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PERSPECTIVE**

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ACHIEVING EFFECTIVE ICT SERVICE DELIVERY IN GOVERNMENT: OGUN STATE IN PERSPECTIVE

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Abstract

The study investigated the access, use and usefulness of e-tax salary and e-Certificate of Occupancy (e-COO) service delivery to civil servants in Ogun State. Also, perceived usefulness and ease of use to determine the attitudes of citizen towards the adoption of e-government services was also examined. The research identifies the trio (human, material resources and institutional framework) of the inadequacies in the political as being the major challenges of achieving effective ICT service delivery in government. A total of 596 civil servants were randomly selected out of 650 questionnaires that were administered across 20 local government areas in the state. Seven (7) research questions and four (4) hypotheses were answered and tested respectively. Frequency counts and percentages were use to answer the research questions, while Pearson Product Moment Correlation Coefficient was employed to test the study's hypotheses. The study revealed that ICT has been veritable is a tool for improving government performance, efficiency and effectiveness of e-tax salary and e-Certificate of Occupancy (e-COO) service delivery to civil servants. Subsequently, the service was very instrumental in reducing overhead cost, generate employment and improve revenue in the long run. The study suggests that establishment of proper institutional framework, improved funding, engagement of right expertise and political will should be facilitated and encouraged by the government in order to maximize effective ICT service delivery in government to her citizenry.

Introduction

Establishment of effective and performance driven government service delivery in modern day democratic governance is the pathway for sustaining the confidence of the citizenry in any nation. The deployment of a framework for acquisition, processing, dissemination and management of information, are strategies to engage in providing solutions for the perennial challenges confronting modern-day democratic system of government. Several authors (Elsheikh & Azzeh, 2014; Chen & Zhang, 2011; Folorunso et al., 2012; and

Kolsaker & Lee-Kelley, 2008), attested that effective management of information is the centre piece of government service delivery to the people. The implication is that infusion of ICT into public administration will in no small measure enhance efficiency in the delivery of services to people. According to Unuigbokhai and Amedu (2012), ICT helps in taking high quality decisions and at the same time save time. In public administration, ICT deliverables include: e-Government, e-Governance, e-Democracy and e-Service (Adeyemo, 2011; Gichoya, 2005; AlAwadhi & Morris, 2009; Sardi & Mlikota, 2002; Mohammed et al., 2010). Subsequently, e-Government is synonymously used as digital government, online government or transformation government.

E-Government has been defined as the application of information and communication technology (ICT) to transform the efficiency, effectiveness, transparency and accountability of informational and transactional exchange within government, between governments and government agencies at federal, state and local levels, citizens and business; and to empower citizens through access and use of information. It is the term that reflects the use of information and communication technology (ICT) in public administration to change structures and processes of government organizations. The concept is an attempt to offer more ease of access to governmental information and services for citizens, businesses and government agencies; to birth high level of potential for improving and advancing interaction between the government and citizens, businesses and government agencies electronically. e-Government is a transacting business that moves society into an era where citizens increasingly interact with government, demanding a greater variety of services and information, where the demand for service and the ensuring pace of change grows ever greater, and where the need for innovation and entrepreneurialism in government is at a premium (AlAwadhi & Morris, 2009; Mohammed et al., 2010). Specifically, it is an unequivocal commitment by decision-makers to strengthening the participation between the private citizen and the public sector with ICT to foster good governance. However, e-Democracy deals with issues that relates to how the state make use of ICT to improve its rule-making function that is involving the various societal actors in its decision-making process (Adeyemo, 2010). The service rendered by public sectors to citizens under the platform of e-Governance is called e-Service. UN (2003) attested that there are three prerequisites that affect the potential of e-Government: a minimum threshold level of technological infrastructure, human capital, and e-connectivity for all. This trio prerequisite plays unquantifiable roles in the sustainable of e-government in any nation. Countries that have adopted and applied electronic services ICT to their operations are now reaping the benefits of good governance and witnessing dramatic improvement in their development efforts (Mlikota, 2002; Nwelih & Ukaoha, 2010), for the sustainable governance. The developed nations like Singapore, United Kingdom, United States, Canada, Japan, Argentina and most European nations have been adopting ICT for governance. ICT is a strong tool for sustainable development and improving governance, widening

democratic space, increasing productivity, administrative effectiveness and cost savings (Adamali, Coffey & Safdar, 2006; Bwalya, 2009; Unuigbokhai & Amedu, 2012).

Despite the availability and awareness of ICT infrastructures and innovations in West Africa, these countries are yet to commit strong political will, devote adequate resources (both human and materials), and develop institutional frameworks for ICT implementation, so as to fully explore the potential offered by ICTs (Gichoya, 2005; Bwalya, 2009; Adeyemi, 2011; Sardi and Mlikota, 2002). The adoption and use of ICT tool for effective government service delivery is hinged on effective development and integration of adequate institutional framework that will facilitate evaluation and strategic implementation. Subsequently, the recent developments in the use of technologies globally and particularly Nigerian government for myriads of functions facilitate the use of modern tools to acquire, process and disseminate information in a more effective way.

Therefore, effective use of Information and Communication Technology (ICT) for e-governance have become a modern veritable tool for achieving effective government service delivery despite the weak political and inadequate materials vested on the project by the government. However, inadequate supply of human and materials needed resources at the local government may be major challenges of hindering its feasible at the moment in Nigeria, evident from inadequate financial background and expert to deploy and integrate ICT services in local government. this level of government, this Hence, it is necessary and sufficient to argue that the benefit of ICTs in enhancing governance services be strongly felt at the local government level because local government is closer to the people than any other arms of government. Consequently, the research is limited to federal and state level.

This paper examined the deployment and integration of ICT service on access, use and usefulness of e-salary, e-tax and e-Certificate of Occupancy (e-COO) delivery to civil servants in Nigeria, with particular reference to Ogun State. The study also seeks to investigate the adoption of e-government services in Ogun State within the context of Technological Acceptance Model (TAM), on a focus group of respondents, specifically the civil servants in the state, thereby coming up with strategic plan and framework for effective ICT service delivery. It is expected that the findings of this research will help decision makers gain a better understanding of user acceptance and adoption of e-services, enabling them to deploy effective and efficient services.

Objectives of the Research

This study was however set to achieve the following specific objectives:

1. Investigate the access of e-salary delivery to civil servants.
2. Assess the use of e-salary delivery to civil servants.
3. Examined the use e-tax salary delivery to civil servants.

4. Find out the usefulness e-tax salary delivery to civil servants.
5. Examined the access, use and usefulness of e-tax salary delivery to civil servants.
6. Investigate the access, use and usefulness of e-Certificate of Occupancy (e-COO) delivery to civil servants
7. To investigate the challenges facing successful integration and use of ICT tool for service delivery to civil servants in Ogun State Government.

Research Questions

The following research questions were answered in this paper:

1. What is the level of access of e-salary delivery on civil servants?
2. What is the level of use of e-salary delivery on civil servants?
3. What is the level of use of e-tax salary the delivery to civil servants?
4. What is the usefulness e-tax salary delivery to civil servants?
5. Does relationship exists in the access, use and usefulness of e-tax salary delivery to civil servants?
6. Does relationship exists in the access, use and usefulness of e-Certificate of Occupancy (e-COO) delivery to civil servants?
7. What are the challenges facing successful integration and use of ICT tool for service delivery to civil servants in Ogun State Government?

Research Hypotheses

To achieve the above stated objectives, it is pertinent to test the following hypotheses:

- Ho₁:** There is no significant relationship between strong political will and successful integration of ICT for service delivery to civil servants
- Ho₂:** There is no significant relationship between availability of human and material resources and successful integration of ICT for service delivery to civil servants.
- Ho₃:** There is no significant relationship between appropriate institutional framework and successful integration of ICT for service delivery to civil servants
- Ho₄:** There is no significant relationship between perceived usefulness and ease of use and successful integration of ICT for service delivery to civil servants

Review of the Related Literature

Traditionally, the interaction between a citizen or business and a government agency took place in a government office. With emerging information and communication technologies, e-government services have been brought to the door steps of the clients. Hence, e-Government aims to make the interaction between government and citizen (G2C), government and businesses (G2B), and inter-ministry relationship (G2G) friendlier, convenient, transparent, and inexpensive (The World Bank Group, 2012; Al-Shaboul et al., 2014).

As noted in earlier studies, the potentials of ICT for transforming the administration of government and her service delivery to the people are enormous. While the developed nations have tapped into these rapidly, the developing nations are integrating slowly (Augustine et al., 2015; Sardi and Mlikota, 2002; Gichoya, 2005; Matavire et al., 2010; Nwelih and Ukaoha, 2010; Unuigbokahai and Amedu, 2012; Al-Shaboul et al., 2014; Albert, 2010; etc.). The good thing is that the question is no more about the relevance of ICT to government but the will, resources and frameworks for the integration of ICT to government. Governments of most nations in the world have come to term that ICT tools are key drivers and performance indicators of government service delivery (Bwalya, 2009; Folorunso et al., 2012; Adeyemo, 2010).

Literature abounds on benefits, challenges and developing operational framework and strategic plans for successful implementation of e-government, e-governance and ICT integration in government service delivery, and how ICTs have facilitated citizens participation in government. Gichoya (2005) presents work on the characteristic challenges that developing countries face, which makes ICT implementation in government fail to succeed. According to this work, developing countries are still far behind in implementing e-Government and it is hoped that successful implementation of ICT project will act as a strong foundation for e-Government initiative.

On the benefits of ICT in governance, Milakovich (2010) argued that information communication technology has enriched US citizen participation in government, evident from the implementation of internet-based newly created spaces, called “*polispheres*” used by political activities and candidates to facilitate wider collaboration and citizen participation in electoral processes. In similar manner, Sardi and Mlikota (2002) identifies areas of governance where ICTs can be applied to foster citizen participation in government to include: citizens’ juries, citizens’ panel/standing research panel, forums and panels, focus groups, opinion polls, referendums and petitions. According to them, another important benefit of using ICT is that, it offers the possibility for reintegrating into political life of minorities that have been marginalized in politics because of the exorbitant costs of running a campaign.

On the other hand, Matavire et al., (2010) identified the factors which inhibit the successful implementation of e-Government in the Western Cape; South Africa using analysis techniques derived from Grounded Theory Methodology and asserted that e-Government implementations in developing countries are generally more problematic when compared to the developed nations. The ability of developing countries to reap the full benefits of e-Government is limited and is largely hampered by the existence of a myriad of political, social and economic hindrances. AlAwadhi and Morris (2009) identified the attitudes and perceptions of the citizen of Kuwait, a developing country towards the adoption of e-government services based on Unified Theory of Acceptance and Use of Technology (UTAUT). The study suggested that e-government services should be designed so as to be as easy to use as possible, to meet the needs of the culturally and diverse population of the country in terms of education and Internet experience.

Bwalya (2009) assessed opportunities, issues relating to the successful implementation of ICTs and e-services and challenges in government of Zambia. The study found that lack of adequate ICT infrastructure and political will, provision of content in foreign language other than local languages, lack of proper change management procedure, non-contextualization of e-government practices among others, contributed to the delay in appropriate e-government adoption in the said country. In similar manner, Nkwe (2012) studied the challenges on implementation of e-government and potential opportunities in Botswana. The findings of this study revealed that Botswana is still lagging in utilizing ICT for delivery government service delivery. Also, significant research have been conducted on issues relating to Nigeria ICTs implementation, e-service delivery, e-government and e-governance adoption. Albert (2009) argued that political will, inadequate infrastructures, and corruption among other problems affect e-democracy and e-governance adoption in Nigeria and other African states.

Study conducted by Nwelih and Ukaoha (2010) and Unuigbokhai and Amedu (2012) revealed the need for consolidated and good governance through instrumentality of ICT strategies. The authors further reiterated that when such move is invoked, ICT will help in no small measure to reduce poverty, provide educational opportunities, improve healthcare service delivery, improve public administration, enhance democratization, and improve citizens' knowledge about candidates for parliaments and other public jobs etc. Mohammed, Abubakar and Bashir (2010) stated that successful integration of e-government in Nigeria requires strong leadership vision, comprehensive strategy and broad framework that is not only benchmarked on global best practice but also sensitive to existing political and economic realities. On citizen participation in government, Folorunso et al., (2012) proposes an e-government architectural framework that uses knowledge management facilities to capture and elicit knowledge from the citizen through an online web-based discourse for African countries using Nigeria as a case study. The architecture is expected to enable citizens have stakes in the decision-making processes that affect them directly or indirectly their lives if implemented.

On the adoption of e-services, Augustine, Joseph and Sunday (2015) conducted research on the assessment of effectiveness of ICT as a tool for service delivery in Edo State, Nigeria using Etsako West Local Government Area as a case study. The study focused on 650 staff of the local government out of which 420 were randomly sampled. Results from the test of hypotheses showed that there is no significant association between ICT and service delivery in the administration of the Etsako local government area. Therefore, this study investigated the integration of ICT service on access, use and usefulness of e-salary, e-tax and e-Certificate of Occupancy (e-COO) delivery to civil servants in Ogun State.

Theoretical Framework

A number of studies have reported the existing theories upon which research relating to ICT integration, implementation and adoption could be based. Such theories include Technology Acceptance Model (TAM), Theory of Reasoned Action (TRA), Theory of Planned Behaviour (TPB), Diffusion of Innovation (DOI) and Unified Theory of Acceptance and Use of Technology (Davies, 1989; Davis et al., 1989; Gong, Xu and Yu, 2004; AlAwadhi and Morris, 2009; Chuttur, 2009; Folorunso et al., 2010; etc.). To this research, TAM was adopted and presented in Fig.1

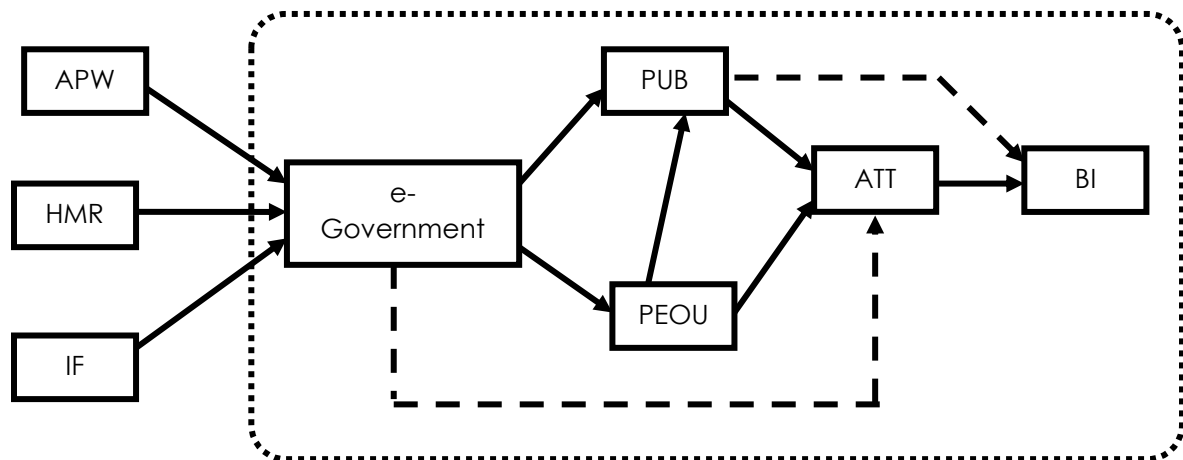


Fig. 1: Technology Acceptance Model (TAM)

Legend:

- APW: Adequate Political Will of Government to integrate and implement ICT for service delivery
- HMR: Human and Material Resources factor
- IF: Institutional Framework factor
- PUB: Perceived Usefulness and Benefit of e-Government Service
- PEOU: Perceived Ease of Use of e-Government Services
- ATT: Attitude Towards Adoption of e-Government Services
- BI: Behavioural Intention to Adopt e-Government Services

Fig.1, that government needs adequate political will, available of human experts, skilled personnel and materials resources such as financial capital, appropriate ICT infrastructures as well as well-developed institutional framework and ICT policy for successful integration and implementation of its e-services. Hence, these constitute critical inputs as well as principal determinant for e-governance. Also, citizens' attitudes toward the adoption of e-services are guided by perceived usefulness and benefits of e-services

and its perceived ease of use. These two factors have strong influence on the citizens' behaviour intention to adopt and accept e-government as innovation. However, availability of these inputs in Ogun State will make them the factors for successful integration and implementation of ICT for efficient service delivery. While availability of APW and HMR serves as *enabler*, availability of IF serves as *driver*. On the other hand, unavailability of these factors make them factors for failure, specifically, unavailability of APW serves as *barrier* while those of others serve as *inhibitor*. Fig.2 sheds more light on this. Government political will implies government's strong commitment to full integration of ICT in service delivery, Human and materials resources means commitment of adequate capital vote, technological infrastructures and human experts that will harmonize other resources for the successful integration while institutional framework is a broad term that describe strategic plan and well-developed programme of action to follow to realize the goal.

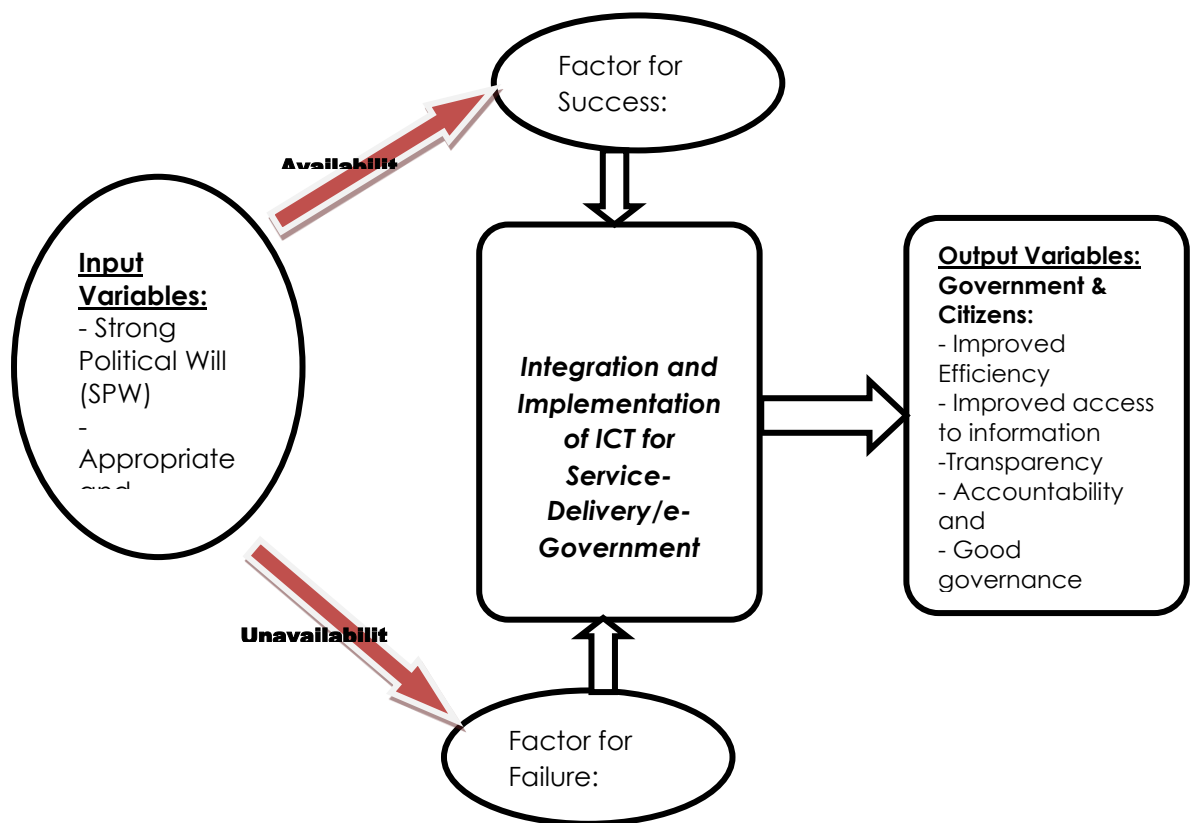


Fig.2: Architecture for Successful Implementation of ICT in Ogun State

Methodology

Focus groups were used to collect relevant information from the respondents quantitatively which was employed to answered and tested the study's research questions and hypotheses respectively. Focus group methodology was adopted because detailed information about the user's experience, opinions and feelings

as regard the subject of discourse are required, and this technique is appropriate for this purpose. The consistency of the constructs of the questionnaires was assessed by using Cronbach's Alpha and was observed to be 0.912. Therefore, the questionnaires of this research showed considerably high content validity.

The target participants comprise all the civil servants in the twenty (20) local government areas of Ogun State because they have been involved in the use of one form of e-service or the other. Such services include e-Salary, e-Tax, and Certificate of Occupancy (popularly known as Homeowners in Ogun State) etc. A total of 596 civil servants were randomly selected out of 650 questionnaires that were administered: cutting across 20 local government areas in the state. It is believed that the sample size is large enough and sufficient for generalization and drawing reasonable conclusion. The researchers to ensure that the instruments were correctly filled and returned for onward data analyses and interpretations. Information obtained through the questionnaire were coded and used to test the stated hypotheses with Pearson Product Moment Correction implemented on SPSS 22 statistical package; while interviews were adequately interpreted and inferred.

Results

The demographic information of the respondents is presented in Table 1.

Table 1: Demographic information of respondents

Demographic variables	Frequency	Percentage (%)	Cumulative Percentage (%)
Gender:			
Male	400	57.5	57.4
Female	296	42.5	100.0
Total	696	100	
Educational Qualification:			
SSCE and Below	149	21.4	21.4
NCE/OND	213	30.6	52.0
HND/B.Sc/B.Sc(Ed.)	239	34.4	86.4
M.Sc/M.Ed	60	8.6	95.0
PhD	35	5.0	100
Total	696	100	
Years of Experience in Civil Service:			
1-5 years	167	24.0	24.0
6-10 years	333	47.8	71.8
11 years-Above	-	-	-
	196	28.2	100.0
Total	696	100.0	100.0

Table 1 showed the gender distribution of the respondents. it is clear that, more male (57.4%) civil servants in Ogun State were randomly sampled and participated in the study than their female (42.6%) counterparts. The reason is not because there are more males than females in the civil service, but the proximity of reaching male than the female civil servants in the twenty local government areas that was facilitated.

Table 2: Analysed Data of Civil Servants' Internet proficiency on Access and Delivery of E-salary

Remark	Internet proficiency:		
	Number of Respondents	Percentage	Cum. Percentage
Fair	117	16.8	16.8
Good	185	26.6	43.4
Very good	299	43.0	86.4
Excellent	95	13.6	100.0
Total	696	100	

Table 2 showed the analysed data of civil servants' internet proficiency on access and delivery of e-salary. The analysed data revealed that majority of the civil servants are computer literate as well as internet proficient (83.2%). The high internet proficiency resulted from the on-going cashless policy in the state and relevant of computer usage to their daily assignment in the civil service. Table 3 shows the analyzed data on access, use and usefulness of e-salary delivery to civil servants.

Table 3: Analysed Data on Access of E-salary Delivery to Civil Servants

S/No	Access e-Salary : Services	ΣfA	%	ΣfD	%
1	Salary administration processes electronically is easy services delivery in the 21st century.	567	81.5	129	18.5
2	Salary administration processes electronically is simple services delivery in the 21st century.	623	89.5	73	10.5
3	Individual access to e-salary service delivery is highly facilitated electronically.	547	78.6	149	21.4
4	The use of e-salary delivery system to the workers is satisfactory.	641	92.1	55	7.9
5	I am able to access my e-salary statements from multiple devices (e.g., computer, mobile, tablet) without any issues.	647	93.0	49	7.0
6	Notifications/alerts regarding salary updates through the e-salary delivery platform is effective.	641	92.1	55	7.9
7	I usually receive timely notifications for changes in my salary, bonuses or deductions.	647	93.0	49	7.0
	Grand Mean score	616	88.5	80	11.5

Table 3 showed the frequency counts of 653(93.8%) of the respondents that affirmed being satisfied with the timeliness of the e-salary delivery and receiving salary information; 652 (93.7%) e-salary service delivery is error free on manipulation with figures; 647(93.0%) usually receive timely notifications for changes in my salary, bonuses or deductions; 647(93.0%) do have access to e-salary statements from multiple devices (e.g., computer, mobile, tablet) without any issues; 644(92.5%) Printing costs of pay slips is negligible and cheap; 641(92.1%) have effectively been receiving notifications/alerts regarding salary updates through the e-salary delivery platform; and 629(90.4%) manipulations of figure in e-salary service delivery are accurately facilitated. The average grand means score 617(88.6%) attested that the analysed data on access, use and usefulness of e-salary delivery to civil servants revealed that salary administration processes electronically is simple services delivery in the 21st century. Table 3 shows the analyzed data on access, use and usefulness of e-tax delivery to civil servants.

Table 4: Analysed Data on the Use of E-salary Delivery to Civil Servants

Use of e-Salary:		ΣfA	%	ΣfD	%
1	The delivery of pay slips electronically to bearers is the fastest mode of salary delivery.	612	87.9	84	12.1
2	Printing costs of pay slips is negligible and cheap.	644	92.5	52	7.5
3	Delivery costs of pay slips to the bearers are cheap.	597	85.8	99	14.2
4	Inquiries to e- salary administration are centralized.	586	84.2	110	15.8
5	I found e-salary statements provided to be clear and easy to understand.	629	90.4	67	9.6
6	The e-salary delivery system communicates important details on deductions, bonuses and taxes to individual worker.	590	84.8	106	15.2
7	I have not been experiencing delays in accessing my e-salary statements.	606	87.1	90	12.9
8	The security measures on the e-salary delivery system to protect my sensitive financial information are high.	623	89.5	73	10.5
Grand Mean score		611	87.8	85	12.2

Table 4 showed the frequency counts of 653(93.8%) of the respondents that affirmed being satisfied with the timeliness of the e-salary delivery and receiving salary information; 652 (93.7%) e-salary service delivery is error free on manipulation with figures; 647(93.0%) usually receive timely notifications for changes in my salary, bonuses or deductions; 647(93.0%) do have access to e-salary statements from multiple devices (e.g., computer, mobile, tablet) without any issues; 644(92.5%) Printing costs of pay slips is negligible and cheap; 641(92.1%) have effectively been receiving notifications/alerts regarding salary updates through the e-salary delivery platform; and 629(90.4%) manipulations of figure in e-salary service delivery are accurately facilitated. The average grand means score 617(88.6%) attested that the analysed data on access, use and usefulness of e-salary delivery to civil servants revealed that salary administration processes electronically is simple services delivery in the 21st century. Table 3 shows the analyzed data on access, use and usefulness of e-tax delivery to civil servants.

Table 5: Analysed Data on the Usefulness of E-salary Delivery to Civil Servants

Usefulness of e-Salary:		ΣfA	%	ΣfD	%
1	Figure manipulations in e-salary service delivery are accurately facilitated.	629	90.4	67	9.6
2	E-salary service delivery is error free on manipulation with figures.	652	93.7	44	6.3
3	User-friendliness of the e-salary delivery platform makes it unique to fiddle with.	619	88.9	77	11.1
4	I am satisfied with the timeliness of the e-salary delivery and receiving salary information.	653	93.8	43	6.2
5	The use of e-salary delivery system to the government is satisfactory.	611	87.8	85	12.2
6	Better user service electronically is facilitated via e-service delivery.	598	85.9	98	14.1
Grand Means Score		627	90.1	69	9.9
Total Grand Means Score		617	88.6	79	11.6

Table 5 showed the frequency counts of 653(93.8%) of the respondents that affirmed being satisfied with the timeliness of the e-salary delivery and receiving salary information; 652 (93.7%) e-salary service

delivery is error free on manipulation with figures; 647(93.0%) usually receive timely notifications for changes in my salary, bonuses or deductions; 647(93.0%) do have access to e-salary statements from multiple devices (e.g., computer, mobile, tablet) without any issues; 644(92.5%) Printing costs of pay slips is negligible and cheap; 641(92.1%) have effectively been receiving notifications/alerts regarding salary updates through the e-salary delivery platform; and 629(90.4%) manipulations of figure in e-salary service delivery are accurately facilitated. The average grand means score 617(88.6%) attested that the analysed data on access, use and usefulness of e-salary delivery to civil servants revealed that salary administration processes electronically is simple services delivery in the 21st century. Table 3 shows the analyzed data on access, use and usefulness of e-tax delivery to civil servants.

Table 6: Analysed Data on Access, Use and Usefulness of e-tax Delivery to Civil Servants

S/No	Services	ΣfA	%	ΣfD	%
	e-Tax				
1	I am satisfied with e-tax delivery system.	642	92.2	54	7.8
2	The e-tax delivery platform is user-friendly in performing diverse of activities.	612	87.9	84	12.1
3	I found the provided e-tax statements clear and easy to understand.	599	86.1	97	13.9
4	The e-tax delivery system communicates important details such as income, deductions and credits to me.	636	91.4	60	8.6
5	Access to tax information through e-tax delivery system is easy for me.	616	88.5	80	11.5
6	I do access e-tax statements from multiple devices like computer, mobile, tablet; without any issues	578	83.1	118	16.9
7	I am usually satisfied with the timeliness of the e-tax delivery and receiving tax information on time.	592	85.1	104	14.9
8	I have never experienced delays in accessing my e-tax statements	632	90.8	64	9.2
9	I have confident in the security measures of the e-tax delivery system to protect my sensitive financial and tax information.	619	88.9	77	11.1
10	I do not experience any security challenge while using e-tax delivery platform.	613	88.1	83	11.9
11	I have confidence in the accuracy of the tax calculations provided by the e-tax delivery system.	642	92.6	54	7.4
12	I have never identified discrepancies in my e-tax statements that needed correction.	629	90.4	67	9.6
13	I have never needed assistance on resolving discrepancies in my e-tax statements.	597	85.8	99	14.2
14	The notifications/alerts I have been receiving regarding tax updates through the e-tax delivery platform are effective.	649	93.3	47	6.7
15	I do receive timely notifications for changes in tax laws or regulations that may impact my filings.	631	90.7	65	9.3
16	Due to effectiveness e-tax delivery system, I will like to recommend it to my colleagues for their tax-related needs.	637	91.5	59	8.5
	Grand Means Score	662	95.1	34	4.9

Table 6 showed the frequency counts of 649(93.3%) have been receiving effective notifications/alerts regarding tax updates; 642(92.6%) have confidence in the accuracy of the tax calculations provided; 642(92.2%) satisfied with e-tax delivery system; 637(91.5%) effectiveness e-tax delivery facilitated

recommending it to colleagues; 636(91.4%) e-tax delivery system communicates important details such as income, deductions and credits; 632(90.8%) have never experienced delays in accessing my e-tax statements; 631(90.7%) do receive timely notifications for changes in tax laws or regulations that may impact filings; 619(88.9%) have confident in the security measures of the e-tax delivery system to protect my sensitive financial and tax information; 616(88.5%) had easy access to tax information through e-tax delivery system; 613(88.1%) do not experience any security challenge while using e-tax delivery platform; 612(87.9%) e-tax delivery platform is user-friendly in performing diverse of activities; 599(86.1%) found out that the provided e-tax statements clear and easy to understand; 592(85.1%) usually satisfied with the timeliness of the e-tax delivery and receiving tax information; and 578(83.1%) have access e-tax statements from multiple devices like computer, mobile, tablet; without any issues. The average grand means score 662(95.1%) attested that the analysed data on access, use and usefulness of e-tax delivery to civil servants was highly effective in the 21st century. Table 4 shows the analyzed data on access, use and usefulness of e-Certificate of Occupancy (e-COO) delivery to civil servants.

Table 7: Analysed Data on Access, Use and Usefulness of e-Certificate of Occupancy Delivery to Civil Servants

S/No	Services	ΣfA	%	ΣfD	%
e-Certificate of Occupancy					
1	I am satisfied with the current e-Certificate of Occupancy (e-COO) delivery system.	611	87.8	85	12.2
2	The user-friendliness of the interface facilitates smooth navigation through varied e-Certificate of Occupancy delivery platforms.	623	89.5	73	10.5
3	I am satisfied with the timeliness of receiving e-Certificate of Occupancy through electronic platform.	568	81.6	128	18.4
4	I have not experienced any delays in obtaining my e-Certificate of Occupancy through electronic platform.	596	81.8	100	18.2
5	The information provided in the e-Certificate of Occupancy is adequate and clear to understand.	589	84.6	107	15.4
6	I Have not encountered any challenge with missing or incomplete information in the e-COO.	576	82.8	120	17.2
7	Accessing e-Certificate of Occupancy through the electronic platform is easy for me.	592	85.1	104	14.9
8	I have been able to access my e-COO from multiple devices without any difficulty.	637	91.5	59	8.5
9	I have confidence in the security measures of the e-COO delivery system to protect my property-related information.	624	89.7	72	10.3
10	There are no security concerns or issues I have encountered while using the e-COO delivery platform.	646	92.8	50	7.2
11	I am satisfied with the level of support provided for any issues related to the e-COO delivery system.	618	88.8	78	11.2
12	The e-COO delivery system facilitates me to integrate with other property-related systems or government databases.	586	84.2	110	15.8
13	I have never faced any challenge in integrating my e-COO information with other property-related tools or platforms.	542	77.9	154	22.1
14	The notifications/alerts regarding updates or changes in e-Certificate of Occupancy status is effective through the e-delivery platform.	610	87.6	86	12.4
15	I frequently receive timely notifications for any amendments or updates to my e-COO platform.	639	91.8	57	8.2

Grand Means Score**604 86.8 92 13.2**

Table 7 showed the frequency counts of 646(92.8%) encountered no security concerns or issues while using the e-COO delivery platform; 639(91.8%) frequently receive timely notifications for any amendments or updates e-COO platform; 637(91.5%) accesses e-COO from multiple devices without any difficulty; 624(89.7%) have confidence in the security measures of the e-COO delivery system to protect their property-related information; 623(89.5%) that the user-friendliness of the interface facilitates smooth navigation through varied e-Certificate of Occupancy delivery platforms; 618(88.8%) were satisfied with the level of support provided for any related issues on e-COO delivery system; 611(87.8%) are satisfied with the current e-Certificate of Occupancy (e-COO) delivery system and 610(87.6%) affirmed that the notifications/alerts regarding updates or changes in e-Certificate of Occupancy status is effective through the e-delivery platforms. The average grand means score 604(86.8%) attested that the analysed data on access, use and usefulness of e-Certificate of Occupancy delivery to civil servants was highly effective in the 21st century.

Table 8: Results from the test of Ho₁

Variable	Mean	SD	N	Df	R-cal	P	Remark
Strong political will	19.31	6.42					
ICT integration for service delivery	76.38	44.56	696	695	.763	.002	Significant

Table 8 above showed that adequate political will of government to integrate ICT in service delivery has influence on the effectiveness and efficiency of government ($R=0.763$; $P(0.002)<0.05$). This fact is supported by the work of Matavire et al., (2010) and Bwalya (2009) that emphasized the need for African governments to commit strong political will toward integration and implementation of e-government. This will go a long way in bring the government nearer to the citizens and also increase citizen participation in government.

Table 9: Results from the test of Ho₂

Variable	Mean	SD	N	Df	R-cal	P	Remark
Availability of human and material resources	21.01	6.27					
ICT integration for service delivery	85.44	49.13	696	695	.803	.023	Significant

From Table 9, it can be deduced that there was significant relationship between availability of resources and ICT in government service delivery ($R=0.803$, $P(0.023)<0.05$). This implies that human and material resources have strong influence on the successful integration and implementation of ICT for effective government service delivery in Ogun State. For government of the state of Ogun to fully integrate ICT in its service delivery, services of ICT experts should be engaged, and government should try as much as

possible to inject adequate financial and material resources into ICT project. The appointment of human experts and financial commitment should be devoid of political motives.

Table 10: Results from the test of Ho₃

Variable	Mean	SD	N	Df	R-cal	P	Remark
Appropriate institutional framework	27.51	6.49	696	695	.871	.001	Significant
ICT integration for service delivery	86.33	48.79					

Table 10 clearly indicated that well-developed institutional framework and ICT policy is panacea to the successful integration of ICT in government service delivery with (R=0.871, P(0.001)<0.05). This is in accordance with Mohammed, Abubakar and Bashir (2010) that emphasized on comprehensive strategy and broad framework that is sensitive to political and economic realities for successful implementation of ICT in government.

Table 11: Results from the test of Ho₄

Variable	Mean	SD	N	Df	R-cal	P	Remark
Perceived usefulness and ease of use	15.94	5.77	696	695	.697	.010	Significant
ICT integration for service delivery	55.36	39.54					

Table 11 depicts the effect of perceived usefulness and perceived ease of use of e-services by citizens on their behavioural intention to use the platform. Information from this table showed that there exist positive relationship between their perception and intention to use the innovation as (R=0.691, P(0.010)<0.05). Citizen affirmed that they have been using one form of e-service or the other on the state website, which was confirmed to be easy to use and beneficial to them. However, this relationship will be stronger if the e-government platform allows citizens to have stakes in any government decisions and policies that have direct or indirect effect on them, through their observations and critical analysis of the policies. This is in accordance with Folorunso et al., (2010), who argued that this will go a long way in ensuring participatory governance. It is therefore pertinent to examine the present state of ICT in Ogun State public service delivery.

Interview Response on the Benefits of ICT Service Delivery

The foundation for the ICT integration in government has been laid and the implementation is of course to achieve the key benefits of ICT service delivery to the civil servants. Civil servants have be using one form of e-services or the other for the payment of taxes, receiving of monthly salaries and wages, payment of their wards tuition fees, payment of Certificate of Occupancy (Home owners), and payment of tenement rate on a website. For the purpose of substantiating arguments, it is important to overview the benefits and

challenges of ICT for service delivery in government within the context of its key application areas in the state.

Verbal interviews conducted on the benefits of ICT delivery revealed by the respondents that adoption and integration of ICT tools for service delivery presents enormous benefits to the effectiveness of government operations, particularly in Ogun State. Some of these benefits are substantiated in the key focus areas of government operational framework. Underlying these key benefit areas are the timeliness, efficiency, effectiveness and reliability the ICT tools inject in to the Government operational framework. These benefits include:

- i. Knowledge and Information Management: integration and utilization of ICT tools for service delivery facilitate ease of management of knowledge flow within the hierarchies of government and manage information flow between the government and the citizenry. This enhances better productivity of public servants and guarantee citizens' confidence in government.
- ii. Process and Performance Management: The use of Enterprise Information Systems describes a holistic and effective management of government process flow and captures government bureaucratic procedure for performance management. There are several Enterprise Information System Architectures including The Open Group Architecture Framework (TOGAF), Treasury Information System Architecture Framework (TISAF), Federal Enterprise Architecture Framework (FEAF), and Department of Defence Architectural Framework (DoDAF) for e-Government, which have been adopted by government of developed nations with key performance indicators on key areas of government process flow. This ICT tool provides an insightful gain into the key operational framework of government and guarantee performance measurement and management.
- iii. Resources and Revenue Management: the resources of government are her human and material endowments. ICT provides effective tool to manage resources through a robust database administration and offer secured means for financial engineering that has the capacity to lower government operational cost and improve revenue by capturing all revenue sources and blocking all leakages.
- iv. Infrastructure and Economic Development Management: Managing an increasing citizen demand and government supply of socio-economic infrastructures is better with ICT tool that creates robust database and presents the required information on indices for economic growth. The multiplier effect of such information is the assistance the ICT tools provide government in managing her priorities and decision making in infrastructure and economic development.
- v. Security Management: The use of modern communication gadgets and integration to a robust ICT backbone put government in adequate charge of the security network to effectively combat and curtail crime. Hence, the integration and adoption ICT related devices is very paramount.

Challenges of Integration and Implementation of ICT in Ogun State Service Delivery

The slow pace of integration of ICT in government, particularly in developing nations, despite the undisputed enormous possibilities and potentials it presents for enhancing the effectiveness of government service delivery is hinged on the trio of the inadequacy in the political will, required human and material resources and institutional framework. These have been the limitations and challenges of ICT integration in government service delivery, especially in Ogun State.

- i. **Political Will:** Despite the awareness and open policy adoption, government of Nigeria and Ogun State in particular, has not demonstrated enough commitment to full integration of ICT in government service delivery. The fear of unknown and endemic corruption has been responsible for the lack of adequate political will to commit the entire processes of government operational framework and service delivery to ICT integration.
- ii. **Human and Material Resources:** responses from the respondents revealed that politicisation of the appointment of ICT personnel in government has been the major critical factor for slow policy implementation and ICT projects in the state.
- iii. For the required and expected result, it is critical to engage the service of ICT experts and inject the required capital into ICT integration in government operational framework for effective service delivery.
- iv. **Institutional Frameworks:** the findings revealed that the bureaucratic nature of government and slow pace of decision making, and approval do not stimulate the growth and sustenance of ICT in government.

Conclusion

The importance of ICT in governance cannot be over-emphasized. The study revealed that ICT has been veritable is a tool for improving government performance, effectiveness and efficiency in its service delivery. It is very instrumental in reducing overhead cost, generate employment and improve revenue in the long run. Therefore, to ensure considerable benefits of ICT in governance, the establishment of proper institutional framework, the engagement of the right expertise to deliver on the challenges and the political will of the government in term of funding and commitment should be facilitated and encouraged.

Recommendations

- i. For the required and expected result, it is critical to engage the service of ICT experts and inject the required capital into ICT integration in government operational framework for effective service delivery.
- ii. Government should always hasten decision on slow pace of decision making and approval that do not stimulate the growth and sustenance of ICT in government.

- iii. A more resounding political will is required to create the much needed institutional framework for the ICT policy formulation and implementation in the State.
- iv. The government should be more committed to financial obligations and appointment of human experts that is devoid of political motives.
- v. Government should be committed to adequate capital vote that will enhance full implementation of the State ICT policy. The multiplier effect will be long term cost reduction and enhancement in revenue for Government.

References

- Adeyemo, A. B. (2011). E-Government Implementation in Nigeria: An Assessment of Nigeria's Global e-Gov Ranking. *Journal of Internet and Information System*, 2(1),11-19. <http://www.academicjournals.org/JIIS>.
- AlAwadhi, S., & Morris, A. (2009), Factors Influencing the Adoption of E-Government Services. *Journal of Software, Academy Publisher*, 4(6), 584-590.
- Albert, I. O. (2009). Whose e-Governance? A Critique of Online Citizen Engagement in Africa. *African Journal of Political Science and International Relations*, 3(4), 133-141, <http://www.adademicjournals.org/AJPSIR>.
- Al-Shboul, M., Rababah, O. Al-Shaboul, M., Ghnemat, R., & Al-Saqqa, S. (2014). Challenges and Factors Affecting the Implementation of e-Government in Jordan. *Journal of Software Engineering and Applications*, 7, 1111-1127, <http://dx.doi.org/10.4236/jsea.2014.713098>.
- Augustine, E. A., Joseph, N. E., & Sunday, O. O. (2015). Assessment of Effectiveness of use of ICT Components for Services Delivery in Etsako West Local Government Area of Edo State, Nigeria. *British Journal of Economics, Management and Trade*, 6(3), 197-207.
- Bwalya, K.J. (2009), Factors Affecting Adoption of e-Government in Zambia. *The Electronic Journal on Information Systems in Developing Countries (EJISDC)*, 38(4),1-13.
- Chen, Y. C., & Zhang, J. C. (2011). *Citizen-Centric E-Government Performance: An Evaluation Framework and Illustrative Case of China*. In, 2nd International Conference on Government Performance Management and Leadership, Portland, Oregon, 1-28.
- Chuttur, M. Y. (2009). Overview of the Technology Acceptance Model: Origins, Development and Future Directions. Indiana University, USA. *Sprouts: Working Papers on Information Systems*, 9, (37), 22 - 28. <http://sprouts.aisnet.org/9-37>
- Davis, F. D. (1989). Perceived Usefulness, Perceived Ease of Use, and User Acceptance of Information Technology. *MIS Quarterly*, 13, (3), 319-340. doi: 10.2307/249008.

- Davies, F. D., Bagozzi, R.P., & Warshaw, P. R. (1989), User Acceptance of Computer Technology: A Comparison of Two Theoretical Models. *Management Science*, 35,(8), 982-1003. Doi: 0025-1909/89/3508/0982\$01.25.
- Elsheikh, Y., & Azzeh, M. (2014), What Facilitates the Delivery of Citizen-Centric E-Government Services in Developing Countries: Model Development and Validation Through Structural Equation Modelling. *International Journal of computer Science and Information Technology (IJCSIT)*, 6(1), 77-98. DOI: 10.5121/ijcsit.2014.6106
- Folorunso, O., Chen, C., Ahmed, N.U., & Harris, T. (2012). Towards Active Citizen-Centric E-Government Systems for Developing Countries. *International Journal of E-Adoption (IJE)*, 4(2), 52-64 .
- Gichoya, D. (2005). Factor Affecting the Successful Implementation of ICT Project in Government. *The electronic Journal of E-Adoption*, 3(4), 175-184. Available online at www.ejeg.com
- Gong, M., Xu, Y., & Yu, Y. (2004). An Enhanced Technology Acceptance Model for Web-Based Learning. *Journal of Information Systems Education*, 15(4), 365-374.
- Kolsaker, A., & Lee-Kelley, L. (2008). Citizens' Attitudes Towards e-Government and e-Governance: A UK Study. *International Journal of Public Sector Management*, 21(7), 723-738. Emerald Group Publishing Limited, DOI: 10.1108/09610810904532.
- Milakovich, M. E. (2010). The Internet and Increased Citizen Participation in Government. *Journal of e-Democracy (JeDEM)*, 2(1), 1-9, Retrieved from: <http://www.jedem.org>
- Matavire, R., Chigona, W., Roode, D., Davids, S. Z., Charles, A.M., & Boama-Abu, C. (2010), Challenges of e-Government Project Implementation in South Africa Context. *The Electronic Journal of Information Systems Evaluation*. 13(2), 153-164, www.ejise.com
- Mohammed, S., Abubakar, M. K., & Bashir, A. (2010). e-Government in Nigeria: A Catalyst for National Development. A paper, presented at fourth International Conference on Development Studies, University of Abuja, F.C.T., Nigeria between April 14 and 15 2010, 1-23.
- Nkwe, N. (2012). E-Government: Challenges and Opportunities in Botswana. *International Journal of Humanities and Social Sciences*, 2(7), 39-48.
- Nwelih, E., & Ukaoha, K.C. (2010). ICT Strategies for Consolidating Good Governance in Nigeria. *Pakistan Journal of Social Sciences*, 7(3), 227-230.
- Sardi, X. C. & Mlikota, K. (2002). Overview on e-Governance (Working paper):Prepared in the Framework of the ICT Cross-Cutting Project, ICTs are Tools for Improving Local Governance. *United Nations Educational, Scientific and Cultural Organization*, November, 2002.
- The World Bank Group (2012). ICT for Greater Development Impact: World Bank Group for Information and Communication Technology. Retrieved from <http://www.worldbank.org/.../WBG ICT Strategy-2012.pdf>

United Nations (2014). United Nations E-Government Survey 2014: E-Government for the Future We Want. United Nations E-Government Publications, New York.

http://unpan3.un.org/egovkb/Portals/egovkb/Documents/un/2014-Survey/E-Gov_Complete_Survey-2014.pdf

Unuigbokhai, O. A., & Amedu, M. (2012). ICT Strategies for Promoting Good Governance in Nigeria. Department of Accountancy, Humanity and Social Science, Auchi Polytechnic, Auchi, 1-6.