i.e. social media and online platforms. But this digital growth had a negative aspect as 42 percent of those surveyed indicated a decline in interpersonal relationships and the personal face-to-face communication that typifies much of the communal side of worship. Such trends are reflected in the case of KYM where online presence in the worship sessions has enabled greater access to the gathering but with members complaining of becoming disengaged with the community, emphasising the conflict between technology enabling interconnection and maintaining community relationships.

A study conducted by Magezi (2015) in Zimbabwe concentrated on the cost barriers that restricted the adoption of ICT in rural churches because churches in underserved regions were faced with a lack of funding as well as the availability of required ICT infrastructure. It especially applies to KYM, because a significant number of its members reside in semi-rural places where access to ICT tools and the internet is not constant. The results of the research conducted by Magezi are also relevant to the problems experienced by KYM because the fair access to the digital tools of worship is a problem: some members might not be able to actively participate in online services and get access to online resources due to the lack of them.

### **2.2.1 Historical Context of ICT in Worship**

The use of audio technology, such as microphones and sound systems, has greatly enhanced the quality and reach of Christian worship services. The introduction of public address systems in the early 20th century enabled

amplified sound, allowing larger congregations to hear sermons and music clearly (Briggs, 2013). This development transformed the worship experience by ensuring audibility and inclusivity.

Before the advent of projectors, computers, internet and the likes, the most popular devices used in worship were the audio systems, microphones, soundboard, processor and improved monitor systems, though these gadgets are provincial and not sophisticated. Nevertheless, they do serve the purpose they are meant to serve. They pose less challenge and they distract worshippers during worship. Communication technology now plays an important role in the Sunday worship. Most men of God now have their Scriptures and other religious materials on the phone or tablet. Some often use computers to research and prepare lessons that will be taught on Sundays. Meanwhile some church leaders have been encouraging members to use digital versions of religious materials rather than costly and environmentally impactful paper books and magazines. Most weekends, church members now watch the proceedings in their homes through streaming video on the television (Ajani & Adeyemi, 2019). Therefore this research is similar to the current study that investigates the influence of ICT especially musical instruments such as microphones and keyboards have influenced Quaker Worship at Kakamega Yearly Meeting.

The traditional way of worship has been focused on auditory processing, reaching the part of the congregation that is able to retain information and the word of God by hearing it; however, a large portion of the population is now used to accessing information through visual processing (Ezeabata, 2024). Integrating video and visual stimulation to support the Word of God during worship services allows a greater number of congregation members to fully understand the message. Since the last two decades, a lot of dynamic changes have taken place in the areas of religion, culture, economy and politics. ICT is being envisaged as possessing the potential to transform the society and impact positively on the lives of people in general (Ajani & Adeyemi, 2019). This study will help the researcher of the current study understand the history of communication in worship with a focus on Quaker Worship at Kakamega Yearly Meeting.

However, ICT tools and platforms are very expensive to purchase and maintain. This has discouraged many churches into embracing ICT for use in their churches. In addition, full time workers in a church may be made redundant because the church may not afford to pay them after buying a high end presentation system. The church must endeavor to clearly understand the role of ICT in order to make good use of it and even those using it should strive to understand its role and priority. In view of the above, the church should avoid making the technology a higher priority than its leadership. There has also been inadequate ICT infrastructure, limited ICT skills and training, limited access to technical support, lack of ICT policies in church and budget constraints hinder the integration of ICT in church activities. Lack of internet connectivity contributes to the slow use of ICT. In addition, lack of regular access to the computers in churches makes it harder to prepare ICT based sermons. Further, there is irregular power supply in the churches and high-cost hardware and software (Kathambi et al., 2021). This makes it challenging for the church leaders to acquire appropriate ICT facilities in churches (Kathambi et al., 2021). This adds knowledge to research on the possible reasons why some churches might not be embracing ICT with focus on the Quaker of KYM during mapping and sampling of churches.

Several studies have focused on the impact of ICT on the worship experience in terms of audiovisual enhancements, virtual participation, and access to digital resources. However, there is a knowledge gap in understanding the subjective experience and perception of worshippers regarding the incorporation of ICT in worship. Future research could explore the effects of ICT on the emotional, spiritual, and transformative aspects of worship for individuals and congregations (Campbell & DeLashmutt, 2014; Smith, 2019). Hence the significance of the current study on how ICT has influenced the spiritual, emotional aspects of Quaker worship at KYM for both individuals such as pastors and leaders; and congregations such as youth, adults and the old.

### III. METHODOLOGY

#### 3.1 Research Design

The researcher adopted a descriptive research design, which aims to systematically describe phenomena as they exist in the present. Creswell (1994) defines this method as gathering information about existing conditions, and further elaborates (2012, p. 274) that it seeks to provide a detailed explanation and description of the research subject. In this study, the descriptive design is relevant because it allows the researcher to explore the role of ICT in Quaker worship at Kakamega Yearly Meeting (KYM).

#### 3.2 Study Area

The study was conducted in Kakamega County which comprises Lurambi Sub County, Mumias West Sub County, Shinyalu Sub County and Ikolomani Sub County. The choice of the study areas was informed by the zoning of Quakers into Yearly Meetings where the Kakamega Yearly Meeting enjoys the use of Information and Communication Technology as an area that is Pre-urban due to proximity to Kakamega or Mumias Town. The above

sub-counties were chosen on the basis they have adopted ICT (Kakamega County Integrated development plan report of 2018-2022). The selection of this study was guided by the availability of electricity and internet accessibility (Office of the Auditor General on the financial statements of Kenya Power and Lightning Company Limited-Rural electrification scheme June 2015). Further, Kakamega Yearly Meeting is presumed to have a large number of Quakers who have firm belief in their faith and practices (Quaker Report, 2020)

### 3.3 Target Population

The study targeted 1184 respondents. The respondents constituted the members of the Kakamega Yearly Meeting. Membership is confined to associate members and full members. Kakamega Yearly Meeting consists of 22 monthly meetings and every monthly meeting has 6 leaders in the administration. Further in every monthly meeting there are at least 2 village meetings making a sum up of 51 village meetings according to the data achieved at the Quaker Center at Handid (Quaker Report, 2020). According to the KYM constitution, constituted in 2015, each village meeting has 6 leaders in the administration who include: Presiding Clerk, Vice Presiding Clerk, Recording Clerk, Vice Recording Clerk, Treasurer and Main Pastor. Further in the village meetings, there are departments with their leaders which include YFP with 6 leaders, USFW with 6 leaders, Quaker men has 6 leaders and Sunday school has 2 leaders. These will form the Key informants of the study. The congregants and youths will also form part of the respondents.

### 3.4 Sample Size and Sampling Techniques

The study used purposive sampling of villages that have access to Information and Communication Technology and are connected to the power grid shall be used to provide in-depth information on the role of Information and Communication Technology. According to the KYM Report (2019), a total of 12 monthly meetings were selected out of 22 monthly meetings that are at least ICT compliant. This included: Kakamega Friends Church (Amalemba), Kefingo Friends Church, Nabongo Friends Church, Shikoti Friends Church, Ikonyero Friends Church, Mumias (Shibale) Friends Church, Munzakhula Friends Church, Handid Friends Church (HQ), Ichina Friends Church, Shanderema Friends Church and Shikulu Friends Church (KYM Report, 2019).

There was stratified random sampling of 20 members from the congregation of the 12 village meetings sampled. The 20 members from every monthly meeting sampled had 6 Quakermen members, 6 USFW members, 6 YFP members and 2 members who are ICT literate from either department. This totalled to 240 members from the congregation that participated in the study. The church leadership, KYM leadership and youth were sampled using purposive sampling. It was because of the researcher targeting the respondents who have an understanding of ICT applications in KYM and have an understanding of Quaker worship.

The Key informants from these monthly meetings who were sampled out included Presiding Clerk, Vice Presiding Clerk, Recording Clerk, Vice Recording Clerk, Treasurer and Main Pastor who form the church leadership according to FCK (1986) on the structure of leadership in Friends (Quaker Church). This gave to a total of 72 key respondents, 6 leaders from the 12 monthly meetings sampled. 36 leaders were sampled using from the 72 leaders using stratified random sampling with the intention of having a youth leader, an elder with history of Quakerism and ICT and ICT literate leader from any of the departments. The researcher sampled 3 key respondents from every monthly meeting to have 36 respondents from the leadership.

The Kakamega Yearly Meeting Office leadership was sampled out purposively that has 7 members as Key informants with knowledge on the History of Quakerism in Kakamega County; History of interaction of ICT in KYM and the Quaker worship beliefs and practices of KYM and ICT influence on them. This leadership includes the presiding clerk, vice presiding clerk, recording clerk, assistant recording clerk, treasurer, vice treasurer and general superintendent (KYM Report, 2019).

The researcher sampled out purposely from every Monthly meeting 2 pastors with a target of pastors who utilize ICT equipment in daily and during worship; and those who have been in the KYM longer to have history of Quaker Worship and ICT. This formed a total of 24 pastors and 1 General Superintendent who is the head of spiritual matters in the KYM. Youths and Leadership that forms part of the key informants who formed FDG to discuss: ICT equipment are being used at KYM during Quaker worship; how ICT influenced the Quaker Worship at KYM and what hinders the KYM from adopting ICT in the Quaker Worship. Purposive sampling was used to sample 3 youths from every monthly meeting that was sampled out to give a total of 36 respondents. Stratified Random Sampling was used to sample from the leadership of the sampled 12 monthly meetings. 3 leaders were identified from every monthly meeting to make the FDG leaders to have 6 respondents each. The total number of key respondents was 380 out of the 1184 registered members which is 32 % of the total registered members of the 12 sampled monthly meetings.

### **3.5 Data Collection Instruments**

Primary data and secondary data were used in this study. Primary data was through interview schedules, FGD, Questionnaires and Observation. Secondary data was gathered from relevant sources such as published articles, journals, thesis and other materials.

#### **3.5.1 Interview Schedules**

Key informants of Kakamega Yearly Meeting were interviewed personally and virtually on the role of Information and Communication Technology in the church and how it has affected Quaker worship. They also answered the research question: What strategies were Kakamega Yearly Meeting made to remain steadfast on their practices and beliefs in the digital age? What is the history of Quakerism in Kakamega County? What are the beliefs and practices of Quaker Worship at KYM and how have they been influenced by ICT adoption at KYM ?

Telephone interviews were done but it had the limitation of cost of buying credit for the long telephone calls. The advantage that researchers experienced with conducting of the virtual interviews through telephone and ICT applications such as ZOOM and Google Meet was the ability to record the interviews for future reference and understanding.

#### **3.5.2 Questionnaires**

A total of 240 Questionnaires were distributed to the respondents in the 12 monthly meetings sampled out by the researcher with the help of 2 research assistants. The Questionnaires were given to the respondents both physically and virtually. The researcher created online Questionnaires with the help of Google Sheets and Physical Questionnaires with the help of Microsoft Word.

#### **3.5.3 Focus Group Discussions**

Focus Group Discussions were conducted on 6th and 27th September 2020; 4th October and 1st November 2020; 29th November and 13th, 20th and 27th December. These dates were in line with the KYM programme of meetings when every monthly meeting that was sampled was having a Monthly Meeting for Worship at their respective village meetings chosen by the monthly meeting leadership.

Groups formed entailed key informants included: Digital immigrants (youths) and departmental leaders who are digital compliant helped to answer the research questions: What is the information and Communication Technology adopted in KYM? ; How has ICT influenced the Quaker Faith and Beliefs in KYM? and What strategies can be used to maintain the Quaker faith and beliefs but still adopt ICT in KYM? The FDG by the department heads also sought to answer: What is the History of ICT in Quaker Worship of KYM? and what are the beliefs and practices of Quaker Worship at KYM?

#### **3.5.4 Observation**

This method was used on 27th December during the Annual KYM Youth Conference, and 25th, 26th December 2020 and 1st January 2021, to collect information about how the congregation and leadership have adopted Information and Communication Technology. This method was also used to get to know some behavior involved with ICT equipment usage in worship and outside the KYM that may be habitual routines of which people are hardly aware. This involved both participant observation and non-participant observation. Observation also helped the researcher to know the behavior of the group and also authenticate the truth in the statements made by the informants in interviews and questionnaires.

#### **3.5.5 Secondary Data**

Secondary data was collected from literature reviews such as articles, journals, booklets and books. There were manual platforms like physical literature or online platforms like websites. This helped the researcher answer the research question: How has the Quaker way of worship changed to date in KYM with the influence of ICT?

### **3.6 Validity and Reliability of the Research Instruments**

A pilot study was conducted in Musingu Friends Church which falls under the Musingu Yearly Meeting. Internal consistency method was used to assess the reliability of empirical measurements. 10 questionnaires were issued to the congregation and 5 questionnaires to leaders for an interview. Pilot study was aimed to establish the reliability and validity of research instruments (Mugenda & Mugenda, 2003). This helped in determining whether the respondents understand the questions. It helped find out whether the questions asked could be interpreted correctly and at the same time correct any ambiguous questions.

### 3.7 Data Analysis and Presentation

In the process of collecting the field data through Questionnaires, Focus Group Discussion and interview guides, large volumes of data were gathered. This collected data was tabulated and analyzed to answer the research question How ICT has an influence on the Quaker worship of Kakamega Yearly Meeting.

The researcher analyzed the behavioral changes and attitudes for the changes in the Kakamega Yearly Meeting worship when interacting with Information and Communication Technology. This was important for a social science study so as to ensure all relevant data to have comparisons and analysis available. Once collected the data was computed along certain measures so that patterns of relationship that exist from the data may be observed and recorded. The analyzed data was discussed in light of the statement of the problem to help give a conclusion.

## IV. FINDINGS & DISCUSSIONS

This chapter presents and discusses the findings from the data collected. The study's primary objectives were to examine how Information and Communication Technology (ICT) influences Quaker worship practices (independent variables) at Kakamega Yearly Meeting (KYM), including key values like silence, simplicity, and communal discernment. The dependent variables in this study are the ICT tools and practices introduced at KYM, such as online worship services, mobile apps for Bible study, projectors/screens, and mobile money for offerings. The findings from this study are discussed with reference to these objectives, highlighting the impact of ICT on the core worship practices and values.

### 4.1 Types of ICT Equipment Used at Kakamega Yearly Meeting

**Table 1**

*ICT Equipment Usage in Kakamega Yearly Meeting*

ICT Tool	Frequency	Percentage (%)
Mobile Phones	62	30.8
Projectors/TV Screens	62	30.6
Online Bible Apps	39	19.3
Recorded Music	31	15.4
Social Media Platforms	23	11.6

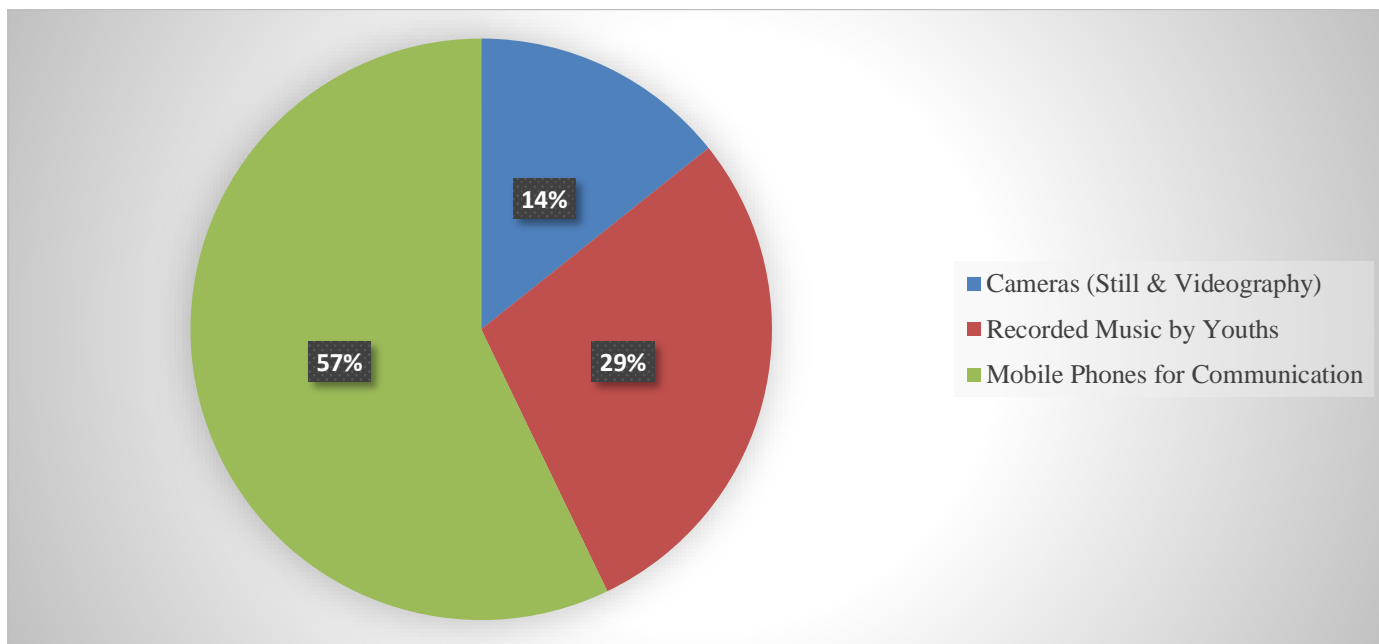
Mobile/telephones were the most common ICT instruments used for church services and accounted for 30.8% (62 respondents). This could be because mobile phones were readily available amongst the church members. Mobile phones, especially smartphones have dominated the daily lives of the most congregants and therefore, they are an important determinant of church services. Smartphones and micro-computers predominance in the 21st century saw the invention of online bible apps for usage by smartphones and computers. This led to churches engaging in televangelism which led to increased usage of online bibles.

Collectively, Video cameras/projectors/TV screens usage in the projection of the church service accounted for 30.6% (62 respondents). The findings were corroborated with findings from a key informant 1 stated that: Sermon projection ICT equipment such as TV screens, projectors and laptops are used for church services – sermon and projection of songs and the sermon. Social media platforms are used for communication and sharing of church service information. (interview, Technologist at Mumias on Sunday 2.00 pm). This explains that at Mumias Monthly meeting ICT equipment was being used in the worship as projectors and laptops that projected songs and sermons Social media was used for sharing information and communication amongst members.

### 4.2 How ICT is being used in Kakamega Yearly Meeting

The researcher sought to establish how the information and communication technology equipment are used by Kakamega Yearly Meeting Friends Quakers churches. Cameras both still and videography according to 18 respondents (14%) have been used to capture important moments of the church such as project launches, wedding and dedication ceremonies, praise and worship, funerals and critical sermons. Recorded Music are been used by the Youths during presentation. The Praise and worship Team has recorded music especially live sessions and forwarded to online platforms such as WhatsApp, Facebook and Youtube as a way of spreading the Good News to different audiences and it has also worked as a way of storage for future references. Recorded beats and sounds have been used as accompaniment during worship session and has brought some life and fine rhythm during singing of hymns and praises (29%). According to 36 respondents (57 %) Mobile phones have been used mostly outside the church as a means of communication between members. The church leadership has used text messaging and WhatsApp groups in

Mobile Phones to pass along important messages and inform people of special occasions. This has replaced the usual business meetings during worship and the normal notice board as a way of communication,

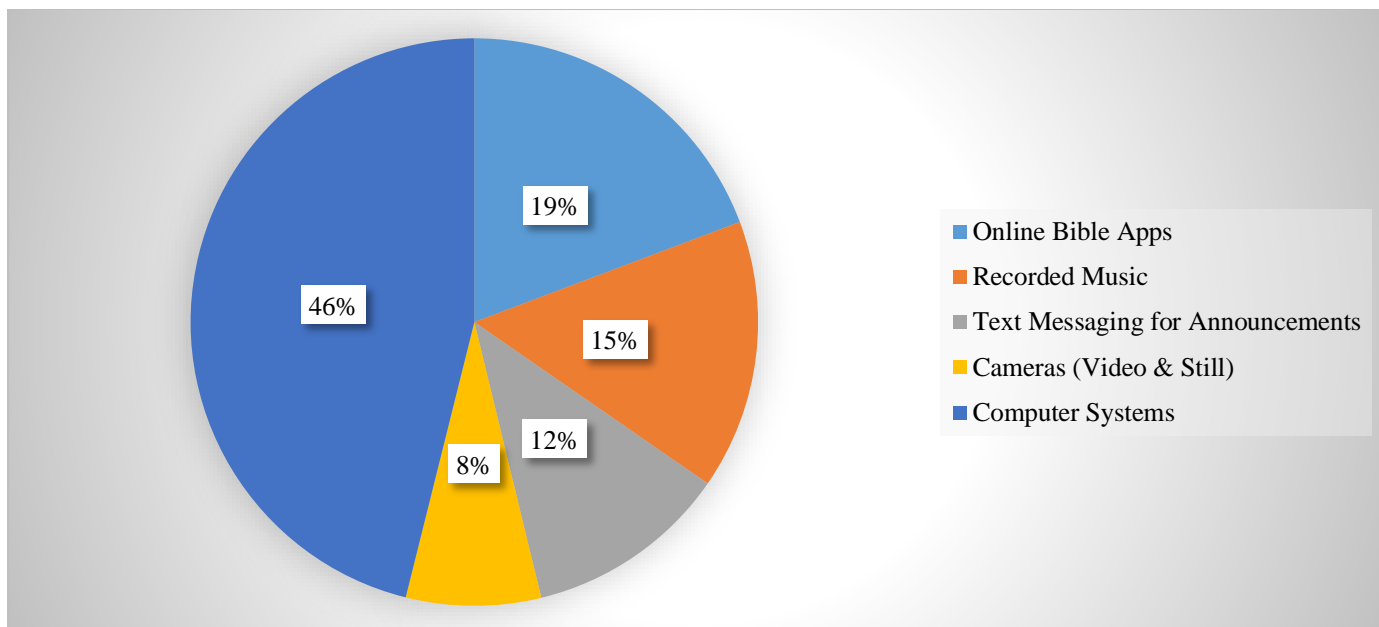


**Figure 1**  
*ICT Tools Used in Worship at Kakamega Yearly Meeting*

#### 4.2.1 ICT Equipment for Worship Beyond the Church

Information and community technology has an infrastructure that utilizes both hardware and software. This makes information dissemination and communication possible. Church sermons traditionally were delivered from a physical bible; however, with the invention of online Bible applications, most churches use both online and offline to deliver sermons. Kakamega Yearly Meeting is not left behind, the online bible accounts for about 19% (39 respondents) of the equipment used for online services. Musicians of the gospel have also increased due to the availability of ICT equipment in churches that made it possible to nurture talent. Recorded music in Kakamega Yearly Meeting accounted for 15 % (31 respondents) while text messaging for church announcements accounted for 12 % (23 respondents)

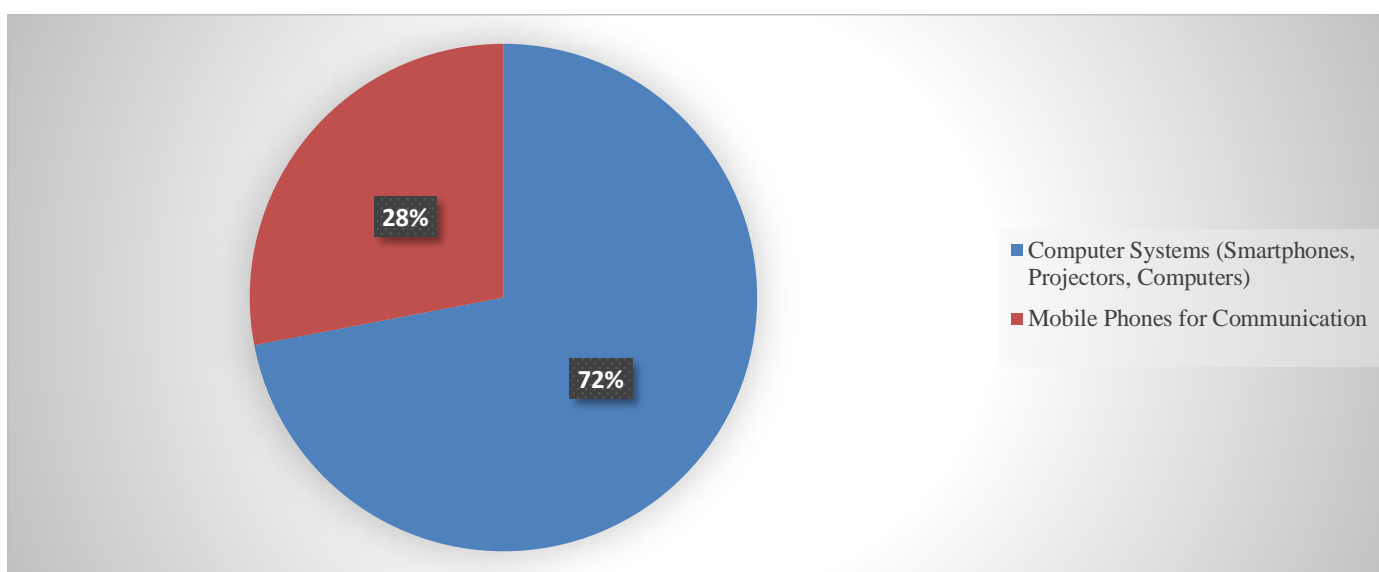
Looking at this, the study found that ICT is vital for growth and development in worship in Kenya and beyond. Such as the way the Quaker (Religious Society of Friends) grew wings after its inception in England in 1650s. Camera (Video and still) accounted for 8% (15 respondents) however, they are essential for necessitating online services especially by providing the material that is used on social media such as WhatsApp, Facebook, Twitter and YouTube channels among others. Computer systems (smartphones, projectors, computers etc.) are at the center of ICT usage in church services. Information and communication dissemination are a resultant of the computer systems usage. Kakamega Yearly Meeting makes use of these computer systems according to 93 respondents (46%). This makes it important and at par with the current trends in worship and praise.



**Figure 2**  
*ICT Equipment for Worship beyond the Church*

#### 4.2.2 Online Platforms used at Kakamega Yearly Meeting Church Worship

KYM uses the following ICT equipment: musical instruments, projectors, screens, monitors, mobile phones and computers. They further use ICT applications in computers and mobile phones for online worship. The ICT applications include WhatsApp, Facebook, Twitter, Zoom, Google Meet and Emails. They are used for communication and improvement of worship experience. Computer systems (smartphones, projectors, computers etc.) are at the center of ICT usage in church services. Information and communication dissemination are a resultant of the computer systems usage. Kakamega Yearly Meeting makes use of these computer systems (72 %). This makes it important and at par with the current trends in worship and praise. Mobile phones (28%) have been used mostly outside the church as a means of communication between members. The church leadership has used text messaging and WhatsApp groups in Mobile Phones to pass along important messages and inform people of special occasions.

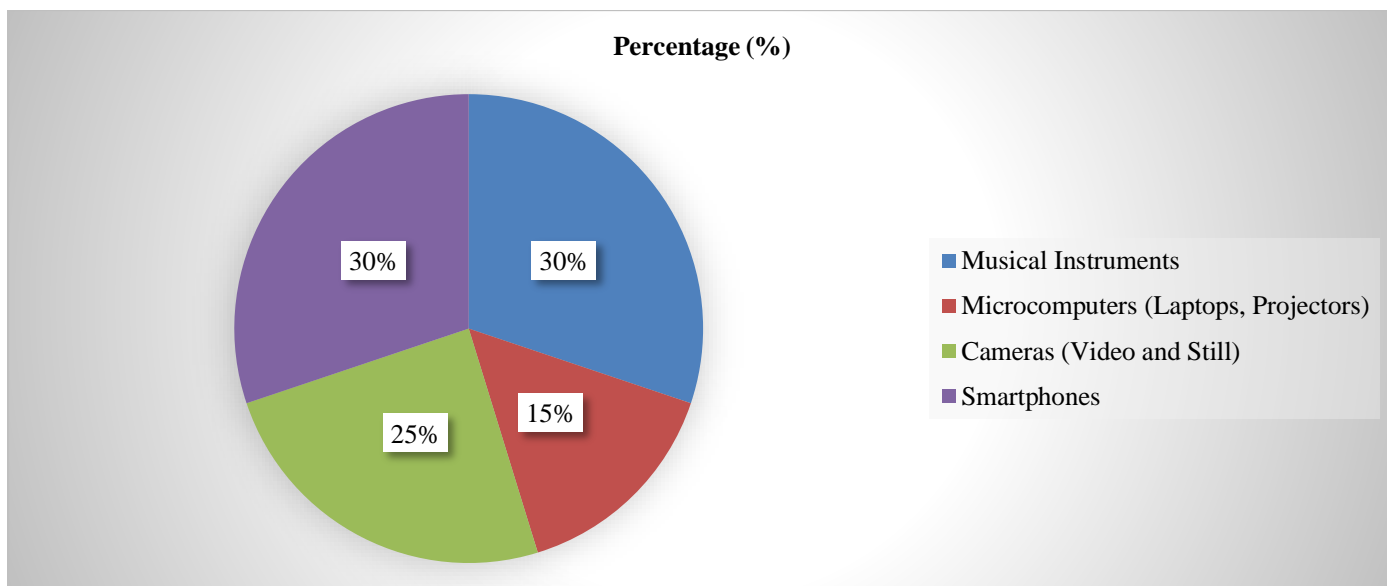


**Figure 3**  
*ICT Equipment Usage in Worship and Communication at Kakamega Yearly Meeting*

#### 4.2.3 The Influence of ICT on the Quaker Beliefs and Practices

According to 78 respondents (30%) stated that musical instruments attracted them to frequently attend church services every Sunday. The Younger generation especially the millennials have an attraction to entertainment thus ICT usage in churches is a precursor of their continuous attendance. The church leadership has a big responsibility of keeping the youths in line regarding salvation and service to the Almighty God, and leave in the footsteps of Christ

Jesus. Microcomputers such as laptops and projector are gadgets that are controlled by the youths of Kakamega Yearly Meeting that accounted for fifteen percent in this study (38 respondents). New technologies of video making and photo editing are areas that have the maximum attention of the youth. The youth participants in this study, 25 percent (62 respondents) opined that cameras (video and still) were used. According to 78 respondents (30%), it was made clear that church services were facilitated through smartphones. This is in line with a report of Dyikuk (2017) on the position of the Youth and ICT in church



**Figure 3**  
*The Influence of ICT on the Quaker Beliefs and Practices*

The technology promotes the availability of the young, middle age and the old in church services where the youths yearn to learn to the technology, the youth want to use the technology and the old seek to have technology help them address current trends of doing things in the church and frequency of participation. Teleconferencing and telecommuting are the current forms of church attendance for those far from their church or at work. It is a demand for churches to have a functioning information and communication framework that can be broadcasted to reach far and wide. Moreover, social media platforms are helping in addressing the gaps in virtual church service attendance.

The use of instrumentation such as the keyboard, violin, trumpets, saxophones, recorders, tambourine, drum sets, microphones, speakers, computer systems in praise and worship and sermon preparation has encouraged information and communication technology. Hence ICT has come up with certain Computer Applications that harmonize all musical instruments in one. This helps in reduction of cost of buying instruments rather than installation of an application in a computer. This provides for different sound effects and motions.

The use of vernacular language in praise and worship and sermon delivery has been a norm for a very long time dating back to 1902; a tradition that has been embraced by all Friends Quakers in Kenya. Information and communication technology have limitations in vernacular language thus only permitting English and to some extent Swahili for programming and guiding the service. Especially for viewers on social media who are not necessarily versed with the vernacular language. Therefore, the Friends Quaker brethren have to accommodate English as part of their new way of worship.

Churches nowadays manage their records and financial transactions and accounting using information and communication technology. Keeping records of the church members, service plans, development plans, tithing and offertory statements that is easily shareable with the church congregants. This has made service easy and transparent for Kakamega Yearly Meetings and the monthly meetings in Kakamega County. This is in reference to Kuboye et al. (2019) and Gacengechi (2016) on the use of ICT in churches for accountability.

According to the Leadership of the Church, ICT found itself in the church when there was need to digitize their data and record keeping. This is in reference to a research study done by Matasio (2017). Records Management in Friends Church (Quakers) in Kenya gives a recommendation on the need to keep church records electronically. The leadership resorted to digitalization of its records in 2014 by the introduction of Computers and IT experts for data entry and analysis. They set up a database and database for all members linked to their Village Cells. The church stored all important documents in the cloud including Title Deeds and Tenders done. Further accounting is done in a computerized manner especially the offertory and any projects done. These findings are in line Akpojovwo (2020) on the opportunity ICT offers in terms of church data storage.

According to key Informants in one of the village meetings in KYM, the youths formed a group called Digital Church in the 2015 that started using a projector and a laptop to showcase sermons; bible verses and hymns especially Tsinyimbu Tsia Nyasaye during the service. This is a youthful group contain experts in the Information Technology field. Announcements were also broadcasted or recorded prior the Sunday service and displayed during the service in order to reduce time wastage.

One of the Village meeting Pastor as Key informant stated that the church started printing its own programs and reports in 2005. It acquired its first desktop and printer to be able to do printing anytime. The cost of outside printing was higher and also confidentiality of information was important hence need to acquire one. The programmes printed had a section of announcements, sermons and a loose leaflet for visitors to register with the village meeting. These programmes acted as a reminder of what the sermons were and what events were to follow. This conquers with the impact presented by Gutenberg Famous Printing Press on the spread of good news and printing of the Bible by Martin Luther (Eisenstein, 1979).

#### 4.2.4 Influence of ICT on Worship according to KYM Congregants Responses

Information and communication technology is critically important in the 21<sup>st</sup> century. Many activities are connected to ICT. Globally, ICT is influencing the way of worship in churches. Televangelism became famous in the early 21<sup>st</sup> century where many churches took to online platforms especially Television stations and Radio stations. This study found that ICT has been an important contributor towards improved church service delivery and members' attendance, according to 97 respondents (48.5%). The members' attendance grew by about 15.4% according to Kakamega Yearly Meeting records. This was positive feedback that had been influenced by ICT in promoting church services. Church services at Kakamega Yearly Meeting have been made easy by ICT usage due to improved efficiencies in service delivery.

The youths are an important part of church progress; their involvement in church and church activities is at the center of raising a God-fearing generation. It was clear for this study that ICT promoted youth engagement in church services and activities. The ICT usage in Kakamega Yearly Meeting has seen the diversification of worship and praise as well as other church services, according to 46 respondents (23.1%). The diversification has led to changes in the traditional dispensation of sermons and interaction among members and the church leadership.

It is in the public domain that in late 2019 December, the novel coronavirus pandemic erupted in East Asia. By March of 2020, Kenya reported this pandemic that led to the closure of major socio-economic activities; curfew and lockdowns were imposed on the citizenry of Kenya among other countries globally. During this time, ICT was critical in the continuity of church services and networking. This study found out that Kakamega Yearly Meeting was able to continue due to ICT usage, according to 15 respondents (7.7%). The online services have made sermon and worship accessible to many congregants remotely during COVID19 pandemic tough times.

**Table 2**

#### *Perceived Impact of ICT on Church Services*

Category	Respondents	Percentage
Improved service delivery and members' attendance	97	48.5%
Promoted youth engagement and diversified services	46	23.1%
Enabled continuity of services during COVID-19	15	7.7%
Other/Not specified	42	20.7%
Total	200	100%

ICT has increased and maintained the population of KYM that was deviating due to the digital or technological migration. This happened when the leadership of the church accepted the use of musical instruments in the church, TV screens and projectors during worship. The church was getting extinct. The use of online platforms such as YouTube and Facebook has helped pastors get in touch with their members beyond the physical church. Members can still get sermons and teachings in their homes. The Online platforms have also given pastors bigger congregations that are non-members of these churches and they are inspired by their works for the Lord. This refers to what Kathambi et al. (2021) states on how ICT has helped churches increase membership in order not to be extinct.

#### 4.2.5 Influence of Information and Communication Technology Equipment away from the Church

The researcher also sought to investigate the influence of ICT among Quakers away from the church. Therefore, the researcher sought to establish the participation level by the congregants in ICT integration, ease of accessing church information using ICT, extent of promoting live streaming, the level of clarity as supported by ICT and the encouragement level of the members as a result of ICT integration in church services.

According to 23.1% (46 respondents), ICT has influenced the congregation participation in offertory and tithing. The ability to attract more youths in the church has increased the numbers in the churches hence more giving. The online flock also has contributed towards giving of offertory and tithe especially with the use of Mobile Money and online banking in churches. Offering and tithing can be done anywhere or in the church via Paybill numbers and till number. Also the transparency that comes with accounting using applications and information availability on finances has given confidence to the congregation to give out towards projects, charity, offertory and tithing.

Moreover, it was established that according to 46 respondents (23.1%) congregant participation in live streaming has helped members to follow church proceedings in their comfort zone and also comment during the services. Members can sing along and worship at their homes and this increases church members and active participation. Which implies that regardless of the distance, still a congregant could still participate in the church services away from the church premises. This has promoted networking and connectivity. This adheres to the accessibility of information and equality to all according to the Quaker core values and practices

According to 15 respondents “(7.7%)” ,ICT has influenced the members' church attendance. The inclusion of voice enhancement in church through microphones and speakers fine-tuned by a computer application has contributed to more members attending the service physically. The usual dull and boring hymn singing has been hyped up by the musical beats and rhythm from drum sets, keyboards, guitar and mixers. This has led to an increase of active members' attendance. This has encouraged congregation participation and sense of belonging according to the Quaker Faith and practices

ICT has influenced the church clarity in service delivery according to 15 respondents (7.7%). Accounting applications have been used to compute and give an analysis of the church's tithing and offertory in real time. This records and data can be easily accessed by anybody and are posted in the WhatsApp church groups. This has brought clarity and transparency between the church leadership and members. Record keeping has been digitalized as it was recommended by Matasio (2017) thesis on Records Management in Friends Church (Quakers) in Kenya that that for the Friends Church to achieve operational efficiency, it is important that the church leadership establish records management offices that are equipped with requisite resources to effectively manage paper based records and electronic records. This promotes integrity in the KYM which is a core value and practice among the Quaker worship.

**Table 3**

*Influence of ICT among Quakers Away from the Church*

Category of Influence	Respondents	Percentage	Key Insights
Participation in offertory and tithing	46	23.1%	Increased giving through Mobile Money and online banking; enhanced transparency and trust in church funds.
Participation in live streaming	46	23.1%	Members follow services remotely; increased participation and engagement from home.
Influence on church attendance	15	7.7%	Improved attendance due to enhanced sound and musical elements in worship.
Clarity in service delivery	15	7.7%	Use of accounting apps and WhatsApp groups enhances transparency and real-time financial reporting.

Finally, the study found out that with the use of ICT equipment, such as zoom, Microsoft meet and other social media platforms such Instagram, WhatsApp, Twitter and Facebook teleconferencing is audible thus encouraging members to connect to church sermons at a remote location. With the introduction of ICT in churches has led to online churches. The internet has made it easy to have online service hence a term by Mullins (2011) known as online churches which has affected the Kakamega Yearly Meeting Directly.

#### 4.2.6 Influence of Online Platform on Worship in Church

Online platforms have made the sermon accessible to members in the church. Members who cannot see the preacher or the singers due to distance and may have eyesight and hearing impairment can follow the service online at their comfort. This supports the Quaker practice of equality for all during worship especially on accessing information. However some key respondents state that Online Sermons have created a different type of believers who do not know each other physically and they are not friends as it is for Quakers. They mostly don't belong to any department in church and cannot be identified as associate members of full t members. They are also not linked to any Home cell within the church locality hence referred as Diaspora by some members. This goes against the Quaker belief of sense of belonging and communism.

Online platforms have given sermons and praises a great touch, attracting a good online audience across the world. This is a great milestone for the KYM however the online audiences can't be categorized as active or passive participants in the service. The online audience does not give Pentecostal responses Example when a pastor says “Praise the Lord” do they respond Amen or they are dormant. Further the Pastors can't tell if they are following the

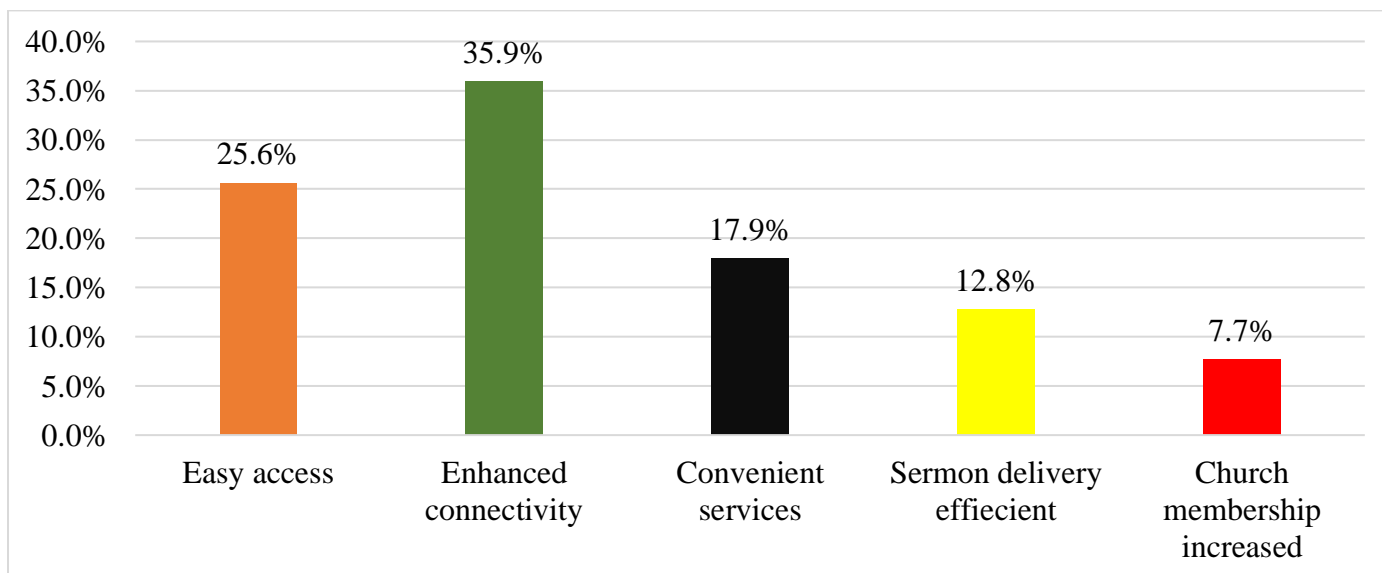
service and worshipping together because they can't be seen answering to non-verbal clues. It is also affirmed by a key respondent

Online platforms are more efficient as stated by 30.8 % (61) respondents. These findings are in line with Kuboye et al. (2019) on how ICT has helped churches and missionaries to be effective and efficient. However a Key Informant at the Accounting Office of the one churches states that the equipment is very expensive. The Online Sermons and worship require expensive and confiscated equipment to be able to achieve 100% transmission to the viewer. They require good smartphones by the recipient to receive the information and good computer application and computer hardware to present the information to the viewer. The Equipment that run Zoom Meetings, Google Meet and Live streaming come with a lot of financial sacrifices by the church. There is also a need to procure a good internet bandwidth of high speed to transmit the data to the recipient. These findings are in reference to Kathambi et al., (2021) on how ICT tools and platforms are expensive to maintain and purchase. This also goes against the Quaker practices and principles of simplicity because ICT tools are complexity to use. The inability to purchase them by some members and churches goes against equality to access them due to the cost that separates the rich and the poor.

#### 4.2.7 Influence of Online Platform away from the Church

The surveyed participants, according to Figure 6.5, 35.9% (72 respondents) stated that integration of Information and Communication Technology led to enhanced connectivity and networking of congregants away from the church premises. In addition, 25.6% (51 respondents) stated that an online platform integrating ICT made it easy for them to stay connected with the current issues of the Kakamega Yearly Meeting. This was observed as convenient for members to receive services at a remote location according to 36 respondents (17.9%). Besides, sermon delivery was efficient that even contributed to an increase in church membership.

Online platforms have increased connectivity and networking of the members away from the church according to 35.9% (72 respondents). The WhatsApp groups created by homecells and Village meetings have helped members to know each other and support one another in good or bad times. Example funeral and wedding contributions are done on online platforms. Members share opportunities available in their working environment and alerts of impending dangers around. Messages of encouragement and spiritual nourishment are shared amongst members with inclusion of morning devotions and prayer. This has brought communism in the KYM which is a principle of Quaker worship.



**Figure 4**  
*Online Platform Influence on Worship away from the Church*

Online platform has helped KYM offer convenient services such as offertory, tithing, baptism lessons to be done online away from church. Notes on baptism and membership are offered online by members in the catechism class but final examination by the leadership and pastors are done physically. Online platforms have given the KYM options of members giving their offertory, project contribution and tithing through Pay bill and Till Numbers. Prayer Requests are done through websites and Facebook pages and pastors give guidelines in response. Online platforms have created a church away from the physical churches where members share and learn new songs and hymns; they provide a platform to know and analyze the Quaker Faith and Practices within members. This emphasized equality as a Quaker Core value through creating a platform for all in terms of giving and accessibility to information.

Online platforms have made information within the KYM easily accessible by anyone away from the church. New and updates on the next order of services is shared in the platform, whether it's a family service, monthly service or a normal service. Members get information of upcoming events such funerals, weddings, dedications, baptism, fundraising, charity and Harvest services in advance, which helps them prepare for the service.

#### **4.2.8 Influence of ICT on how the church leadership conducts its services as part of Quaker Worship**

According to a key respondent (17th October 2020) states that monitors or screens have established an easy way to project the main sermons, announcements and even the bibles. These have acted as aids for pastors and leaders in their service delivery. It is a medium of projection of information and announcements to the screens and projectors. Phones and cameras have helped in creating videos and taking photos of events. Smartphones are used in airing service through media platforms such as Facebook, Instagram and YouTube channels. Members are able to sing, pray and preach using microphones.

According to a key respondent (17th January 2021) ICT equipment such as computers and its application such as excel and database has helped the Church keep accurate and proper fund records and also has enabled the church advertise its future plans such as strategic plans and fundraisings. This is a way to promote integrity which is a core value of Quaker worship. Laptops have been used as a way of storing data and documents. Information recorded by video and audio gadgets can be later watched other than normal times of church service. This finding is in line with Armstrong et al., (2001) on ICT usage on administration and finance of the church in Nigeria.

## **V. CONCLUSION & RECOMMENDATIONS**

### **5.1 Conclusion**

The distinctive character of Quaker worship is anchored in the core values of simplicity, direct communion with the Divine, integrity, and communal discernment. These principles not only shape the Quaker approach to spirituality but also inform their enduring commitment to social justice and peace. Foundational practices such as silent worship, vocal ministry, and a commitment to egalitarianism are central to Quaker belief, facilitating a direct and unmediated connection with God. These values, established by the movement's founder, George Fox, continue to be the bedrock of Quaker identity today.

The arrival of Quakerism in Kakamega County was facilitated through key missionary efforts, beginning with the Vihiga Friends Mission in 1905 and expanding through the Lirhanda and Malava Friends Missions. The Kakamega Yearly Meeting (KYM) was formally constituted in 1993, growing from its origins in the Lirhanda Friends Mission to become a significant regional entity, ultimately forming 21 monthly meetings. The integration of Information and Communication Technology (ICT) into KYM commenced in 2002; initially driven by university students and seminars from the National Council of Churches of Kenya (NCCCK). A pivotal moment was the introduction of musical instruments by Muganda through missionaries, which marked the beginning of ICT adoption at KYM and subsequently transformed worship practices.

In summary, while the integration of ICT at KYM has yielded significant benefits in terms of accessibility, engagement, and communication, it has concurrently introduced challenges to essential Quaker values like simplicity and silence. This study highlights the critical need to strike a balance between embracing modern technological tools and preserving the profound spiritual depth of Quaker worship. To safeguard Quaker principles, KYM leadership should implement strategic measures. These include developing clear guidelines for ICT integration, fostering education on discernment and the value of silent worship, and creating minimalist worship tools. By adopting such a mindful approach, KYM can continue to leverage the advantages of ICT while steadfastly upholding the integrity of its worship and preserving its core values of simplicity, silence, and direct communion with the Divine.

### **5.2 Recommendations**

To effectively balance technological integration with core Quaker values, the findings suggest three strategic approaches. First, it's essential to establish clear guidelines for "Quaker-appropriate" technology use, which includes safeguarding designated tech-free periods to ensure undisturbed contemplation. Second, the issue of accessibility must be addressed by implementing solutions such as device-lending programs and digital literacy training, while always ensuring non-digital alternatives remain available. Third, innovation should be values-centered, focusing on the development of minimalist worship tools and the appointment of technology stewards to guide thoughtful implementation. These strategies should be adopted gradually, guided by traditional Quaker discernment processes. This allows individual monthly meetings to adapt the recommendations to their specific contexts, while denominational unity is maintained through the oversight of the yearly meeting.

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