

Use of ICT and the Application of E-Governance Strategies in Service Delivery by Local Councils in Cameroon: The Case of Local Councils in the Bamenda Municipality

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Abstract

The increasing use of information and communication technology (ICT) by Cameroonians has brought changes in citizen's needs and demands and has raised expectations on how services should be provided. Citizens need to carry out transactions (transactional services) conveniently and obtain accessible, reliable, and sustainable information (information services) from their local government. Unfortunately, this is still far from the reality in some selected local councils in Cameroon, given that they use ICT mainly for administrative and not service delivery purposes. Therefore, this paper's main objective is to establish a link between ICT usage and the empowerment of local councils in the application of e-governance strategies for information and transaction services delivery. The theoretical framework used in the paper included Technology Acceptance, Wider Dissemination, and e-governance Models. The stratified purposive and systematic random sampling techniques were employed to obtain needed data from the Bamenda I, II, and III municipalities in the North West Region. The findings of this paper revealed that a significant number of local councils are already using their ICTs to provide information services. However, none of them so far are using ICT for transactional service delivery purposes. Also, we observed a gap between citizen expectations and local council provision of information and transactional services. This paper found that the use of ICT to apply e-governance strategies would improve local council service delivery in terms of accessibility to information by citizens and sustainability of council information services, also promote transparency in transactions between the council and the citizens, and ease transactions between citizens and local councils in terms of time and cost. Thus, this paper recommends that local councils digitalize manual service delivery processes through their operational IT units. Also, for the Cameroon government to achieve the goals stated in the NDS30 Plan for a Digital Cameroon, it must consider effectively involving local councils in the national digitalization initiatives. This can be done by encouraging them to adapt their information and transactional service delivery procedures to more ICT-based strategies despite the challenges involved.

Keywords: *ICT, E-Governance, Service Delivery, Local Councils, Cameroon*

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Introduction

The digitalization of service delivery has been successfully assimilated by most governmental institutions, which now consider ICT to be a strategic tool to efficiently support the implementation of government service delivery and economic emergence policies at both national and local government levels. This development has impelled a furry of ICT policy-making in Africa and other developing countries (Chiumbu, 2008, p. 5). In the case of Cameroon, the emerging reality is that public administration, as well as local governance, are in transition to electronic (e)-processes (Sindeu, 2013, pp. 1-24). In Tandem with the 2016 strategic plan for a digital Cameroon by 2020, the National Development Strategy (NDS30) was adopted in 2020 as a new benchmark for public action that emphasizes the digitalization of administrations at the national and local levels in achieving development objectives of making Cameroon an emerging economy by 2035.

Evolving technologies are bringing changes in citizen's demands and governmental institutions. Thus, local councils must consider re-thinking and adapting their service delivery strategies to the ever-growing ICT-conscious generation. Digitalization has become a key driver of local government performance and service delivery. The digital transformation of public administration is expected to fundamentally reshape the institutional setting of local service (Kuhlmann & Heuberger, 2023). This paper focuses on the two primary services, "Information" and "Transaction", which local councils can provide as virtual services to the local populace.

The reason for focusing on these two services is, first, because, in recent times, information has become an integral part of everyday life, and the use of information and communication technologies has facilitated communication processes worldwide. Secondly, the effects of technological advancements have been felt everywhere. Even at local levels, citizens now expect to carry out transactions in more convenient ways and even through less costly channels. Lastly, the choice of focusing on the virtual services above is validated by the literature enshrined in the 2018 UN Survey Report on *e-governance*, which enumerates the different types of information and transaction services, as well as the most recent Cameroon ICT policy document (Strategic Plan for a Digital Cameroon by 2020) which in its strategic Area 4 states that a digital culture needs to be promoted by generalizing the use of ICTs in the society, encourages legal entities to use transactional services. This, for example, has to do with the government ICT oriented objectives to draft a law to govern online payments and digitalize the civil status and information

system of local communities, facilitate online payments, accompany the digital transition with the help of certified coaching institutions and ensure the availability and implementation of the ICT blueprint by all government institutions.

The strategic plan for the digitalization of Cameroon by 2020 links *e-governance* to service delivery in its "Strategic Area 4". It particularly elaborates on a good number of government-to-citizen (G2C) strategies aimed at promoting digital culture by generalizing the use of ICT in society. The main idea here is that the digital revolution will only make sense if the entire society adopts ICTs as a way of life. As such, the advent of the digital economy in Cameroon will unfailingly entail the generalization of the use of ICTs by private individuals, government institutions, and companies. The objective here is to improve citizens' living standards through better use of digital technology. This is the reason why for Cameroon to achieve the vision of becoming an emerging nation by 2035, it will imply the proper use of information and communication technology at both national and local levels of government in order to derive solutions to service delivery challenges and enhance the performance of local councils (Cameroon Strategic Plan for the Digitalization by 2020).

Kalsi et al. (2009, pp. 212–229) posited that e-government initiatives directly impact citizens by permitting them to derive benefits through direct transactions with governmental services. The local government, as the third-tier level of government, is one of the sectors that could be instrumental in materializing Cameroon's vision of a digital economy by 2035, as stated in the 2016 Cameroon ICT strategy policy document. It is at the level of local governments that significant changes that impact the lives of the community can be initiated.

This paper, therefore, seeks to examine how local councils can use their available ICTs to provide citizens within the municipality with some important information. One of the arguments raised by this research work is that decentralization was motivated by the government's quest for service delivery efficiency. However, the wave of technological advancement has proven a need for another step forward: embracing *e-governance* strategies in providing information and transaction services. This work also argued that decentralization is desirable, but where the ingredients necessary for its proper implementation are lacking, decentralization and service delivery at lower levels of government remain problematic. Encouraging e-government initiatives at lower levels of government could be a great ingredient that will not only accompany

the Cameroon Decentralization Policy but could also positively affect service provision through a number of initiatives aimed at modernizing the local council administration.

Based on the above facts, this paper claims that decentralization brings the government closer to the people, but digitalization brings the people closer to the government. Therefore, the need for strengthening the technological capacity of councils as major local service delivery agencies is central to this study as it entails undertaking a baseline assessment of the information and communication technology capacity needs of some local councils in the Bamenda municipality of the Northwest Region of Cameroon.

Statement of the Problem

In recent times, the governance process in Cameroon as a whole is inevitably being challenged by a generation of highly informed youthful citizens who not only use new technologies for personal purposes but also use their information technology knowledge to attempt to influence government policy and programs at the political and public administration level. For example, the widespread information from individuals on social media and the ability of this information to influence citizens' perceptions and attitudes towards particular socio-political issues is increasingly rendering the ability of public authorities to exercise power over the citizens questionable.

Local governance in Cameroon is based on the need to use the local governments as major service providers. This noble objective, however, may remain far from being fully achieved given the changing trends of citizen demands based on the increasing availability and use of telephones, computers, and the internet. The case of Cameroon local councils is peculiar in that although the Cameroon government, through the August 2009 orders on the list of council workers, prescribes the different occupational groups, occupations, job categories, activities, and required skills, among which is the IT unit, most local councils have underestimated the importance of this IT unit and thus neglected the need to make them functional. This research holds on the premise that without employing technologically advanced strategies in information and transactional service delivery, local governments will inevitably continue to face more challenges in meeting the predominant ICT-based needs of their population.

In Cameroon, local council newspapers and notice boards provide traditional information service delivery channels for citizens. However, their reach remains limited to just a few. The inconsistencies demonstrated in government accountability in Cameroon end not only at the national level but also at the local level. If one were to ask how many Cameroonians know the

budget of their local councils, the response from the majority of citizens would be that they do not know. Analysis of citizen opinion on the likelihood for them to access some basic information from local councils, as can be seen in the Afro-Barometer survey data consulted by the researcher during the pilot study of this research work, reveals that the majority of Cameroonians (42.90%) think it is not at all likely for ordinary citizens to get information from their local councils on local government development plan and budget. Also, analysis from the same data shows that some Cameroonians still think it is not at all likely (20.5%), not very likely (8.2%), or just somewhat likely (23.6%) to obtain information from local councils on business registration. Citizens need to have access to information as this may enhance their trust and reliance on their local government.

Using ICTs has increased citizens' expectations of how services should be provided. It has, therefore, inevitably led to an increase in citizens' demand for ICT availability in providing essential services that they require from both central and local governments. Information and transactions, which are all essential virtual services that need to be accessed by citizens regularly, are increasingly posing a challenge to governance, especially at the local level. The lack of sustainability of information services provided by local councils and the problem of convenience in transactions between the council (service providers) and citizens within the municipality (service consumers) are also challenges.

The increasing citizens' need to obtain reliable, available, and sustainable information from their local government and to conveniently carry out transactions with their local councils is even making it more difficult for local council authorities. Fewer citizens have access to the information posted on council notice boards on site, and most citizens have experienced delays in processing documents such as council building permits and birth certificates, among others. The problem here is that local councils own a good number of ICT tools that could be used to address the problem of sustainability of council information services, but these councils use their available ICTs only for administrative purposes. Unfortunately, informed knowledge of the probable role that the application of digitalization strategies can play in mitigating these contemporary challenges of local government service delivery is still at large.

To examine the preoccupation above on how the use of ICT can help local councils to improve their provision of information and transactional services, this paper anchors on *e-governance* theories to analyze the extent to which the application of the Government to Citizen (G2C),

Government to Business (G2B) and the Government to Employee (G2E) models of *e-governance* can improve information and transaction service delivery outcomes by local councils.

Research Objectives

The main objective of this paper is to establish the link between ICT usage and the empowerment of local councils in the application of *e-governance* strategies in their information and transaction services delivery in Cameroon.

Specifically, this paper sets out to *i)* identify the various measures taken by the Bamenda I, II, and III councils to use ICT provisions to facilitate information and transactional services, *ii)* examine citizens' perceptions of ICT use for the provision of information and transactional services by the Bamenda I, II, and III local councils, *iii)* assess the extent to which ICT application enhances the service delivery system of local councils in the application of the government-to-citizen (G2C), government-to-business (G2B), and government-to-employee (G2E) strategies of *e-governance*, and *iv)* evaluate local councils' constraints in using their available ICTs to apply *e-governance* strategies in delivering information and transactional services.

Literature Review

Conceptual Framework

E-governance

Okoronkwo (2010:1-11) defines *e-governance* as the application of electronic means of interaction between government, citizens, businesses, and internal government operations to provide an effective and efficient framework for collective problem-solving. This paper discusses the concept of *e-governance* in terms of local government digitalization initiatives through ICT availability and usage by local councils, the main local government institutions in Cameroon. *E-governance* strategies are ICT-based approaches to the provision of information and transaction services aimed at improving citizens' access to council information and creating convenient opportunities for citizens to carry out transactions with the local council even from a distance.

ICT

ICT is an abbreviation for "Information and Communication Technology". ICT is an umbrella term comprising all means of electronic communication, such as computers, mobile phones, networks, hardware and software, television, satellite systems, long-distance video chatting, and

others. Many authors have associated ICT with service delivery in their definition of electronic governance. In this paper, the concept of ICT is harnessed to explain how it can help local councils apply *e-governance* strategies to transform their internal and external relationships in order to improve service delivery outcomes.

Local Government and Local Council

From the perspective of autonomy, Ogunna (1996, p.350) defines local government as a political authority purposely created by law or constitution for local communities by which they manage their public affairs within the limits of the law/ constitution. This definition entails that powers are given to local councils to have substantial control over local affairs, especially in the provision of services. It should, however, be noted that in this paper, we consider "local government" and "local council" to have the same meaning and can thus be used interchangeably. This is because, in Cameroon, the notion of local government is generally synonymous with local councils, given that the administrative technique of decentralization here is practiced within the context of a Unitary State.

Service Delivery

Fox & Meyer (1995, p.118) define service delivery as the provision of public activities, benefits, or satisfactions to citizens. Here, service delivery relates both to the provision of tangible and intangible services. In this paper, two different types of services considered corresponding to the virtual services described by the 2018 UN *e-governance* survey report, which local councils can provide through the use of ICT, are as follows:

Information services

The information services of local councils are in line with the government-to-government model and the government-to-citizen model of *e-governance*. Here, the local council acts as a three-way medium of communication between itself, the national government, and the citizens at the local levels. The local councils become the information service providers, while the citizens are the information service consumers. Local governments need to provide people with information through ICT channels to help them make more informed choices.

Transaction/transactional Services

Transactional services include service delivery for high-volume routine transactions. It is highly linked to the government-to-citizen model of *e-governance*. Here, *e-governance* permits the local council to provide some degree of online interaction through which citizens can submit

complaints on council services online, apply for jobs within the municipality, and apply for and register new businesses. The transactional services to be considered in this study include:

- Payment of taxes online with the help of mobile money or bank cards.
- Online registration for civil status marriage, application for marriage certificates, online payment of registration dues, and online publication of marriage bands on the council website.
- Online registration for birth certificates and online payment of birth registration dues.
- Online payment for utilities such as registrations for installation of boreholes/water.

Theoretical Framework

This study's theoretical framework of analysis mainly includes the Technology Acceptance Model (TAM) and the Wider Dissemination Models. The three main *e-governance* models applied in this study to derive proposed strategies for local councils are also discussed here. These include the government-to-employee (G2E), government-to-citizen (G2C), and government-to-business models (G2B).

The Technology Acceptance Model (TAM)

The Technology Acceptance Model (TAM) proposed by Davis (1989, pp. 319-340) is an information systems theory that models how users accept and use a technology. It generally deals with the prediction of the acceptability of an information system. Perceived usefulness is also seen as being directly impacted by perceived ease of use. In this study, the technology acceptance model was operationalized based on the context of Cameroon's local government realities. The Technology Acceptance Model (TAM) is appropriate for this research work, given that it helped us to design some questions at the level of our questionnaire on the perceived usefulness of ICTs for service delivery by local councils. This model was thus an instrument for clarity about the prediction of the acceptability of *e-governance* strategies for service delivery by local governments in Cameroon. This model is specifically useful because our study explores the possibility of the acceptability of *e-governance* strategies in service delivery by local councils. Given that our study interrogates the possibilities for a shift in paradigm from traditional strategies of information and transaction service delivery to technologically advanced strategies, the TAM gives our research a clue on the possibilities and challenges that local councils may have in accepting our proposed changes.

Wider-Dissemination Model

The Wider Dissemination Model proposed by Vikas Nath (2003, pp.1-13) is based on disseminating information relevant to better governance already in the public domain into the wider public domain through ICT and convergent media. This raises awareness among the citizens about ongoing governance processes and government services available to them and how they can benefit from them. This model is highly applicable to the study given that it examines the use of ICT by local councils as an opportunity for them to open up alternative channels for the local populace to access information about the municipality and validate existing information from different sources.

Models of *E-governance*

Government to Business Model (G2B)

This model entails that *e-governance* tools are used to aid the business community in interacting efficiently with the government to improve local social and economic development. Applying the government-to-business (G2B) model in this study on the role that ICT use can play in the application of *e-governance* strategies in local government service delivery is critical because one of the major sources of revenue for local councils is from taxes collected chiefly from businesses operating within the municipality. Therefore, a good environment is imperative to facilitate cooperation in the interaction between the local councils and business people. This study suggests that applying G2B *e-governance* strategies in local council service delivery could provide such an environment.

Government to Citizen Model (G2C)

This model concerns the activities carried out by public institutions with respect to citizens, for example, utilizing institutional web portals to provide online services, such as the presentation of individual tax status or the application for electronic documents from the registry offices. In Cameroon, this model could be significant for local government service delivery, given that decentralization brings the government closer to the people through the local government authorities, but this model will bring the citizens closer to the local government. The application of this model enables citizens to ask government agencies questions and receive answers. This model equally permits greater citizen access to local government information services and a cost reduction for citizens as they carry out transactions with the local council.

Government to Employees Model (G2E)

This model concerns the activities carried out by public institutions in relation to employees, for example, providing online services such as e-learning activities and refresher courses for employees through institutions who have advanced knowledge on how to initiate information technology in public institutions for efficiency in services. In focusing on service delivery, public services also need to focus on developing internal workplace environments that will ensure staff acts in a way that delivers high-quality services. In this research work, the author considered using this model because it can enable the identification of ways of developing the skills needed by workers in local councils to realize the new opportunities offered by ICT advancement, such as the internet. Applying this model in this research attests to the conception of electronic governance as a procedural approach to cooperative administrative relations, enabling local councils to perform their legitimately prescribed duties smoothly. The government-to-employee model (G2E) permits this study to capture some aspects of the delivery of interaction services both within the council workers and between the council workers and the citizens in need of various services.

Empirical Literature Framework

Augustine E. et al. (2015, pp.197–207) conducted a study on assessing the effectiveness of using ICT components for service delivery in Etsako West Local Government Area of Edo State, Nigeria. Their study aimed to assess the use of ICT as a tool for effective service delivery in the Nigerian Local Government. The chi-square correlation test was used to test the significant association between ICT penetration in Etsako West Local Government in Edo State of Nigeria on the one hand and the relationship between the use of ICT components by staff of the local government in the performance of their duties and service delivery on the other. Their study revealed that there was a low level of ICT usage in the local government studied and recommended, among others, the need for the government to create opportunities for local government staff to own computers and be ICT literate for efficient service delivery. The study of Augustine E. et al. (2015, pp.197–207) corroborates with this research work, which primordially seeks to advocate that the advent of Information and Communication Technology (ICT) creates opportunities for its use to promote effective service delivery by local councils in Cameroon.

The research of Gilbert & Semwogerere (2015, pp.693-700) aimed to investigate the effect of ICT adoption and service delivery in Tororo District Local Government in Uganda. They had the objectives of establishing the ICT literacy levels, examining the service delivery mechanism,

determining the relationship between ICT and service delivery, and proposing a framework for ICT adoption in Uganda's Local Government. The results of their study showed that there is a strong inverse linear correlation between ICT and service delivery. The study recommends that local governments should invest more in ICT systems so as to strengthen ICT usage. This will, in turn, strengthen the quality of services delivered. Local government employees should be trained to equip them with modern ICT skills.

In examining the opportunities and challenges of using ICT for service delivery, Monga (2008, pp.52-61) analyzed the experiences of *e-governance* at the local, state, and federal levels of government in India. The study found that *e-governance* has revolutionized the quality of service delivery to the citizens by improving transparency in the administrative process, saving time due to single window service provisions, simplifying procedures, reducing corruption, improving office and records management, and improving the attitude and behavior of civil servants.

Salam (2016, pp.1-65) conducted a study on the impact of using ICT in *e-governance* for good governance through public service delivery. His study assesses the efficiency and implications of Bangladesh's district e-service centers and validates *e-governance* for good governance. The study findings revealed that due to the entrance of *e-governance* initiatives and information in *e-governance* services, the extent of accessibility in citizen satisfaction and effectiveness in good governance showed a high level of advancement. Also, e-service delivery positively impacts citizen satisfaction, and *e-governance* initiatives lead to good governance. This study and its findings, however, have some limitations as they fail to examine the information technology capabilities of the actors directly involved or in charge of service delivery.

Mugambi (2013, pp.1-37) conducted an elaborate study on the effects of e-government strategy on service delivery in the government ministries in Kenya. The research findings revealed that although the implementation of e-government was not very effective in all ministries, it improved the services. The study revealed that the use of e-government enabled database sharing, lowered the costs of delivering services, reduced the time taken to process a transaction, improved records management, eased working procedures, and improved staff productivity. Although the study recommends enacting policies to regulate e-government implementation, it fails to demonstrate the challenges associated with e-government implementation processes and explore the possibility of using *e-governance* by other stakeholders like the non-governmental sector and major service providers at county levels.

Sindeu (2013, pp.1-24), in his paper on the implementation of e-government in Cameroon, posits that major electronic government initiatives at the national level taken by the Cameroon government include but are not limited to the following: Management of State Personnel and Salaries (SIGIPES); Management of Public Finances (SIGEFI); Management of Customs Transactions (SYDONIA); Transport titles such as driving license, registration documents (SYSTAC); Electoral documents and biometry process (ELECAM); Civil status and identification documents (MINATD), Police Judicial system & database for prisoners by the Ministry of Justice and the project for Tender documents - Ministry of Public Contracts. For him, the local councils are the most basic level for implementing *e-governance*. In discussing the examples of some trends in e-government, Sindeu points out that local e-government is one of the paradigms within the framework of Cameroon's e-government trends. Reviewing this work for this study is vital given that the presence of various institutions in Cameroon that practice *e-governance*, as stated by Sindeu, indicates that carrying out a study on the concept of *e-governance* at local levels is quite contemporary.

Materials and Methods

This study was conducted in the Bamenda Municipality of the Northwest Region of Cameroon, comprising three main Local Council areas: the Bamenda I, Bamenda II, and Bamenda III municipalities. It employed survey and case study research designs, with purposive and systematic random sampling techniques for field data collection. The study population included selected workers in councils who were directly or indirectly involved with delivering both information and transactional services and some systematically selected citizens who came to the local councils to obtain one service or the other. The target here was citizens who came to apply or register for their civil status marriages, citizens who came to the council to apply for or obtain their children's birth certificates, and any other service that could be classified as information or transactional. The total sample size was 181 respondents, with 37 local council workers and 144 citizens/business owners. The opinion sampling technique was employed in this study using questionnaires as research instruments. With the aid of SPSS, descriptive statistics was used to treat and analyze the data collected from the field. This study further employed the Chi-Square approach to test the association between using ICT and applying *e-governance* strategies in service delivery by local government service providers in the selected councils. The fourth objective of this study was verified thematically using the direct reporting technique since the responses were captured using open-ended questions. The open-ended questions required council

workers and citizen/business respondents to provide their points of view on the challenges local councils face or would probably face in using ICT-based strategies for service delivery.

For the qualitative source of materials, the technique employed here was documentary with the aid of instruments like textbooks, previous research works, newspapers, and the internet, which was used to get information about the use of ICT and the application of *e-governance* strategies in service delivery by local governments in Cameroon and elsewhere. Also, at the level of field data collection, interviews were conducted with the key administrators of the three local councils that made up the study area (Bamenda I, Bamenda II, Bamenda III). Those concerned with the interview mainly involved the Mayors, their Deputies, and the Secretary Generals of the local councils. The method of analysis employed by the researcher for the qualitative data obtained from the administration of the interview guide was a thematic analysis based on the direct reporting technique. Using the thematic analysis approach, the researcher was able to group the interview responses into themes or topics, which could give a clearer picture of the opinions sampled.

Results and Discussions

- **Objective 1:** *To establish the relationship between the use of ICT, the application of government-to-business (G2B) strategies, and service delivery outcomes in local councils.*

Results

Table 1: *Chi-Square Test Analyses of association between government-to-business (G2B) strategies and service delivery in local councils*

Raw	Independent Variable	Dependent Variable	Pearson Chi-Square	p-value
1	The local council should have a telephone database of business owners and use it to send text messages reminding business owners about tax payment datelines	If this council uses its ICTs to apply the above strategies, it will make the information services of this council more available to users or citizens	10.117	0.039
2	The local council should operate an online platform on the council website where both old and new businesses can be registered by simply filling out	If this council uses its ICTs to apply the above strategies, it will make the services of this council	14.991	0.020

	a form online indicating the type of business and location of business	more available to users or citizens		
3	The local council should provide a possibility where taxes could also be paid using mobile money, given that some businessmen may not have the time to come to the council and pay.	If this council uses its ICTs to apply the above strategies, it will improve the quality of services provided by the local Council	3.092	0.543
		If this council uses its ICTs to apply the above strategies, it will make the services of this council more available to users or citizens	9.385	0.311
4	The council should do a quarterly online publication of the list of existing businesses, those that have paid their taxes, and those that have not.	If this council uses its ICTs to apply the above strategies, it will improve the quality of services provided by the local Council	3.290	0.511
		If this council uses its ICTs to apply the above strategies, it will make the services of this council more available to users or citizens	13.943	0.083

Source: Field survey by researcher

Discussion

The association tested in Row 1 of the chi-square table above shows a probability value of 0.039, which rejects the null hypothesis at a 5% significance level. This affirms that if local councils have a database of telephone contacts of business owners and use it to send them text messages reminding them of tax payment datelines, it will make information services more available to business owners and consequently encourage business people to pay their taxes. This aspect conforms with the high number of respondents who agreed and agreed strongly that sending congratulatory text messages to those who have paid their taxes and a gentle reminder to those who have not yet paid can help reduce interaction conflicts between council workers and business people.

Objective 2: *To establish the relationship between the use of ICT, the application of the Government-to-Citizen (G2C) strategies, and service delivery outcomes in local councils.*

Results

Table 2: *Chi-Square Test Analyses of association between G2C strategies and service delivery in councils*

Raw	Independent	Dependent	Pearson Chi-2 (pdf)	p-value
1	Create more awareness of council programs and projects to the citizens through SMS	If this council uses its ICTs to apply the above strategies, it will make the services of this council more available to users or citizens	24.541	0.000
2	Give transaction notifications to citizens who come to the council for services that take time	If this council uses its ICTs to apply the above strategies , it will improve the quality of services provided by the local Council	3.499	0.478
		If this council uses its ICTs to apply the above strategies, it will make the services of this council more available to users or citizens	13.054	0.080
3	Online registration for civil status marriage and application for marriage certificates	If this council uses its ICTs to apply the above strategies, it will improve the quality of services provided by the local Council	6.729	0.081
		If this council uses its ICTs to apply the above strategies, it will make the services of this council more available to users or citizens	6.756	0.054
4	Online registration of new births and application for birth certificates	If this council uses its ICTs to apply the above strategies, it will improve the quality of services provided by the local Council	10.302	0.016
		If this council uses its ICTs to apply the above strategies, it will make the services of this council more available to users or citizens	12.572	.050
5	Online application for building permits	If this council uses its ICTs to apply the above strategies, it will improve the quality of services provided by the local Council	5.661	0.226
		If this council uses its ICTs to apply the above strategies, it will make the services of this council more available to users or citizens	12.823	.018
6	Online applications to use council facilities like the council hall and pay the dues through mobile money.	If this council uses its ICTs to apply the above strategies, it will make the services of this council more available to users or citizens	21.662	0.006

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7	Online platform for citizens to book audiences with council authorities, e.g., mayor, SG, etc.	If this council uses its ICTs to apply the above strategies, it will improve the quality of services provided by the local Council	2.956	0.398
		If this council uses its ICTs to apply the above strategies, it will make the services of this council more available to users or citizens	9.034	0.072

Source: Field survey by researcher

Discussion

Use of ICT, application of G2C Strategies and Service Delivery Outcomes in Bamenda I, II and III Councils: Chi-Square Analyses

Row 1 on the above government-to-citizen chi-square analysis table gives a picture of the significant role that the use of telephone contact database of citizens by local councils can play in enhancing the provision of information to citizens. The probability value (0.000) shows a significant relationship between local council use of phone calls, messages, etc., and service delivery in terms of availability of council information to citizens. This is because it rejects the null hypothesis at a 1% significance level, meaning that if a similar study is carried out elsewhere, using different councils as case studies, there is a 99% assurance that the study will produce the same results.

For example, it is evident from the statistical analysis that local councils need to have the telephone contacts of key subjects within the municipality and even of household heads, which can enable the council to create more awareness of council programs and projects among the citizens through SMS or easily pass announcements about cleanup campaign days, vaccination schedules and other programs and projects through SMS. This is in line with the results in Row 2, which demonstrates that citizens will likely enjoy carrying out transactions with local councils if local councils can give them transaction notifications on services that take time. For example, a citizen drops an application for a building permit and receives a call from the council notifying him that his permit has been granted. This is better than allowing the citizens to spend time and money coming to check repeatedly.

The probability values (p-values) of Row 3, 4, and 5 above, which all reject the null hypothesis at a 5 to 10 percent level of significance, are an indication that the use of websites by local councils to apply the G2C strategies in information and transactional service delivery between the council and citizens will have a significant impact on the availability of these services and equally improve the quality of the services. For example, the proposed strategies by this study

are for local councils to own websites that provide a platform for online registration of civil status marriage and application for marriage certificates; online registration of new births and application for birth certificates; and online application for building permits. The results obtained from the chi-square analysis, as shown by the P-values of Row 3, 4, and 5, provide some scientific rigor to the link between the use of ICTs, the application of *e-governance* strategies, and information and transaction service delivery outcomes.

Row 6 indicates a highly significant association between the local council's provision of an opportunity for online applications to use council facilities and the increasing availability of such facilities to the citizens or users. The 1% level of significance, as can be derived from the P-value, shows that there is a 99% chance that every council that makes provision on its website for citizens to contact them over the use of some council facilities will increase the number of citizens who use and pay for council facilities.

The chi-square results in Row 7 are even more interesting as they reveal that a local council online platform where citizens can book audiences with council authorities like the Mayor, SG, etc., may not necessarily improve the quality of services provided by the council but will instead make the services more available to citizens. Statistically, this is evident in the 0.072 probability value, rejecting the null hypothesis at a 10% significance level. This means that if a similar study is carried out with other councils, there is an 80% chance that the results will prove the same. i.e., it will still be noticed that councils who provide an online platform for citizens to book audiences with their council authorities will make it more convenient for more people to do so than allowing them to come to the council premises over and over again before having the opportunity to meet the authorities.

Objective 3: *To establish the relationship between the use of ICT, the application of the Government-to-Employee (G2E) strategies, and service delivery outcomes in local councils.*

Results

Table 3: *Analyses of the Association between G2E Strategies and Service Delivery in councils*

Raw	Independent	Dependent	Pearson Chi-Square	p-value
1	This council should Use ICT mediums for organizing council meetings	If this council uses its ICTs to apply the above strategies, it will improve the quality of services provided by the local Council	2.62	0.622

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2	The council should have an intranet network available in all or most of the offices/services	If this council uses its ICTs to apply the above strategies, it will improve the quality of services provided by the local Council	0.758	0.860
3	This council should Use ICT mediums for organizing council meetings	If this council uses its ICTs to apply the above strategies, it will make the services of this council more available to users or citizens	15.197	0.050
4	This council should Use ICT mediums for coordinating council interactions with other local government stakeholders	If this council uses its ICTs to apply the above strategies, it will make the services of this council more available to users or citizens	9.520	0.049
5	The local council should provide in-service ICT training programs for council personnel	If this council uses its ICTs to apply the above strategies, it will make the services of this council more available to users or citizens	6.159	0.046
6	The council should have an intranet network available in all or most of the offices/services	If this council uses its ICTs to apply the above strategies, it will make the services of this council more available to users or citizens	9.621	0.041
7	The IT unit of the council should work closely with other units to facilitate accomplishing tasks in the council.	If this council uses its ICTs to apply the above strategies, it will make the services of this council more available to users or citizens	7.075	0.032

Source: Field survey by researcher

Discussion

The Chi-Square table above summarizes the test results for the association between local council application of G2C strategies and service delivery outcomes regarding availability and improvement in the interaction relationships among employees in local councils. The results in Row 1 and 2 show that they are not significant because their level of significance is more than 10%, which is above the statistically acceptable level of significance, which naturally ranges between 1%, 5%, and 10%. This shows that there is no correlation between the dependent and independent variables in both rows. It means that even if local councils use ICT mediums for organizing council meetings, it will not significantly affect the quality of council meetings. Also, Row 2 indicates that merely having intranet services in councils may not necessarily have a significant effect on the quality of service provided by the council. However, linking the results of Row 2 to the results in Row 6, it can be observed that if local councils have an intranet

network available in all or most of the offices/services, it will significantly facilitate working procedures within the council as it will make such services available to council workers who are then main users.

An outstanding remark in the table above is the significant correlation between ICT-based in-service training of council staff and the improvement of council services. This is demonstrated in Row 5, showing that providing in-service ICT training programs for council personnel will make the information and transactional services of the councils more available to both council employees and citizens. The association presented by Row 7 crowns it all with a 5% level of significance in the correlation analysis between the role to be played by the IT Unit in the application of *e-governance* strategies in the information and transactional service delivery processes of local councils. Row 7, therefore, attests that if the IT unit of the council works closely with other units, there is a high probability that it will facilitate the accomplishment of tasks in the council and consequently make council information and transaction services more available to both council workers, citizens, and the business community.

Objective 4: *Examine local councils' constraints in using their available ICTs to apply e-governance strategies in delivering information and transactional services.*

Results

Table 4: *Qualitative analysis of objective four results using the thematic approach*

Theme	Grounding	Sampled quotations
Lack of basic knowledge of ICT use by most council workers	8	" Most council workers are not IT literate." "Lack of training for council workers on ICT use" "Personnel don't have knowledge on ICT use" "Lack of specialized competent staff in councils"
No policy framework for ICT use for service delivery by local councils	7	"What the government provides for us legally is the use of council registers, not online platforms." "There is no online platform designed by the Ministry of Decentralization and Local Development for local councils to use" "If the government tells the councils to use online services and shows them how to use, then it would be easier. But for now, it is difficult."
Council IT units are not functional	13	"IT unit is just on paper, not yet put in place" " Lack of permanent IT staff in council" "IT unit merged with secretariat" "No money to pay IT technicians constantly" " Poor relationship between the council IT unit and other units of the council"

		<p>“ Inadequate computers in the council”</p> <p>“IT equipment is only for administrative use, e.g., typing council reports, letters, etc.”</p>
Financial implications	15	<p>“High cost of internet charges”</p> <p>“ High cost of maintenance of ICT equipment”</p> <p>"Training of staff on ICT use will be expensive for councils."</p> <p>“ Lack of trust in the Cameroon mobile money system for payment of transactions in council”</p>
Resistance to change from manual to digital	9	<p>"People may still prefer to come to the council personally."</p> <p>“Personal relationship with council can be lost”</p> <p>"Not everybody knows how to use the internet, so they will refuse."</p> <p>“Large rural population”</p> <p>“Fear that the local population which is illiterate may not access ICT based services”</p> <p>“ Fear that the use of ICT strategies may lead to unemployment”</p>
Poor internet services	5	<p>“Poor internet network”</p> <p>“Low voltage caused by irregular electricity supply”</p> <p>“Lack of council websites”</p>

Source: Field survey

Ranking the challenges from the highest to the least related sampled quotations, we had the following results:

Table 5: Ranking of thematically grounded responses

Theme	Grounding	Rank
Financial implications	15	1 st
Council IT units are not functional	13	2 nd
Resistance to change from manual to digital	9	3 rd
Lack of basic knowledge of ICT use by most council workers	8	4 th
No policy framework for ICT use for service delivery by local councils	7	5 th
Poor internet services	5	6 th

Source: Field survey

Discussion

The ranking above is a more significant assertion of the alternate hypothesis, which states that the Bamenda I, Bamenda II, and Bamenda III Councils are more likely to face challenges in using ICT for applying ICT-based approaches to service delivery. This is evident in Table 5, showing financial implications (15) as the highest constraint councils are likely to face and poor

internet services (5) as the least expected constraint raised by council workers. Also, based on the ranking of the thematically sampled quotations, the second challenge is that council IT units are not functional or operational (13). Surprisingly, various responses related to resistance to change from manual to digital strategies were identified in the third (3rd) positions. The lack of basic knowledge on ICT use by most council workers and the lack of policy framework for ICT use in service delivery by local councils occupied the 4th and 5th positions, respectively.

This study was mindful that using ICT for service delivery is a relatively new concept many institutions in developing countries have yet to adopt. The level of acceptance of new technology is always accompanied by the realities surrounding the context for implementing such technology. To attain the objective of analyzing the constraints to the successful use of ICT for the application of *e-governance* strategies in service delivery, the researcher, through an open-ended question, sampled the opinion of both council workers and citizens/business respondents on the challenges they think the local councils face in using their available ICTs to apply *e-governance* strategies proposed by this study. The finding of this study revealed that although ICT enhances efficiency and enables better delivery of information and transaction services, the use of ICT for implementing *e-governance* strategies in local councils can face many challenges. These challenges include the following:

- The IT units are not well equipped, and some are not even functional
- Most of the council workers are not computer literate as personnel do not have knowledge of computer use, and councils do very little for in-service training of workers on the use of ICT.
- There is no clearly defined roadmap for the use of ICT for service delivery in local councils
- Resistance to accept new ICT-based approaches by some council workers, especially the elderly council workers
- Some local councils are rural, and the rural population does not have the same privileges as the urban population. Also, the fear here is that the illiterate local population may not access the ICT-based services. This study, through the review of Cameroon ICT policy documents, however, found that the construction of public digital spaces in villages is one of the objectives in the Cameroon government's priority action plan for the digital

economy in Cameroon, which aims to generalize access to broadband services for citizens, businesses, and households.

- Lack of knowledge of the advantages of ICT for administrative and service delivery purposes.
- There is a fear that the application of ICT-based approaches will lead to unemployment as ICT will now do most of the services rendered manually.
- Staff training will require more expenses, and the use of office automation can be very expensive.
- Lack of ICT-enabled facilities like websites in most councils.

The challenges enumerated above are highly related to the findings of Mozammel *et al.* (2013, pp.43-46), who researched to assess the potentialities, issues, and challenges of implementing *e-governance* in developing countries. A general remark on the challenges to the uses of ICT for service delivery purposes stated above is that a good number of solutions that could be proposed for each of the problems above exist equally. It was within the framework of analysis drawn from the realities of a most densely populated developing country in the world where good governance is badly needed (Bangladesh) that Mozammel *et al.* (2013:43-46) proposed a model for implementing a successful *e-governance* System that will suit citizen perspectives.

Although, indeed, the current impact of the use of ICT by local councils for service delivery could be biased in favor of the urban areas, adequate measures would likely be put in place by the Cameroon government to deal with this sad side by extending ICT usage opportunities to the rural areas as can be seen in the Strategic Plan for a Digital Cameroon by 2020. A more likely solution to the fear of urban/rural divide in ICT use for service delivery by local councils in Cameroon could be the point of view of Greenide (2002), who posits that: "*For rural areas, the real challenge is to find the best fit between their current development policies, strategies and the best ways to access and manage information.*" Given the importance of ICT in service delivery, the capacities of rural societies to absorb and adhere to the use of information technology to obtain services do not have to be underestimated. For Greenide (2002), it is imperative that a positive approach, despite existing constraints, carefully analyzes needs, using appropriate tools and methods to make part of a positive approach that considers the socio-cultural realities of the rural areas.

Conclusion

The empirical analysis of this study based on a series of chi-square tests showed that most of the test results of correlation between the dependent and the independent variables had at least a 1%, 5%, or 10% level of significance, thus rejecting the null hypothesis which stated that "there is no significant relationship between use of ICT, application of *e-governance* strategies and information and transaction service delivery of local councils. The probability values obtained in the chi-square analysis were equally an indication that local councils who use their available ICTs to apply *e-governance* strategies in providing information services are likely to improve their service delivery outcomes regarding the availability and sustainability of their information services. Also, councils that use their available ICTs to apply *e-governance* strategies in the provision of transactional services will make routine transactions more accessible for citizens and equally ease transaction procedures for citizens and council workers. This finding is in line with the observation made by Mozammel *et al.* (2013, p.43-46) in a similar case study of Bangladesh, where they examined a citizen perspective *e-governance* model for developing countries. The use of ICT, as well as *e-governance*, has come to stay. The reality is that if adequately used, the positive side overrides the negative impact or constraints. Thus, instead of focusing on the probable challenges, local councils need to take up the courage to take advantage of the availability and use of ICT tools for better provision of information and transactional service.

Recommendations

- Based on the finding that most local councils do not have functional IT units, this study recommends that local councils should take up the initiative of employing the right personnel in their IT units and making them operational according to the standards set by the Ministerial Order No.00136/A/MINATD/DCTD of 24 August 2009 to implement the standard list of council jobs.
- Local councils should use ICTs not only for council administrative reasons but also for information and transaction service delivery purposes.
- The Ministry of Decentralization and Local Development should organize seminars at local government levels to increase awareness of the possibilities of inculcating *e-governance* strategies in the service delivery process.

- There is a need for the development of local ICT expertise. The successful initiation of *e-governance* strategies by local governments to provide essential services will depend mainly on the availability of human resources and the capabilities of the local council.
- Local councils, especially those in urban areas, should encourage the combination of the use of both traditional service delivery processes and ICT-based service delivery processes.
- Finally, local councils should engage in digitalizing some manual processes of service delivery through their operational IT units. Also, for the Cameroon government to achieve the goals stated in the NDS30 Plan for a Digital Cameroon, it must consider effectively involving local councils in the national digitalization initiatives. This can be done by encouraging them to adapt their information and transactional service delivery procedures to more ICT-based strategies despite the challenges involved.

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