

The COVID-19 technological determinism for mainstream churches: Implications and justification for adoption

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ABSTRACT

Historically, mainstream churches held a firm stance on technology adoption, as the leadership of the churches felt that it would interfere with the church's system of beliefs and operations. During the COVID-19 pandemic period, the church found itself at a crossroads, where the conventional way of church operations was altered and technological tests crept in. This paper explores how COVID-19 exposed the church's technological weaknesses and their implications, situating the justification for adoption. Guided by technological determinism theory, the paper examines the implications of external forces, such as COVID-19, playing a role in reshaping the technological landscape in mainstream churches. The study deployed a qualitative research approach to review literature from secondary sources like pastoral letters, journal articles and church reports and documents. Findings of the study reveal that COVID-19 exposed a state of technological unpreparedness, forced technology adoption, the digital divide and theological and ecclesiological tensions within mainstream churches. Additionally, while technology was initially seen as an enemy to the church, implications drawn from the COVID-19 pandemic justified that the right use of technology is imperative for the church. The study concludes that COVID-19 highlighted the technological gaps that the mainstream church ought to address and embrace continued use of technology through a hybrid model that blends traditional approaches with technology. The study recommends that it is worthwhile for mainstream church leaders to ensure that their training is well conducted to enable effective use of digital platforms. Additionally, the church should endeavour to adopt a hybrid model of worship that blends digital tools with traditional practices. Finally, mainstream churches should refocus on strengthening the digital infrastructure to address the accessibility gaps exposed by the COVID-19 pandemic.

Keywords: COVID-19 Pandemic, Digital Tools, Mainstream Churches, Social Media, Technology

I. INTRODUCTION

In the wake of technological advancements, debates on why and how technological innovations can be adopted in churches have taken center stage. For a long time, religion and technology have been deemed inherently in conflict, as technology has been perceived as a tool that erodes traditional values and religious ritualistic practices (Siamatendu, 2024). History reveals that even as technology has advanced, the religious community has insisted on maintaining a strong commitment to face-to-face activities like worship, discipleship, fellowship, sacraments and ordinances. Although resistance to technology was relative, digital technologies such as livestreaming and social media were rarely appreciated, especially in mainstream churches (Green, 2017).

Technology can be traced back in history to times when humans began applying it for stone gadgets, fire, clothing and shelter, metal work, and even plumbing. Since then, technology has undergone a great deal of innovations and inventions to suit the needs of society. Among the aspects of modernism, technology is changing day and night through advancements that are being made in different fields encompassing it (Chappell, 2011). Technology has been applied in different areas such as medicine, agriculture, education, business and even religion, specifically the church. Functionalists argue that the presence of a church in society is essential, as no other system can replace it. They further opine that the church is mandated to perform functions that align human beings with God, their creator (Funk, 2018).

Accepted as a universal mechanism of modernization across all sectors of society, the adoption and use of technology in various organizations has a long history. When Johanness Gutenberg developed the metal type press around 1430, the bible was the first book to be printed. Since then, technology has affected the history of the church to an extent that it is going to be everything in its future (Chappell, 2011). Technology was first adopted by the church for official use in 1950s. Since then, there have been considerable developments in applications across various areas of the church operation (Omotayo, 2016).

In the year 1973, George Jarvis, who was heading the financial department of one of the churches in the United States, hired an accountant to develop an accounting system for the church. The development of various programs was established by three men, namely, Kendall Wright, Bruce Smith and Gary Calson. The programs intended to maintain

the church records were marred by failures, as the development of computers was a new venture. Despite facing challenges, the team created programs that served the church for various purposes (McDaniel, 2008).

Technology has been adopted by the church in various ways and stages. Various technological devices have proved to be important in various ways to fit the way churches conduct their activities. The wide range of applications of technology spans from administrative, worship, education and business (Verschoor-Kirss, 2012). Technology, though powerful and important, also has absurd and negative effects on the church at large. With different dynamics involved, the adoption and use of technology in church activities depend on different aspects of the groups involved and the need at hand. Different churches have different backgrounds and perceptions on how technology can help or destroy the church. As a whole, the growth of the church is critical for the purpose of sustainability. The church should ensure that growth is realized spiritually, numerically and even materially. This means that the church can realize its objectives when all drivers of growth are put in action, including technology (Ossai-Ugbah, 2011).

In 2020, mainstream churches in Africa were challenged to the extent that their vulnerabilities in technology adoption were exposed. During this period, most mainstream churches in Africa struggled to stick to traditional ways of conducting church activities as stay-at-home orders were introduced to curb rising COVID-19 infections. The restrictions on physical meetings, which took a long time, forced mainstream churches to rethink their strategies, leading to the only option, technology. In the face of the shifting, one evident element was the struggle to know what can work and how it works. Compared to the evangelical churches, the mainstreams were far off, as evangelicals had tried their best to incorporate technology in their church activities even before COVID-19 knocked on their doors (Amenyedzi, 2024).

During the COVID-19 pandemic, during periods of high transmission, most countries worldwide tightened regulations and restrictions on in-person meetings and emphasized social distancing as a measure to curb the spread of the virus. However, despite this being the case, most of the churches could not contain the measure and even before the governments completely declared at some point that the churches were to close, churches with large congregations had already initiated closure (Tambubolon, 2023).

However, Francis and Village (2021) argue that various denominations had to rethink their technology approach during the COVID-19 period, insisting that this revealed the church's vulnerability to its dependence on physical meetings and worship. Research shows that churches within the African context were utterly affected by COVID-19, disrupting elements of pastoral care, worship, fellowship and mission among other core activities (Magezi, 2022). In churches like the Roman Catholic Church, emphasis is placed on sacraments, which must be administered occasionally and physically.

Scholarly and theological perspectives on the use of technology in the church differ on a few elements but converge to an extent. For instance, the broader role of technology in churches is not fully defined, as every church uses technology to varying degrees and for specific purposes. For example, evangelical churches deploy technology in almost every sector, while mainstream churches are limited in the use of technology. In recent days, evangelical mega churches use technology for livestreaming, hosting prayers virtually, digital giving, music ministry, evangelism and outreach and communication. In contrast, mainstream churches such as the Roman Catholic Church and the Anglican Church have been deemed cautious in their use of technology, applying it only sparingly in music ministry and communication. Baloyi and Pali (2023) opine that digital adoption across churches in Africa remains uneven, with Pentecostal and Evangelical churches leading in adoption compared to mainstream churches such as the Catholic and Anglican Churches. Nevertheless, with inception of COVID-19, technological determinism was clearly defined, as demonstrated with the hits and misses of the moment.

1.1 Statement of the Problem

During the COVID-19 pandemic, most institutions were caught off guard as day-to-day operations shifted. This led to a refocused approach, in which some institutions were spot on while others took too long to adjust to the necessities (Tampubolon, 2023). For instance, religious institutions found themselves in unfamiliar circumstances; they were forced to adjust the way they worshiped and conducted other activities related to their functions. At this point, technology proved vital, as digital tools significantly enhanced the church's activities (Magezi, 2022). However, most mainstream churches in Africa found themselves at a crossroads, unsure how to suddenly shift to a technology-dependent model. This exposed a glaring gap whose implications justified restructuring the use of technology in the digital era. This study, therefore, delves into the weaknesses that justify the full consideration of technology adoption for the church's progress and sustainability.

1.2 Research Objective

The purpose of this study is to explore how COVID-19 exposed the church's technological weaknesses and their implications, situating the justification for adoption.

II. LITERATURE REVIEW

2.1 Theoretical Review

This study was guided by the technological determinism theory by Thorstein Veblen 1825-1929 (Brette, 2003). The theory posits that technological advancement is a primary force driving social change, independent of human intentions or prevailing social context. In this case, as technology progresses, social structures, cultural practices and human behaviours are reshaped and determined, leading to an inevitable shift. As the theory was advanced, proponents argued that society is shaped by innovations and inventions in the field of technology. For instance, the introduction of the printing press brought a dynamic shift in various spheres of life, with education and religion equally revolutionised. Similarly, the discovery of the internet has massively changed communication, commerce and various religious activities.

One aspect worth noting about technological determinism is that it views technology as a tool that forces changes in operations, as its application is inevitable within various circles of life. Furthermore, the theory argues that even though adoption of technology in various areas should face resistance due to perceived threats and a traditional approach to issues, the need for adoption is justified due to the arising crisis that leaves no other option. The theory can best be understood through the lens of COVID-19, as churches were forced to restructure and adopt technology against their traditional position. In this regard, therefore, the adoption of technology by the church, especially the mainstream, which was reluctant, indicates that technology is an essential tool for progression, as the theory of technological determinism posits.

2.2 Empirical Review

Technology is at the center of everything today, with advancements impacting every field that affects human life, inter alia, medicine, education, religion and commerce. One aspect that stands out about technological advancements is that everyone finds it difficult to resist using them, amid a traditional worldview that somehow leads to resistance. As demonstrated within the mainstream churches, which insist on conducting physical religious activities, technology has crept in to an extent that no one within the churches can deny its influence on some of their activities. Campbell (2023) argues that this selective use of technology in some religious denominations has left some churches behind, limiting their operations and presence to physical confines. One of the major reasons for the slow response has been the preservation of traditional norms, which define the real religious order. Furthermore, for mainstream churches, leadership is cautious about using technology as they perceive it as having unethical implications for congregants. Insisting on issues like cybercrime, dirty content, diverging congregants' attention and data privacy concerns.

Magezi (2015) studied technological change of the African context and usage of Information Communication and Technology in churches: Towards discerning emerging identities in church practice, where his study was based on two Zimbabwean cities. The study reports that many pastors have embraced technology in different church ministerial practices. However, he opines that the application of technology in various church practices is a fact that is embraced differently by pastors who fall into three categories according to his findings. In this case, the first category is that of pastors who are technologically rich and informed to the extent that they are sophisticated in technological practices, both entrepreneurially and network-wise. Following in the second category are pastors who consume technology cautiously and sometimes seem confused about whether the technology is good for consumption in church activities. However, the third category of pastors is that in extreme denial of technology, in that they antagonize it as the agent of the devil to some extent. Therefore, according to a pastor in the third category, technology has no place in the house of worship. Furthermore, his study opines that the extent to which a pastor embraces technological practices affects the perspective of congregational members on different aspects of church activities.

Ossai-Ugbah (2011) conducted a study on the use of information and communication technologies in Nigerian Baptist churches, with the main focus on the constraints to technology adoption within the same ministry. His study involved 520 respondents sampled during a minister's conference using random sampling technique. The study findings indicated that educational background and financial status played a major role in the adoption of technology within the Baptist churches in Nigeria. Churches that thrived were those that had pastors who were technologically literate and equipped in terms of sermon preparation, worship and organizing and distributing of teaching materials, which were done in relation to technology. In this regard, most members appreciated the use of technology in their churches, more so those who were technologically proficient, enabling growth across all areas. The study further reveals that, although technology in the Baptist church may be at work, the pastors who have fully adopted it are few relative to those who have not. Discussing why this was the case, technological illiteracy and ignorance were the main reasons why they did not appreciate it and this hindered church growth to some extent. His findings relate to those of Bolu (2011) on the use of technology and church growth in relation to technological literacy levels and financial wellbeing of the authority in place.

Bwire (2023) explored "Covid-19 Pandemic and the Church in Kenya in the Context of Modern Information Communication Technology." The aim of the study was to examine the impact of the COVID-19 pandemic on the church

in Kenya, with particular focus on how the church move in to embrace technology during the period. The study was anchored on technology adoption theory and employed a qualitative research approach, analyzing secondary data. Findings of the study indicate that during the pandemic period, technology came in as a challenge and an opportunity at the same time, presenting a dilemma that was hard to deal with. The study discusses challenges such as lack of technological unpreparedness, leadership resistance and lack of resources. Likewise, technology was seen as an opportunity, as it gave the church an opportunity to explore beyond church walls and expand through online platforms. The study concluded that COVID-19 was a wake-up call to churches to fully adopt technology in various activities, to deal with contemporary challenges that technology can handle.

III. METHODOLOGY

The study adopted a qualitative research design anchored on secondary data analysis. This approach is ideal as the study is meant to interpret meanings, seek experiences and relate to institutional responses rather than focus on measurable variables. Data was drawn from an array of secondary sources, including peer-reviewed journals, reports and publications from churches, scholarly case studies, official statements from clergy, reflections from bishops and pastoral letters. The inclusion criteria focused on secondary sources directly addressing the concepts in context. The criteria ensured that these sources were able to provide reliable and relevant insights into attitudes, theological concerns and practical responses to the adoption of technology during the COVID-19 pandemic period. The study excluded materials that were not related to technology and the COVID-19 pandemic period and those that did not address the concept of mainstream churches to retain focus.

Data analysis was done using a thematic approach where relevant texts were identified and coded to identify themes that were recurring, like institutional rigidity and resistance, technological unpreparedness, human resource gap, forced digital transition and post-pandemic justification for sustained use of technology. The themes were examined through the lens of technological determinism, which holds that technology is an inevitable tool for shaping institutional and social change. However, it is worth noting that the study's overreliance on secondary data may limit the scope of information that will be captured, as firsthand data from respondents was not collected.

IV. FINDINGS & DISCUSSION

4.1 Technology Adoption Implications

4.1.1 Technological Unpreparedness Prior COVID-19 Pandemic

As COVID-19 crept in and became a serious issue of concern among members of the public, the church as an institution was incapacitated and direly affected. As this was taking place, mainstream churches' technological unpreparedness came to light. While most of the charismatic churches were strengthening their technological capabilities, mainstream churches struggled to know how to begin using technology for various church activities. Before the pandemic, the comfort of operations within the brick-and-mortar structures seemed sufficient and the only right option. Most of the clergy in mainstream churches had only mastered the use of mobile phones for communication, with nothing more (Dzirasa-Payne, 2024).

Even though digital tools and platforms have existed for a long time, their adoption and applicability seemed a novel issue. For instance, most of the clergy's YouTube, Facebook, Zoom and related accounts were opened or became active during this period. To date, some of the clergy's and church leaders' social media accounts are operated by others, especially youth, who are tech-equipped. The clergy, faced with the challenge of understanding how digital platforms work, a novel interaction for them despite digital tools being available for quite some time (Muriithi & Muriithi, 2024)

Given the lack of preparedness, a significant challenge arose over the resources needed to comply with the digital dictates in place. Church leaders did not know what to procure and where to get it. Additionally, lack of expertise in operating the equipment that was needed proved to be another uphill task for getting started with technology for church activities. Even with the expertise and the lack of technological and procurement knowledge, the costs involved in procurement and in securing the right technicians to set up the necessary equipment further worsened the situation (Campbell, 2023). Responding to these challenges was not easy, as pastors were forced to balance their pastoral roles with digital ministry demands, exposing a lack of prior technology training and preparedness. Generally, these issues imply that some churches spent extra to get the right thing done, while others that lacked sufficient resources remained shut and inactive at the expense of the congregants.

4.1.2 Forced Technological Adoption

Even in the face of technological unpreparedness, there was no way forward, yet a way forward was a must. With everything stalled, everyone was thinking about the next step. With instituted lockdowns and social distancing, church leaders learned very tough lessons about why it was imperative to have digital structures in place from the

beginning. As most charismatic churches continued their services in virtual spaces, this marked the start of a struggle to embrace technology within mainstream churches in the region (Campbell, 2020).

For a long time, the debate over the effectiveness of technology had dominated, with the youth leading the call for reforms. At the same time, the elderly clergy and leaders held dear to the old-school way of conducting worship and other church activities. However, during these challenging times, the question was, what is the next step? The answer was obvious: “adopt technology.” This can be interpreted as something done out of inconvenience, or rather, a forceful adventure. For once in this incident, the voice of the youth won the argument of the moment, against the wishes of the decision makers. In this case, we cannot argue that the conventional approach towards the functions of the church activities was totally wrong while that of technology adoption was totally right, no (Francis & Village, 2021).

The implication was that the dialogue was worth more than the debate over how and when technology can be used in churches. The digital divide that was experienced across these social groups was worth bridging, but lack of consensus was a catalyst for the widening before COVID-19 justified the need. In this case, technology was adopted as a necessary evil, as there was no alternative to maintaining spiritual contact with congregants. One of the significant roles of technology during the pandemic was fostering spiritual connection, which was much-needed amid many discouraging moments (Campbell, 2023).

Another implication of the forced technology adoption by the mainstream churches is the role that external forces can play in shaping the church where change is required. The forced shift from conventional church activities to a hybrid model enhanced by technology aligns with the core tenets of technological determinism. The pandemic, an external force in this particular case, did not just expose the weakness of technological unpreparedness but also reconfigured how mainstream churches view and deploy technology.

4.1.3 Digital Inequalities and Structural Barriers in Technology Adoption

As forced shifting to the digital space took place, something else was exposed: not all congregations were equally ready to take advantage of the technologies available due to structural inequalities within the church. One of the issues that has gained mileage in research was the uncovering of the digital divide – a state of imbalance that presents a gap to technology access and use due to lack of internet access and digital skills. Within the church set-up, the digital divide can be understood as unequal distribution pertaining to access, use and related opportunities (Kgatle, 2024). Three factors facilitated the digital divide: age difference, technological attitudes and access to technological infrastructure. Research shows that digital reluctance was observed during the COVID-19 period, with most individuals who followed the proceedings online being young. In contrast, the elderly needed someone with technical know-how to help them connect (Lacsa, 2022).

One of the key takeaways during this period, however, was that most elderly individuals struggled to use digital spaces because they grew up without what is in place today. This implies that they have very little digital literacy, causing most of them to fail to access what was going on, even after churches adopted technology to some extent. Furthermore, the socio-economic status of elderly individuals in the region allowed most of them to have access to phones that could not connect to the internet (Ojo et al., 2024). This was a major setback, as compared to the youth, who have smartphones, tablets and laptops. Even though most churches installed internet infrastructure during this period, most of their congregants were in remote areas where internet access was a problem. In this case, the congregants who access online churches were forced to buy data, which depletes quickly (Campbell, 2023). Nevertheless, it is worth noting that some of the individuals who are faithful to the mainstream churches are elderly and do not know how to buy data bundles and access various links.

As demonstrated during the period, technology plays a vital role in mainstream churches. However, the issue of digital divide and structural inequality should be addressed. Given the status of responses to the use of technology during the pandemic, the church should invest heavily not just in technological infrastructure but in distributed access and use through inclusive criteria. The elderly should be helped to understand the importance of technology and how it is used, motivating them to embrace it for the good of the church. In a nutshell, digital literacy can play a significant role in concretising the adoption and use of technology for all in church settings.

4.1.4 Theological and Ecclesiological Tensions

The transition of mainstream churches from physical meetings to online spaces during the pandemic period was accompanied by significant theological and ecclesiological tensions. From the changes, one could notice that the tensions went beyond technical issues, to the testing of how these mainstream churches understand worship (Ojo et al., 2024). Before the pandemic struck, the conventional way of worship, which entailed shared space, personal presence and rituals, was seriously tested. The sudden shift to virtual spaces for worship suggested that something was changing, raising questions about the sacredness of mediated worship and whether the digital platforms could convey the traditionally spiritual essence that each individual deemed the right way of worship (Madise, 2023).

From this situation, it was evident from the pastoral and theological commentaries done during the pandemic that serious tension existed. For instance, Catholic Church leaders expressed their worries about the validity of

sacraments administered digitally. The emphasis was on the fact that, while online services served a pastoral purpose, they could not, in essence, replace the sacramental presence of the shared Eucharist in physical gatherings (Arasa et al., 2022).

A close look at the statement in context illustrates a deep unease among the clergy about online worship practices that authentic sacramental participation. Similarly, Anglican leadership questioned the authenticity of activities conducted through online platforms, saying that the experience was extraordinary yet unsatisfying from an ecclesiological perspective (Francis & Village, 2021). For example, one of the individuals raised questions such as “Does digital participation constitute real communion?” Such questions reveal a clear and genuine concern from the church, calling for a serious dialogue on the direction and limits of digital tools within the church. When such a discussion suffices, the complementary role of technology in church space can be realized, dispelling fears of replacing the conventional form of worship.

4.2 The COVID-19 Effect: Justification for Technology Adoption and Continuity

Upon unfolding of the pandemic, technology adoption in churches seemed to be a temporary fix to address the issue of lockdown, social distancing and curfew restrictions. However, the idea of a temporary fix faded somewhat as technology proved to be a missing piece in church operations (Biryá & Mwamzandi, 2025). This means that, at some point, as technology users harnessed technological capabilities, they realised that outcomes could be positive, contrary to their initial perceptions of technology as a force of destruction. Across the African region, where adoption of technology for church activities was widely debated, church leaders and theologians began articulating a rationale for a balanced approach to technology use in mainstream churches (Ndzi, 2023).

Continuity of worship and pastoral care in the face of lockdown, curfews and social distancing came in as one of the most significant justifications for continued technology use for mainstream churches in the region. For many congregations, livestreaming services, joining online prayer groups and enhanced digital communication acted as an eye-opener. In this case, they realised that something special lies within digital space, which can be used to enhance outreach and community service. Just as Grigore and Cobzeanu (2025) posit, the continuity of worship and other activities facilitated by technology underscores the importance of arguing that digital tools should not only be used as an exceptional response but also be routinely utilised.

Additionally, during the pandemic, many individuals who could not attend physical churches for various reasons appreciated the ease of digital worship. Although this is not the way to go, the fact that most of these individuals have genuine reasons for not attending physical services justifies the continued use of technology in churches. Technology addressed the issue of mobility limitations, health restrictions, busy working schedules and emotional limitations, which held a good number of congregants away from physical meetings. Bwire (2023) argues that integrating technology during the COVID-19 pandemic helped reach more youth who were not attending church, allowing them to reactivate their faith. This, on the other hand, helped the family of believers grow numerically. As Biryá and Mwamzandi (2025) urge, church leaders should invest in social media platforms to reach most youth, not just through discrimination. During the pandemic, technology proved that the gospel can be spread beyond the confines of physical walls, eliminating boundaries of local community reach and reaching a global niche.

Finally, the manner in which technology was utilised in churches during COVID-19 demonstrates that technology should remain intact to avoid issues with emergency responses and reactions. The pandemic laid a foundation upon which leaders should learn, prepare and invest in technological tools so that technology is fully normalised where it is seen to work well. As it stands today, the church has reverted to traditional worship, with less technology integration than it was during the COVID-19 period (Mahiya & Murisi, 2022). However, it is so imperative for the mainstream churches to acknowledge the fact that, due to technological incapacity, they are losing congregants to evangelical churches, more so, the youth. Therefore, continued technology use can help address shortcomings within mainstream churches.

V. CONCLUSION & RECOMMENDATIONS

5.1 Conclusion

The study delved into the weaknesses exposed by the COVID-19 pandemic regarding technological adoption and the justification for the continued use of digital tools for various church activities. This study shows that mainstream churches in Africa were very reluctant to adopt technology, but COVID-19 exposed their vulnerabilities. It is worth noting that the mainstream churches found it so difficult to understand the direction to take regarding the use of technology, yet they accepted it to an extent. As the study demonstrates, the use of technology for various church activities is not a question of if or when, but how. As the study highlights, there is a need for consensus between the elderly, leadership and the youth on how technology can be balanced so that it can help the church relate with the modern realities at the same time retaining the traditions of worship like sacraments.

5.2 Recommendations

In light of the weaknesses in digital technology adoption exposed by COVID-19, it is worthwhile for mainstream church leaders to ensure that their training is well conducted to enable effective use of digital platforms. This would ensure that technology remains an anchor for ministry continuity, community engagement and outreach. Furthermore, the church should endeavour to adopt a hybrid model of worship that blends digital tools with traditional practices. Sticking to the traditional model of worship would hurt the church more, as the younger generation is shifting towards technologically prepared churches for self-satisfaction. Finally, mainstream churches should refocus on strengthening the digital infrastructure to address the accessibility gaps exposed by the COVID-19 pandemic.

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