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Development of Strategies and Transformation Paths for Structured and Targeted Digital Change: The Case of the Presbyterian Church of Ghana Trinity Congregation

Sylvester Tetey Asiedu and Richard Boateng

Abstract

- (a) **Situation faced:** The Church, irrespective of its steady growth from 4 members in 1965 to 2910 members in 2015, struggles to reach out to larger (newer) communities and improve money collection. It struggles as well in reaching its local community especially its members at the right time with the right message. In brief, for the Church to engage its members and the public with respect to worship service, publicizing its social activities (evangelism, donations to the needy, visits to prisons, etc.) and payment of voluntary contributions, it had to count on their physical presence on its premises.
- (b) **Action taken:** The Church developed an interactive online presence (website) with payment integration for payment of tithe, offertory, voluntary thanksgiving, etc. Social media accounts were established to help create an online community with the secondary objective of driving traffic to the website and engaging the congregation remotely outside church service hours. Mobile money and a point of sale (POS) device were used to facilitate cashless transactions. Supportive committees were set up while interconnecting existing ones. Some of the pastors upload videos to social media as supplement to morning devotions. Events were promoted on the website and social media.
- (c) **Results achieved:** Amongst the lot, there is currently an increase in social media engagements through event posts, live streaming, image and other post formats and also an increase in participation of church events by almost 50% on average as well as an increase in the number of website visitors from 2558 (901 unique visitors) in the first year after deployment to 11,612

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visitors (5841 unique visitors) in the third year as at September 2017. Even though membership statistics surprisingly indicated a 638 decline in 2017, which is worth investigating.

- (d) **Lessons learned:** Although deploying the online system was successful, it came with its lessons drawn from challenges which cannot be ignored. These include trust in electronic payments, the need for strategic framework in the adoption of technology, the need to educate users. Other lessons include the need for management support and readiness of employees/volunteers and resource availability as a precursor to achieving strategic IS innovation objectives.

1 Introduction

Information technology (IT) entails significant investments. Such investments are complex and difficult decisions must be made within a strategic context such as IT governance. This case discusses the strategic digital transformation efforts made by the Trinity Congregation of the Presbyterian Church of Ghana located in Community 4, Tema—Ghana (PCGC4), to ensure that scarce resources are optimized, the full benefit of initiative and other projects are realized, the risks are mitigated and the business functions of the Church are supported. The investment made is the development of an online presence via an interactive website with the objective of streamlining the interaction between its respective stakeholders with regards to communication alternatives and payment transactions via electronic means using the Internet as the main underlying technology.

PCGC4 is an interdenominational Church that welcomes people from all other denominations and all walks of life with a mission to uphold the centrality of the Word of God, and through the enablement of the Holy Spirit, adopt a holistic development of her human and material resources to:

- Improve church growth through evangelism and nurture
- Attain self-sufficiency through effective resource mobilization
- Address all factors that inhibit development through advocacy and effective delivery of social services, and uphold the reformed tradition and cherish partnership with the worldwide body of Christ.

Its vision is to be a Christ-centered, evangelistic, disciplined, democratic, united, self-sustaining, and growing Church.

This case explores how the Ghanaian religious institution sustained and increased its congregational market share through digitalization of its social services via the internet by deploying an interactive website integrated with digital payment. It highlights the significance of electronic payments and interactive websites as strategic tools in the delivery of improved corporate service management provided at the

convenience of respective stakeholders; the challenges that are likely to affect such strategic advancements and the efforts at addressing them. Lessons could help organizations interested in harnessing the power of the internet to extend their services and responsibilities dialogically.

The case also highlights ongoing discussions on how online digital technologies facilitate opportunities for organizations in such a way that interaction between stakeholders and business processes are greatly improved.

2 Situation Faced

The Church had previously been using manual means of processing, storing and retrieving information till it acquired database software to handle these tasks while still using hard files for most of its information requirements largely due to backup reasons. With the influence of technology on service delivery coupled with the ever rapid changing trends in consumer behavior, management of the Church sort to develop and deploy a website to fill the information dissemination gap that exists in reaching out to members at their convenience in a form that best suits them. A seven member committee was set up to materialize this project out of which the Interactive Church Management System (ICMS) was born. The system was sourced from a local vendor who was an email and phone call away and happens to be a member of the Church. The following highlights briefly the history of the Church in reflection of the basis of the ongoing digital transformation efforts.

During the first half of the 1960s, the establishment of many industries in Tema (a city located in the Greater Accra region of Ghana), led to an influx of people from all parts of the country into the city for various reasons. These included Presbyterians who felt the need to worship in accordance with their doctrine and as close as possible to their place of abode. There was however, only one Presbyterian Church then, at Community 1 (one of the communities of the city).

On 30th July, 1965, an itinerant small group (Presbyterian neighbors) staying in and around “C” and “D” Roads at Community 4, led by Mr. G. Owusu Dokyi (deceased) decided to team up with Mr. Emmanuel Armah Tagoe (deceased) and his family who were on transfer to Tema from Kumasi (one of the ten regions in Ghana) and had by then taken up residency in the neighborhood and had started regular morning and evening prayer sessions in his house at House number C41, Community 4 in Tema.

Mr. Tagoe was an organist whose accomplishments on the organ coupled with the melodious Presbyterian Hymns attracted more people to worship with the small group. The Hymn singing—and now the amalgamated group—which culminated in morning and evening devotions and prayers, drew others to increase their number from four (4) in July 1965 to thirteen (13) in August 1966.

This continued till 30th July, 1967 when permission was sought from the then District Minister, Rev. E. A. Adjei (deceased) for the first formal Presbyterian Sunday forenoon service which was held in the house of Mr. E. A. Tagoe. Mr. - Owusu-Dokyi (deceased) was the preacher and Mr. E. A. Tagoe (deceased) was the

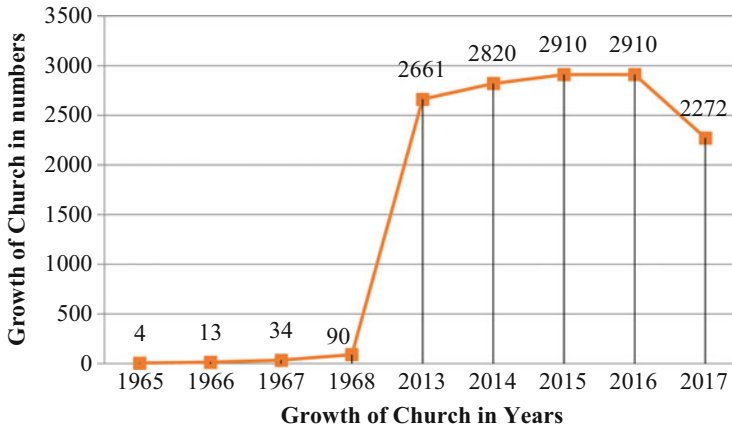


Fig. 1 Growth of church from its inception in 1965 to 2017

organist. After this service, an interim 7 member committee was set up to manage the affairs of the Church. Offertory at this service amounted to 29 Ghana pesewas (0.02 USD).

By December of 1967 when the first Christmas Forenoon Service was held, the membership had grown to 34. Thirty members further joined the group by the beginning of April 1968, making it desirable to look for a more spacious place of worship. Amongst other events that unfolded, the first Baptismal Service was conducted on 25th December 1968 at which time seven infants made up of two females and five males were baptized into the Church by Rev. E. A. Adjei. After the Baptismal Service, members of the Congregation christened the new Church “Tema North Presbyterian Church” to reflect its geographical location in relation to the other two Presbyterian Churches in Tema then i.e. Communities One and Two/Five Presbyterian Churches. It was also to encourage other Presbyterians then residing in other nearby Communities—7, 8, 9 etc., to join the Church to save them the trouble of travelling the comparatively longer distances to either Community One or Community Two/Five for the same purpose. As presented in Fig. 1, the membership has grown steadily over the period and currently stands at 2272 as at the end of 2017.

The Church, irrespective of its steady growth from 4 members in 1965 to 2910 members in 2015, struggles to reach out to larger (newer) community and improve money collection. It struggles as well in reaching its local community especially its members at the right time with the right message mostly because almost everyone is busy with a lot to do each day. Some of the members especially the youth relocate to other places for academic reasons and related. Others relocate permanently because of work and family. These members of the Church are unable to physically worship with the Church and are often left out only to be told how the Church is faring when they return or have conversations with other members on phone and through social media. Payment of contributions becomes a problem as those geographically located far away from the Church most often rely on others who are physically located close

enough to the Church to fulfill these voluntary obligations for them. This puts many of these loyal members in the position of not being able to pay such contributions. Besides contributions, staying connected and keeping in touch with members had been a challenge. Some of the members in the diaspora have had issues with staying updated regularly and committed to the Church. The Senior Presbyterian prior to deploying the online information system (IS) commented:

We understand the communication challenges associated with ministering the word of God and reaching out far beyond our physically located presence, service excellence expectation and its associated cost implications on productivity of staff and volunteers and reputation that PCGC4 is faced with and recognize the unique opportunity to develop a web application which will serve the information needs of the church and general public in reaching out especially to members in the diaspora who per their circumstances, cannot be physically present at the church premises to worship with us as well as fulfill other obligations as includes tithes and other financial contributions.

Service excellence and the word of God at the fingertips of the church members and the public is the objective of this project. With technology at the center of all forms of social and business activities, innovation has come to be the order of the day. Targeted customers and existing ones are online, on their computers at work with audio and video playing at the background, on their phones browsing for information on the internet or on social media getting connected to friends and family, and always going somewhere, accessing data here and there. With all the social communication channels available to keep people more “connected,” meaningful messages most often gets lost and are reduced to white noise. The thought of how many church members have travelled yet have the desire to interact with the church, how much funds are lost because of the absence of a convenient and secured remote means of payment contributions done without the inconvenience of going to the bank, how many church members are lost through relocations due to school, job and related reasons has been the basis for the deploy of the ICMS. Through its website committee, the Church opted for a bespoke online system intended to keep members from far and near connected with a web interactive software/application that has social media and digital payment features that is efficient, easy to use, and mobile friendly. Silva Soft Solutions (www.silvasoftsolutions.com) was contracted to build the ICMS.

3 Action Taken

The Church having assessed the challenges limiting the realization of its full potential put measures in place to address these challenges with the development of the website service as one of core measures. Others include setting up of respective supportive committees while interconnecting existing ones to help the website committee which was not dissolved after the launch of the website, but mandated instead to train members of the editorial committee on data entry and report generation techniques amongst other measures taken.

Initially, the focus was to develop an informative website to make available to the public and congregation, information about the Church as includes its history, management, projects (past, ongoing and scheduled), events and other announcements but through recommendations that drew insights from the Times Square Church website (<http://tsc.nyc>) given by the developers of the website on other possibilities that could be harnessed from the website in addition to its informative purpose, the website committee with the approval from supervising authorities agreed to incorporate other interactive features to the informative website, which in this case are the payment options that allows users to voluntarily fulfill financial obligations to the Church online and recently a scheduled integration of vehicle tracking system.

Management of the Church recognized the need to prioritize coming up with a strategic information technology and systems (IT/IS) plan that recognizes the online IS as a key strategic tool for corporate communication that adds extra value through engagements and its digital transactions portal and have since incorporated it into its strategic plans with ongoing efforts to fully realize its potential. Some of such efforts include the provisioning of a digital video equipment to aid the live streaming agenda, setting up an editorial committee and changing the status of the website committee from ad hoc to permanent, creating social media accounts and synchronizing data and information flow amongst the respective committees and departments.

The Church commissioned new committees which included an editorial board mandated to manage the information going in and out of the website as well as branding of the church online. The temporal website committee assigned to oversee to the development and deploy of the information system was not dissolved but mandated to be the main body responsible for the website with specific role emphasis on its technical functionalities. To educate the congregation on the alternative digital options of fulfilling their obligations to the church, a member of the website committee is periodically invited to give an overview of how the system works to the church midway through Sunday services where majority are gathered for worship.

During such training sessions, the general feedback is that one can easily tell that the elderly who form the majority are mostly interested in the live video coverage of the active church service projected on the flat LED screens during ongoing service. Most of the other congregational members who fall within this category are quite interested as well in the live streaming so their relatives, colleagues, friends, other members and the general public both far and near can join the church service remotely.

The respective committees have been assigned user accounts to help offer better relationships with the public and congregation members. This feature reflects positively on Kent and Taylor's dialogic loop element proposed as a strategic website feature for corporate online communication and branding.

Also, social media accounts have been created for the church with selected social network platforms namely YouTube, Facebook, LinkedIn and Twitter with efforts made to synchronize these platforms to help grow them into online communities. A

strategic approach that is aimed at generating traffic for the church's website and possibly converting unique and other visitors to church members who would turn out to be virtually or physically present at respective worship services and other activities of the church.

Discussions have been done with plans made to link the online system with the local standalone database system to reduce data redundancy challenges and to offer the accounts and finance departments more opportunities to manage members in the diaspora along with those who prefer digital transactions and communications to the manual means of interactions and payments and new members who sign up online.

To help boost confidence in the safety and security of the online payment system, a request to purchase a Secure Sockets Layer (SSL) certificate for the website had been submitted to the authorities for consideration. This is to add extra layers of encryption in a bid to prevent unauthorized access and/or hackers from denying service to any of the system's features. Although the system redirects to a secured trusted third-party payment gateway (e.g., Hubtel Ghana) using an Application Program Interface (API) to handle digital transactions, this is to help assure users of the safety of their information provided.

One more initiative to help encourage inclusiveness within the entire congregation is the introduction of the Unstructured Supplementary Service Data (USSD) which is a protocol most often referred to as short codes, quick codes, feature codes, etc. used by Global System for Mobile communication (GSM) cellular telephones to communicate with the service provider's computers and can be used for callback prepaid services, menu-based information services, WAP browsing, mobile-money services, location-based content services, and as part of configuration services for mobile handsets provided by their respective networks (Victor 2014). The USSD (*713*3840#) is in response to providing alternate means for members of the church, other stakeholders and the society with limited knowledge in internet and the use of internet enabled smart communication devices like mobile phones, tablets, etc. to have a means of making digital payments through mobile money and likewise for those without smart phones or internet enabled phones and tablets but have active mobile wallet subscriptions. Another basis for this initiative is the fact that it was realized that most of the Church members do not have credit and debit cards especially members based in Ghana with almost every member within this category using a mobile phone. Also at least half of this group has an active mobile money account even though they do not necessarily have smart phones.

As at the time of this write up, the website committee had noted that a mobile application with an easy to use interface running on software as a service (SaaS) cloud computing model had been scheduled to be configured with credit and debit card processing features along with the mobile money integration to provide the mobile experience where members in the country and abroad can install as apps on their smart phones and tablets to aid in the transactional relationships with the church without having to log on to the website each time as is the case now.

In consideration of those who prefer to engage physically with the church with regards to fulfilling their financial obligations, the accounts department has secured a point of sale (POS) device acquired through Ecobank, one of the church's banks, to

offer digital payment transaction service. Another reason given by the finance committee for this payment medium is the need to reduce the amount of physical cash handled at the church.

4 Results Achieved

The deployed online ICMS has placed the church on the digital global map and is drawing traffic to its content, giving it the recognition as one of the first to deploy an online presence where one can have a similar experience as that in the church premise and be able to offer contributions in real-time online as well. Although conversion of visits is quite slow at the moment, the deployed system is continually encouraging and influencing the public positively which is a reflection of the extension of the church's social responsibility beyond its limited physical environment.

The senior Presbyter comments:

We have some of our members who travelled to the UK and other parts of the world checking out the website and giving us positive feedback. As happy as we are to come this far, they are happier to see such developments in the church commending on the technology integration into the church's strategic vision especially being able to follow the activities of the church and the knowledge of being able to contribute to the church easily on the internet.

The system provides a one stop archive through an easy to use front and backend interface for both management of the church specifically the finance and accounts departments, and congregational members. This offers the opportunity to access history of transactions made to the respective committees and groups that one belongs to (see Fig. 2). This system makes it easy for members to easily print out their payments and contributions as proof of membership and dedication to the church when the time is due to prove to the church authorities, one's dedication and commitments to the church during specific periods such as weddings, naming ceremonies, funerals amongst others where members of the community depend on the church's role in fulfilling their social responsibilities.

Both members and management can now keep track of tithes, contributions, offerings and pledges, print contribution statements, accept online donations, scholarship and contributions as well as other development funds.—Senior Presbyter

To allow for easy access, both backend and frontend are responsive thus the interface changes in response to which device is being used to access the system. An important feature included because of the recent increase in portable means of accessing the internet. The online portal offers the opportunity to upload respective church service sessions through video and audio as well as text and images via its blog component. Plans have been made to include live streaming soon as the system supports this service. These features comply with Kent and Taylor's dialogic

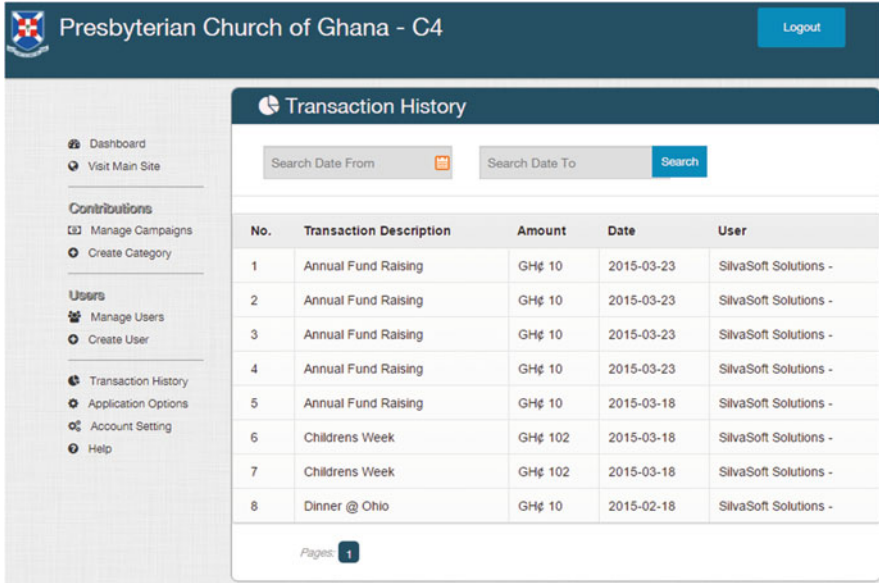


Fig. 2 Authorized moderator/administrator interface with sample (dummy) data indicating history of payments and what category payments belong to

communication framework for online corporate representation that posits that for organizations to improve organizational public and community relationships and subsequently realize their full social responsibilities, communication as an ethical practice has to be dialogic (Kent and Taylor 1998; Madichie and Hinson 2014).

Prior to deploying the online system, there was less of digital communication. Information reached the congregation through announcements made during church services with selected notifications placed on notice boards. But using the website and social media as communication tools has helped in improving dissemination of information to the general public as well as church members. The level of interactions as at now has increased which is evident for instance in the turnout of participants of church events and feedbacks from online social subscribers most of who follow published updates remotely. Out of the lot, an instance of a weekly event that had a high turnout compared to the usual turnout is presented in Fig. 3. From this event overview, even though only 14 out of the people reached indicated interest in attending the event, at least close to 150 more participants turned up, an indication that most of who attended did not necessarily indicate their decision online as attending the event but showed up at the event. Bulk SMS is used to communicate information to church members but only at the general group levels. Personalized SMS are sent out based on matters that pertain to the respective groups and once in a while information which concerns the entire church body based on its priority rating.

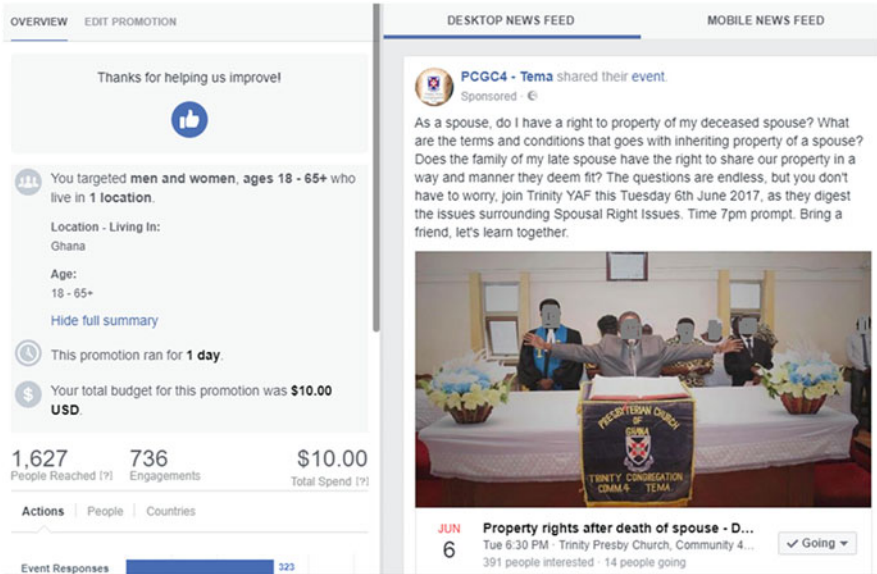


Fig. 3 Snapshot of a sampled Facebook event overview

It is now easier to communicate our event schedules and other information to everyone and invite them to attend and participate which is encouraging active membership and socialization. —Senior Presbyter

The website complements the above communication mediums by connecting and registering people to events via online announcements and other notifications, social media integration, newsletter signups, and Google map integration that offers direction guidance to the church and church event venues as well.

On the next steps, the management of the church has plans of transforming the control room, which is currently responsible for audiovisual projection and care of media gadgets, into an ultra-modern production studio responsible for all prerecorded and live streaming content through the online system and social media although in the meantime live streaming is done via Facebook's live streaming feature using internet enabled mobile phones during church services and other events of the church. Efforts have been made to purchase a high definition HD camera with streaming features to aid in the streaming and recording of high quality media.

From the website statistic in Table 1, it can be deduced from the viewed traffic of unique visitors that there is a steady growth of unique online visitors over the period from the year 2015 through 2016 to 2017 with this increasing from 901 through 3513 to 9256 unique visitors respectively. However, as presented in the table, the number of pages accessed per visit indicates a reduction over the period from 29.02 pages per visit for 2015 through 12.8 pages per visit in 2016 to as low as 9.84 pages per visit for 2017. A follow up on this via random interactions with the congregation indicates the demand for content in their variations over the period that reflects more

Table 1 Website statistics reflecting total visits from Jan. 2015 to Dec. 2017

Reported period	Unique visitors	Number of visits	Pages	Hits	Bandwidth
2015	901	2558	74,256	134,399	2.69 GB
		2.83 per visit/visitor	29.02 Pages/visit	52.54 hits/visit	1103.98 kb/visit
2016	3513	9123	116,818	174,600	4.91 GB
		2.59 per visit/visitor	12.8 Pages/visit	19.3 hits/visit	564.65 kb/visit
2017	9356	22,916	225,851	418,625	6.44 GB
		2.47 per visit/visitor	9.84 Pages/visit	18.26 hits/visit	294.86 kb/visit

Table 2 A breakdown of the number of visits for the year 2017

Visits duration		
Number of visits: 22,916—Average: 566 s	Number of visits	Percent
0 s–30 s	16,825	73.4
30 s–2 mn	806	3.5
2 mn–5 mn	339	1.4
5 mn–15 mn	701	3
15 mn–30 mn	756	3.2
30 mn–1 h	1574	6.8
1 h+	1918	8.3

of recent activities in the form of images from events and video (where available) with social sharing options to allow posting of content through visitor's social network accounts such as Facebook, WhatsApp, Twitter, amongst others. This feedback reflects in the website report on time spent on the site as presented in Table 2 for the year 2017. It can be noticed that the majority of visitors (73.4%) spend at most 30 s on the site. In other words, the short stay of visitors on the website can be related to frequency of updates where there isn't much to read upon each subsequent visit. Thus, as seen from the report, there is an inverse representation where the site is getting more traffic but losing out on engagement due to lack of variety resulting in shorter times spent on the site. The decline in bandwidth (amount of data downloaded per visit) over the period further explains this with less content (pages) viewed per subsequent visit. This reflects the need for regular updates and an indication as well on the likelihood of further increase in the number of visits and time spent on the site.

On the other hand, as reflected in Fig. 1 and presented in detail in Table 3, an observation made is that, comparing the total number of active members of the church for the periods 2015/2016 and that of 2017, there seem to be a considerable reduction in membership from 2910 to 2272 reflecting a 638 reduction in number of active congregational members implying that less people are going to the church to be together as a community in a physical way. As to whether this reduction in main

Table 3 Congregational statistics

Generational groups	2015/2016	2017	Gain/loss
Children service	288	284	-4
Junior youth	140	172	+32
Young people's guild	623	362	-261
Young adult's fellowship	687	449	-238
Adults	1172	1005	-167
Total	2910	2272	-638

church service attendance is linked to the increasing engagements online is worth another investigation. This decrease in church visits as discussed in literature can be recognized as a potential downside of new technological developments (Reimann 2017; Wielstra 2012). An issue which needs to be investigated as this loss of membership cannot be assumed to be directly related to a shift from physical engagements to the digital communication channels most specifically social media (with emphasis on Facebook).

5 Lessons Learned

Investments in IT can be complicated and strategic decisions are required to mitigate the associated risks. Out of the steps taken by PCGC4 to digitally transform are some challenges and lessons that cannot be ignored in this discussion. These include absence of a strategic framework that stipulates the roadmap for integrating the online system deployed into the strategic vision of the church and the recommended need for one in technology adoption; digital divide within the congregation concerning knowledge and use of internet; trust and security of online system to protect user information and implications of change of administration from one tenure of office to the other.

5.1 Challenges in the Transformation Process

Digital Divide

A greater number of the congregation are not accustomed to the world of digital transactions that involves debit and credit cards, digital currency, internet banking and related although mobile money is widely accepted. This to some extent can be attributed to the levels of education and age where the youth are more familiar with social media and digital transactions than the old. This cultural limitation can be seen from research findings (Junadi and Sfenrianto 2015; Ruiz-Martínez et al. 2012) where there is likely to be a difference in culture between one region and the other with regards to factors that limit the adoption of IT/IS as includes availability of internet connectivity infrastructure and access, computer knowledge and usage, traveling habits, region (where one resides), mobile phone, amongst others (Dahlberg and Öörni 2007). Hiram Ting et al. (2016) reports in their research that age, gender,

computer experience, and level of education have significant effect on the desire to use online payment systems and that the adoption of electronic payments is thus affected by knowledge and use of internet (Ting Yacob et al. 2016). A member of the technical subcommittee to the website committee comments that:

Only a fraction of the congregation—40 percent perhaps—are knowledgeable in the use of internet and digital transactions with about 30 percent of this group willing to actually use the online payment system. The lots amongst the latter are those in the diaspora.

As a result of the above, some of the members do not have access to digital tools as such are yet to sign up for online banking solutions from their respective banks or third party payment gateways.

Trust as a Challenge

Who built the payment aspect of the website? Are you sure our hard earned cash is safe? By using the system am I not exposing my credit card details to the developers? Will the system keep my credit card and bank information?

The above questions came as feedbacks from some members of the congregation who happen to have active credit card issued by both local and international banks when the system was deployed. These reflect a problem of trust as a limiting factor to the successful adoption of electronic payments in literature where one is less likely to adopt the system because one does not trust the system or have reservations with the security of the proposed system and one's safety as end user(s) (Ha 2004; Kim et al. 2008, 2009; Tsiakis and Sthephanides 2005). Concerning online payment, there was the initial issue of who should absorb the cost of transactional charges that are deducted when digitally transferring funds from one account to the other till the church accepted to be at the losing end.

Data Sharing/Communication Between Online System and Standalone Church Database

Another challenge with the deployment of the ICMS had to do with data communication between the already sourced desktop based church management database system, the accounts management system used by the finance and accounts department and the online deployed system under the auspices of the website committee. This problem became evident after the website was successfully deployed and some of the congregation members indicated their preference for the manual way of submitting payments to the church because they felt the newly introduced system does not reflect their previous transactions with the church. This challenge translates into the issue of mental resistance as discussed further below.

Ama, a member of the church currently residing in the USA, upon an enquiry to know the process of becoming a “distant” member of the church through the church's website (via the corporate email), had to resort to sending her mom to physically deliver her request. In a reply mail to a conversation with her, she stated:

Thank you so much for the information but I was able to get a letter to my mum to give to the church.

This reflects the problem of having to physically handle data processing which is mostly compounded by different schedules of service representatives involved and the response rate to online conversations. Response to Ama's request required the physical services as offered by her mom—to go to the church office in order to acquire a new membership ID. This compounds the challenge because in the end, the final consumer (church member) is not able to access his/her full profile along with other transactions that reflect complete history of membership and payment contributions online.

Resistance to the Use of the Online System

Currently evident as well on the issue as stated above is the interest in using the online payment system by majority of the congregation (mostly the youth) who find themselves in the position of being able to do so but the actual behavior not reflecting such because it conflicts with long standing policies of the church as perceived by the congregation and trust as discussed above.

This is in the sense that whereas the church leadership seeks to be ethically responsible and accountable in their dealings with the congregation and the public by placing participation and documentation at the core of affairs, and in a bid as well to promote cashless transactions, some of the church members have the perception that their tithe and other books for recording their contributions has to be manually signed by a representative of the church leadership each time a contribution is made, a tradition done over the years. This perception shifts their preference from the digital platform to the traditional means.

This implementation challenge reflects the discussion on resistance to information systems implementation and use where some of the reasons behind information systems adoption failures or success to a greater extent can be related to the tendency of a user to either postpone the use of a system to a later date, decide not to use the information system (reject), or initially protest or mildly reject such system till more information is gained on the value to be attained from the use of such system (Chang and Greenleaf 2017; Klöcker 2015; Salih et al. 2012).

5.2 Discussion of Lessons

Lesson 1: The Need for a Strategic IT/IS Framework

With the constantly evolving advancements in innovations, organizations are compelled to respond by adapting to the changing trends as a result of the dynamics of market with respect to high levels of uncertainty and economic conditions. This makes the role of IT/IS crucial in the proposition of adding value to business and the means through which such value is harnessed (Cuenca et al. 2010). This places a strategic IT/IS framework as a tool for managing changes in a critical position that bridges business strategy with innovation such that issues involved go beyond that of

an IT one to that of organizational strategic one (Chen et al. 2008). Aligning strategic business and IT/IS becomes critical in maintaining business value as such alignments are mostly not easily executable with respect to conceptualization and subsequent accomplishment. As evident in this case, the absence of such strategic alignments accounts mostly for unachieved expectations of IT/IS investments (Chen et al. 2008; Henderson and Venkatraman 1993). This case highlights the need for a consistent and integrated strategic framework which incorporates the information, resources, data, and technological views to facilitate strategic planning of IT/IS and its alignment with business strategy. This research presents a significant contribution to enterprise architecture field. As a guide for other organizations interested in following this roadmap, starting with a strategic IT/IS framework that aligns with the business strategy is recommended.

Lesson 2: The Need for Management Support (Leadership)

Well-established within change management literature are the relevance and benefits of support from top management and strong leadership. Evident in literature is the discussion that organizations that tend to positively influence the likelihood of IT/IS implementation success are those that are able to articulate their strategic vision and communicate as well the value of IS to respective stakeholders of the organization representing the most important IS users. The readiness of top management can be explained to reflect the ability to anticipate, manage, and execute the adoption and implementation of information systems solutions (Basole and Rouse 2009). Top management support also reflects the level of support, encouragement, commitment and strategic vision that is offered by management with regards to implementation and use of IS. As evident in this case, the risk orientation, knowledge, innovativeness and level of skill of an organization's leadership is critically relevant to the success of IS adoption.

Lesson 3: The Need to Create Awareness When Introducing a New System

As some of the perceptions of the congregation to a larger extent has led them to resist the use of the online payment system, lessons here reflect the need to educate the congregation on the significance of processes as carried out within the church through periodic awareness campaigns with respect to administrative policies and their implications and benefits to the church as suggested in literature on the need for awareness in systems implementation as a measure of mitigating resistance and other limiting factors to adoption of technology (Ahmadi et al. 2017; Bhattacharjee and Hikmet 2007; Liu 2015). As pointed out by Liu (2015), there is the need to provide awareness not just on the introduction and existence of a new technology but also awareness on the changes and implications it has on the existing processes and outcomes (Liu 2015).

Lesson 4: Resource Availability

Prior research indicates that organizations with social, financial, and human resources are better positioned for the adoption and implementation of an information system

(Wielstra 2012). To this, appropriate resource availability and allocation of IS is often carefully weighed an absolute necessity to enterprise readiness where resource readiness can be explained to refer to an organization's ability to allocate necessary resources as includes social (e.g. partnerships, alliances, vendor support, training), human (e.g. consultants, expertise, innovation influencers, support staff), and financial assets (e.g. funds for training, budget), to support the adoption, implementation, continued use, and maintenance of IS solution/innovation. From this case, it can be deduced that the church was not well resourced as a pre-cursor in their quest to achieve strategic growth. This is evident in the use of mobile phones to stream church sessions for one and the church after 3 years of going online, now making arrangements after recently sourcing/allocating funds (under a new leadership for the period 2018 onwards till another change is due) to purchase advanced streaming camera's to provide quality images and live audiovisuals for streaming both online and in the church while service is going on.

Lesson 5: Employees/Volunteers Readiness

The extent to which an IS is used and the extent to which it has infused into the processes of an organisation determines the rate of success of technology adoption and implementation of—as is the case of this study—online interactive websites and use of social media as strategic communication tools. Employee readiness which determines the extent of IT/IS usage can be explained to refer to the respective characteristics of individuals as includes learning capabilities, previous experience, level of computer skill, risk orientation, motivation and attitude towards change and innovation which are relevant for the successful adoption of IS. From this case, it can be deduced as discussed in literature, that it is essential to establish the readiness of employees (paid staff by church) and volunteers and their levels of commitment towards the bigger picture of aligning strategic IT/IS framework with the strategic vision of the church (Ahmadi et al. 2017; Cresswell and Sheikh 2012; Mwfise and Stapleton 2012; Sena et al. 2016).

As discussed above, it can be realized that the evolution and future of the digital transformation efforts by the church was influenced by a number of factors. The lessons from the church's experience highlight the choices of delivery channels and levels of sophistication that organizations in developing countries are faced with in making strategic technology adoption decisions. Amongst the varied options of engaging stakeholders, the delivery channel decision depends on the level of sophistication of the service an organization intends to deliver. The final decision is subject to the strategic choice of which service can be effectively deployed and managed over which services to provide by assessing the constraints of their context of business and capabilities.

In summary as illustrated in Table 3, this study represents a typical reflection of the introduction of a digital technology (website) that was initially introduced to provide common information about the Church, but went further to provide interactive community collaboration and engagement, a disruption to traditional ways that people are used to communicating and paying their contributions (Digital Disruption) which was followed by the development and initial increase in their

congregational market share (Digital Business), and has led to the digital transformation of the church. The study highlights the inhibiting factors to corporate online success and how such challenges were managed. Lessons from the challenges and results achieved through the technologically informed organizational change can serve as benchmark of lessons for practice and pointers as well for future research.

With all economic and societal sectors being challenged by disruptive digital technologies, the essence of this case most importantly illustrates how organizations leverage their capabilities to create disruptive innovation, develop digital business models, and digitally transform themselves. It contributes to discussions on best practices and lessons learned from organizations that succeeded in tackling the challenges and seizing the opportunities of the digital world by providing insightful discussions for practitioners and interesting case and discussion themes for researchers, teachers, and students alike. This case is further summarized in Table 4 below.

Table 4 Summary of strategic decisions and lessons

Strategic decisions	Influencing factors/ challenges	Actions/efforts at addressing challenges	Lessons
Strategic communication channel	<ul style="list-style-type: none"> Operational constraints Diffusion of ICT in Ghana Capabilities of organizational online presence 	Decision to develop an online system and use of social media as strategic communication tools	Organizational capabilities, external constraints, customer needs and channel operation costs are critical in digital transformation
Website development approach	<ul style="list-style-type: none"> Human resource Organizational learning Vendor support and relation Lack of internal IT/IS structure Electronic transactions development in Ghana 	<ul style="list-style-type: none"> In-house development leveraging on internal skill sets Assigning responsibilities to respective set up committees 	<ul style="list-style-type: none"> Starting small with available resources is critical to developing adequate organizational learning before running full scale Investment in the right technology and in the right human resource is critical to a successful technology adoption
Engaging the congregation/ public	<ul style="list-style-type: none"> Resource availability Sophistication of digital communication Objective of the digital payment implementation The problem of trust 	<ul style="list-style-type: none"> Periodic mention of the availability of the website and its other features during church gatherings along with its secured nature Use of POS device at the premises to facilitate cashless transactions Providing mobile 	E-payment success also depends on efforts aimed at educating congregation on ease of use and assured safety of online transactions with the church

(continued)

Table 4 (continued)

Strategic decisions	Influencing factors/challenges	Actions/efforts at addressing challenges	Lessons
	<ul style="list-style-type: none"> • Digital Divide • Resistance to online payment 	money as alternative digital payment	
Managing resources and channel conflict	<ul style="list-style-type: none"> • Management goal for digital transformation • Limited investments to harness full potential of digital transformation agenda. • Data silos and integration within respective systems 	Potential plans to integrate online and local information systems	Aligning strategic business and IS/IT is critical in maintaining business value

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