

ICT as Policy Fashion or Really it Worth in Public Sectors to Ensure Good Governance?

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ABSTRACT

The contemporary world is under a prudent development revolution. The 20th century was marked as information era and 21st is the era of knowledge where Information Communication Technology for Development (ICT4D) confluence dramatically interlinked with interplay knowledge as an avenue of eco-friendly smart living society formation and fast-forwards to public sector reforms. This article tried to answer “Is digital government is a policy fashion or really it worth measurable effects on good governance to public sector organizations”. Reference was made on evidence collected from Federal Document Authentication and Registration Agency (DARA) of Ethiopia. The study applied a quantitative research approach using multiple linear regression models analysis to test the proposed hypothesis. The study found that successful E-government implementation has a significant effect on improving and promoting good-governance³ in public sectors. E-government implementation enhances public sectors capacities to ensure equality and fairness in public service delivery, improves accountability and transparency of experts and/officials. Maladministration in public sectors significantly decreases as digital platform usability increases, digital public service delivery eases to access information, and customers/citizens get informed about service requirements earlier. Furthermore, E-government enables public sectors to get connected with customers/citizens and they actively involved in policy decision-making processes.

Keywords: *Public Sector, E-government, Participation, Accountability, Transparency, and Interoperability*

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³ good-governance as (AfDB, 1999, IFAC, 2014, UNESCO, 2008, UN, 2008, UNDP, 1997) has different measurements/elements. In this article, it discussed only in terms of [Accountability, Transparency, Equality and Fairness, and Combating corruptions].

1. INTRODUCTION AND RESEARCH CONTEXT

The advancements in the field of public administration and ICT have opened up huge opportunities for governments to transform their operations and service delivery systems. The information has become a new form of wealth and technology and is a new vehicle for creating this wealth for the benefit of improving service delivery and institutionalizing good governance in public sectors (Siddiquee, 2005; Brown, 2009). The weaknesses and limitations of traditional public administration (inefficiency, inflexibility, ineffective, red tapes, corruptions and dissatisfaction of citizens and lack of good governance) have forced to undertake this recent initiative for providing time-bound, quick and pro-people service requirements of our time (Karim, 2015; Alshehr and Drew, 2010). Technology-driven service delivery is a paradigm of intelligent social transformation, more sustainable and resilient for governments, citizens and businesses to ensure good governance (UN, 2004; UN, 2008). Putting in place an application of electronic interconnection and service delivery does not only enable citizen participation (including feedback) but also allow effective transactions between citizens and government (Bwoma and Huang, 2013; Asgarkhani, 2004). Successful implementation of E-government significantly contribute to ensure transparency and accountability in public sector management which is a global challenge in 21st C and it results in less corruption, greater convenience to business and industry, citizen empowerment through access to information, efficient and more effective public sector management (Abdul Rahim, 2013).

Previous scholarly researches of developing countries; ITU (2014, 2015), Schuppan (2009), Karim (2015) and Nkwe (2012) largely emphasized that E-government is related to the discipline of the information system, digitization the existing government businesses and public services. While little attempts have been made the operational effects of digital public service delivery on public governance instead of simply putting information on the webpage and/or portal development. In developing countries like Ethiopia, the effect of E-government implementation in public sectors on public service delivery and public governance needs to be examined empirically. Scholarly studies on the effects in Ethiopia are scant and it is worth studying for informing policy decision-making. To this end, this study was motivated to examine the operational effects of digital government on public governance. The Ethiopian government has launched E-government platforms (79 informational and 140 transactional system totally 219 E-services) in public sectors. These initiatives lack sectorial policy integration (interoperability) and strategic alignment with national E-governance policy directions (WBG, 2013). Ethiopian E-government implementation is characterized by poor infrastructure, limited stakeholders' analysis and lack of coordination in the implementation of ministerial/departmental platforms. The initiative also lacks synergies in combating corruption and maladministration practices in public organizations as expected (MCIT, 2011). The guiding perspective initiatives and practical usability of platforms as an avenue of good governance have got little attention and wasn't empirically studied/documentated. This article aimed at explaining the effects of E-government on ensuring good governance evidence collected from federal document authentication and registration agency, Ethiopia). The study enquired on the empirical implication of E-government on public governance. Therefore the study conceptualized E-government beyond the visibility of government on websites to serving citizens using website platforms coordinating government services in public sectors.

2. CONCEPTUAL FRAMEWORK AND THE RESEARCH HYPOTHESIS

Good governance in this article conceptualized in terms of (accountability and transparency, combating corruptions, equality/fairness, and participation) of public sectors in service delivery. ICT Hardware configuration and software customization are the forefront determinants of E-government platforms; all informatics and telematics hardware must be interconnecting into suitable software to produce the manageable system. Capacity, inboxes/outboxes storage space have to compatible with hardware/software, Internet connections band-mate, and documents byte-limit on their size should be standardized. Electronic technologies are playing a large role in shaping the mindset of citizens, and the mindset reflected in governance. Governance software should also be standardized. Software design that needs standardization to accomplish controllership is the use of Extensible Markup Language (XML) for file formats and document layouts. It is used on the Internet and can be incorporated into each and every software application (Pearlson, 2001).

ICT hardware was measured via the availability of personal desktop computers, server functionality (used by many people at one time), IT infrastructures (disaster recovery for backup options and networking), and central storage device availability as the proxies to measure hardware. On the other hand, ICT software will be measured by the operating system compatibility with hardware, a computer running program instructions, database management system (how data are centrally stored, managed, retrieving and sharing functionality of data across units), Internet access for each personal desktop, software development and roll out trends. ICT usage; to what extent ICT hardware and software are functional to deliver certain public services, the degree of utilization of ICT, how these hardware and software components are delivered services, what services are delivered using those components, the degree in which what services are available on the ICT support systems. Interoperability was assessed by services availabilities via one-stop single window shop delivery, how interrelated services are regulated and delivered cross units at one time visit, the extent of inter-organizational collaboration of public sectors, efforts to constructing fast and accurate public sectors integration working environments, and sectorial commitments for collaboration among the agencies/public sectors where conceptualization was considered the elements/principles of good governance aforementioned earlier. The research hypotheses were postulated next to the following conceptual framework.

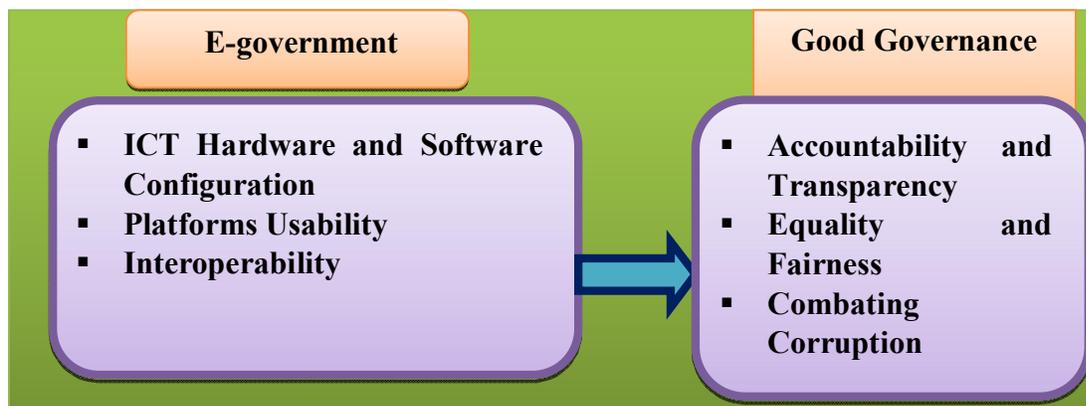


Figure 1. Conceptual Framework

Depending upon the above conceptual framework, the study proposed hypotheses to investigate the effects of E-government on good governance. According to Kamar and Ongoendo (2007) and Kelvin (2009), E-government platforms implementation have a positive contribution in promoting good governance. E-government services are becoming a flagship for improving E-participation and online discussion forums in public sectors. Digital service platforms in public sectors have become key instruments to ensure good governance by instituting transparency, accountability, combatting corruption and eventually helping to reduce the cost of government business operations. E-government has potential to improving good governance in developing countries by ensuring transparency and accountability of government functions, improving convenience and enabling to have the platform to access government services faster. These platforms give equal opportunity for citizens to access information irrespective of the person's physical location. The platforms eliminate bureaucracy hurdles and transform negative experiences of customers in government offices, in relation to getting services. The reduction in corruption enhances accountability and transparency in service delivery. Based on the analysis above, the study hypothesized;

- H₁.** E-government platforms Implementation improve customers/citizens participation.
- H₂.** E-government improves the equality and fairness of public service delivery.
- H₃.** E-government platforms have a positive association with accountability and transparency.
- H₄.** E-government has positive effects in combating corruption in public sectors.

3. METHODOLOGY

This study employed explanatory research and interpretive method using the inductive approach. Quantitative data (numeric scores/ metric data was collected) analysis technique was used. The observations considered the phenomena, the problems and the behaviours of the respondents. Data were collected using multistage sampling technique (stratified and systematic) where DARA branches were considered as strata and from the sampled population (strata) using systematic random data were collected by every 3rd of service users during their visit and service offers at the agency and the employees of the agency as well.

Table (1) Sample size summary

Customers		Employees		
Branches (Strata)	Sample population has taken	Branches (Strata)	Sample Taken	of taken from po ⁿ
Branch10 (Stratum1)	105	Main Branch (Stratum1)	44	30
Branch8 (Stratum2)	83	Branch10 (Stratum2)	13	20
Branch4 (stratum3)	67	Branch4 (stratum3)	5	10
Total	255	Total	62	60

Source: Authors

The study sought causal and outcome factors related to the implementation of E-government platforms in promoting good governance in developing countries' context (Ethiopia, DARA as a case) setting. The study sought to answer and prediction on the future E-government platforms prospective in public sectors of Ethiopia. Quantitative data analyses were applied to examine the

relationship between the implementation of E-government platforms and the outcomes (instituting good governance). It employed a step-by-step analysis to answer the inquiry and test the hypotheses. Inferential statistics were generated using the correlation coefficient and multiple linear regression modelling.

4. LITERATURE REVIEW

Despite the fact that many scholars use the term E-government, there is no clear consensus about it. E-government can conceptualize the myriad ICT tools/applications from fax machines and mainframe computing, social media, online services service delivery technological artifacts (Gil Garcia, 2012). E-government is a transformation of public sectors [internal and external] relationship through ICT net-enabled public service delivery using Internet and the world-wide-web (Fraga, 2002; Nkwe, 2012; UN, 2003) which continuously optimize public service delivery/public governance and enable citizens to interact at federal, state or local governments 24/7 availability and accessibility (Nkwe, 2012). E-government approaches can be the form of Government to Government (G2G), Government to Citizens (G2C), Government to Business (G2B), and Government to Employees (G2E) interactions.

E-Government Evolutions and Paradigms

The overarching themes of E-government is to fully realize the capabilities of available IT effort to transform government from an agency-centric, limited service operation into an automated, citizen-centric operation capable of delivering government services to citizens, businesses, and other government agencies 24/7. However, for a variety of technical, economic, and political reasons, it will take time for these initiatives to evolve into their full potential. For that reason, some observers use a common schema for classifying the stages of evolution of E-government evolution. **There are five phases of E-government Model.** The schema is based on the degree to which the properties of IT have been utilized to enable the delivery of services electronically. Using this schema, there are four stages of evolution; *presence, interaction, transaction, transformation*, and *Networked presence stages*. It is important to note that the E-government initiative doesn't necessarily have to start at the first stage and work its way through all of the stages. Instead, a project can skip levels, either from its inception or as it develops according to the authors (Christopher and Di Maio, 2000; Jeffrey, 2003; UN, 2003; 2004; 2005; Shailendra and Sharma, 2008) these evolutions are;

Emerging Presence

E-government presents information which is limited and basic. E-government online presence comprises a web page and /or an official website; links to ministries/departments of education, health, social welfare, labor, and finance may/may not exist; links to regional/local government may/may not exist. It is the establishment of a placeholder for delivering information in the future. It represents the simplest and least expensive entrance into E-government, but it also offers the fewest options for citizens. A typical example is a basic website that lists cursory information about an agency, such as hours of operation, mailing address, and/or phone numbers, but has no interactive capabilities. It is a passive presentation of general information. Some observers refer to these types of sites as a brochure, suggesting they are the electronic equivalent of a paper brochure.

Interaction/Enhanced Presence

The second stage is the interaction. Although interactive web-based initiatives offer enhanced capabilities, efforts in this group are still limited in their ability to streamline and automate government functions. Interactions are relatively simple and generally revolve around information provision. These types of initiatives are designed to help the customer avoid a trip to an office or make a phone call by making commonly requested information and forms available around the clock. Public policy documents governance sources of current and archived information such as policies, laws and regulation, reports, newsletters, and downloadable databases. The user can search for a document and there is a help feature and a site map provided. A larger selection of public policy documents such as an e-government strategy, policy briefs on specific education or health issues.

Transaction Presence

The third stage in the evolution of e-government initiatives is a transaction. These initiatives are more complex than simple information provision and embody the types of activities popularly associated with E-government. They enable clients to complete entire tasks electronically at any time of the day or night. These initiatives effectively create self-service operations for tasks such as license renewals, paying taxes and fees, and submitting bids for procurement contracts. Although the level of interactivity is of a higher magnitude than second stage initiatives, the activities still involve a flow of information that is primarily one-way (either to the government or to the client, depending on the activity). The electronic responses are generally highly regularized and create predictable outcomes (approving a license renewal, creating a receipt, acknowledging a bid). Audio and video capability is provided for relevant public information. The government officials can be contacted via email, fax, telephone, and post. The site is updated with greater regularity to keep the information current and up to date for the public.

Transformation Presence

The highest order of evolution for E-government initiatives is transformation. Initiatives at this level utilize the full capabilities of the technology to transform how government functions are conceived, organized, and executed. Such initiatives would have robust customer relationship management capabilities required to handle a full range of questions, problems, and needs. Currently, there are very few examples of this type of initiative, in part due to administrative, technical, and fiscal constraints. One of the distinctions of these initiatives is that they facilitate the seamless flow of information and collaborative decision making between federal, state, local, public, and private partners. Allow online two-way interaction/communications between the citizen and government. It includes options for paying taxes; applying for ID cards, birth certificates/passports, license renewals, and other similar C2G interactions by allowing him/her to submit these online 24/7.

Networked Presence/Seamless Governance

Stage (V) represents the most sophisticated level in the online e-government initiatives. It can be characterized by an integration of G2G, G2C, and C2G (and reverse) interactions most of the time refer as seamless E-governance stage. The government encourages participatory deliberative decision making and is willing and able to involve the society in a two-way open dialogue. Through interactive features such as web comment forms and innovative online

consultation mechanisms, the government actively solicits citizen views on public policy, lawmaking, and democratic participatory decision making. Implicit in this stage of the model is the integration of the public sector agencies with full cooperation and understanding of the concept of collective decision making, participatory democracy and citizen empowerment as a democratic right.

5. RESULT AND DISCUSSION

Pearson Correlation Analysis

The Pearson correlation coefficient was run to find out the relationship among the variables of E-government measured by ICT hardware and software configurations, e-government platform usability and interoperability with good governance measured by transparency and accountability, participation, combating corruption and ensuring equality & fairness. The correlation coefficients are presented (Table_2) below. The data sets show that e-government implementation significantly associates with good governance metrics in public sector service delivery.

Table (2): Correlations among E-government variables with Good Governance Variables

	ICT	Usability	IO	TA	P	RC	FE
ICT Hardware & Software configurations (ICT)	1						
E-gov Platforms Usability	.738**	1					
Public Sectors Interoperability (IO)	.308**	.356**	1				
Transparency & Accountability (TA)	.621**	.606**	.450**	1			
Participations (P)	.560**	.638**	.329**	.643**	1		
Reducing Corruptions (RC)	.508**	.653**	.472**	.620**	.629**	1	
Fairness & Equality (FE)	.584**	.686**	.331**	.590**	.539**	.687**	1

Note: ** P < 0.01, ***P < 0.001

Source: Authors' Survey Computation

Regression Coefficient Analyses

The regression coefficients (table _3, model_1) below; indicated that E-government platforms usability and ICT hardware and software configuration significantly improve (affect) transparency and accountability. The platforms explain the positive significance level of standardized β coefficients at 95% confidence interval values at a total variance of 0.405 and 0.274 respectively. The interoperability (collaboration among public sectors) has significantly contributed at $\alpha = 0.05$ and P-value < 0.001. The data sets (table_3, model_3) below; show that participation of customers/citizens engagements in public sectors were significantly associated with the implementation of E-government platforms usability, the ICT hardware and software configurations by standardized β coefficients at 95% confidence interval level and by β values of 0.464 and 0.184 of total variance respectively. In similar expression, public sectors collaboration (interoperability) has positive association by β coefficient values of 0.107 (10.7%) at statistical significance level of $\alpha = 0.05$ and P-value < 0.05.

Table (3) Coefficient Results of E-government Variables on Transparency & Accountability and Participations

Models		Un-standardized Coefficients		Standardized Coefficients	T	Sig.
		B	Std. Error	Beta		
1	ICT Hardware & Software Configuration	.304	.078	.274	3.873	.000
	E-government Platforms Usability	.218	.039	.405	5.623	.000
	Public Sectors Interoperability	.161	.037	.222	4.344	.000
2	ICT Hardware & Software	.275	.119	.184	2.315	.022
	E-government Platforms Usability	.336	.059	.464	5.741	.000
	Public Sectors Interoperability	.104	.056	.307	2.864	.004

a. Dependent Variable: Transparency & Accountability and Participations

6.5.1. Source: Authors’ Survey Computation

The total predicting factors of E-government to ensure transparency and accountability explained; clarity of specific services delivery procedure and simplification of complex processes, making officials answerable to their actions and decisions, digital service delivery platform break hierarchical processes/procedures and replace with lateral/horizontal service delivery and importantly it introduction administrative problem solving methods where customers/citizens can access information easily. This was explained by adjusted R^2 values of 0.546 where $P < 0.001$ as presented in (table_4, model_1) below. This finding was consistent with Lazer and Schonberger (2007), Salam (2013), George et al. (2011) and Nkwe (2012) E-government platforms served as tools to find information easily, increased sectorial transparency and made officials answerable for their decisions and actions. The platform improved the quality of decision-making and providing opportunities for prompt responses to customer requests as well as the provision of public services and directly implies corruption free system.

Table (4) Models Summary Results of E-government Variables on Transparency & Accountability and Participations

Models	R	R^2	Adj R^2	SE	Change Statistics					
					R^2 Change	F Change	df1	df2	Sig. Change	F
1	.743 ^a	.552	.546	2.440	.552	81.446	3	198	.000	
2	.659 ^a	.434	.426	3.691	.434	50.686	3	198	.000	

Predictors: Public Sectors Interoperability, ICT Hardware & Software configurations, E-government Platforms Usability
 Dependent Variables: Transparency & Accountability and Participations

Source: Authors’ Survey Computation

E-government, as seen (table_4, model_2) above; significantly improved customers/citizens participation through; citizens/customers can drop their feedback, suggestion, and opinions using electronic channels. These feedbacks could be considered in decision-making, in newly enacted organizational laws and directives. The changes/incorporation of service users feedback is informed back to them via the agency's website and kept updating and informing the

citizens/customers. The customers/citizens can access the feedback from public sector officials over the virtual formats. This was explained with statistically adjusted R^2 values of 0.434 at P-value <0.001 . This finding is consistent with other scholarly works by Salam (2013): George et al. (2011): Alshehri & Drew (2012). E-government enables to improve the quality of the services and to provide greater opportunities to citizens to participate in government activities. Digital service delivery enhances customers/citizens participation by giving due attention and individual concern/query as well as encourage they're active on organizational affairs to encourage deeper participation of citizens.

The regression coefficients hereunder dealt with the effects of E-government in combating corruption and ensuring equality and fairness of public service delivery. (table_5, model_1) below; shows that E-government significantly contributes to combat corruptions with standardized β coefficients at 95% confidence interval at $\alpha = 0.05$. E-government platforms usability and public sectors interoperability explain reduces corrupt actions by 0.534 and 0.273 (53.4 % and 27.3%) of total variance where P-values are <0.005 and < 0.001 respectively. ICT hardware and software configuration were also contributed by 0.437 at P-value <0.005 and < 0.001 respectively.

Table (5) Coefficients Results of E-government Variables on Combating Corruption, Equality & Fairness

Models		Un-standardized Coefficients		Standardized Coefficients	T	Sig.
		B	Std. Error	Beta		
1	ICT Hardware & Software	.233	.062	.437	3.231	.001
	Platforms Usability	.281	.040	.534	6.974	.000
	Public Sectors Interoperability	.193	.038	.273	5.022	.000
2	ICT Hardware & Software	.256	.119	.161	2.142	.033
	Platforms Usability	.410	.059	.534	6.966	.000
	Public Sectors Interoperability	.394	.056	.291	2.676	.005

a. Dependent Variable: Reducing Corruptions and Equality & Fairness

6.5.2. Source: Authors’ Survey Computation

The regression coefficients (table_5, model_2) above as indicated, E-government platforms have significantly improved fairness and provision of equitable services at $\alpha = 0.05$ and P-values < 0.005 and < 0.001 respectively where it explained by E-government platforms usability (0.534) and ICT hardware and software configuration (0.161). In a similar vein, public sectors interoperability significantly contributes to ensuring fairness and equality of public service delivery with β coefficients values of 0.291 (29.1%) at $\alpha = 0.05$ significant level.

Table (6) Models Summary Results of E-government Variables on Combating Corruption, Fairness and Equality									
Models	R	R ²	AdjR ²	SE	Change Statistics				
					R ² Change	F Change	df1	df2	Sig. F Change
1	.702 ^a	.493	.485	2.537	.493	64.180	3	198	.000
2	.701 ^a	.491	.483	3.713	.491	63.686	3	198	.000
a. Predictors: (Constant), Public Sectors Interoperability, ICT Hardware & Software configurations, E-government Platforms Usability									
b. Dependent Variables: Reducing Corruptions and Fairness and Equality									

Source: Authors' Survey Computation

The overall effects of E-government (model_1, table_6) above; the probability of reducing corrupt activities has a significant association with E-government implementation in public sectors which evidenced by the adjusted R² value is 0.485 (48.5%) at P-value < 0.001 statistical significant level. Electronic services delivery platforms increase opportunities for reduces malpractices/technical frauds, avoiding partiality and help as a tool for easy inspection, retrieval and controlled conversations from databases (the information exchanged at any time between/among individuals). Similarly, this was confirmed earlier by Heeks (2001), Ndou (2004), Nkwe (2012) and George et al, (2011) have indicated that when public sectors successfully roll-out E-procurement it institutes open and transparent bidding of government tenders. This ensures the aims of preventing corruption, promoting transparency and makes a significant contribution to adhering to good governance principles such as anti-corruption. Accountability encourages deeper citizen participation and helps saving wastages of public money. It creates better communication between citizens and government. E-government plays an underpinning role as the redesign of information relationships between the administration and the citizens, in order to create some sort of added value (Bernhard, 2013).

Effects of the implementation of E-government platforms ensure equity and fairness as shown (model 2, Table_6) above. E-government ensures fairness and equality of citizens/customers with the adjusted R² value is 0.483 at P-value < 0.001. It ensures the inclusion of clients/customers/ in the user services and provision of fair access to services regardless of personal status and backgrounds. Online services are also accessible for people with disabilities but have IT skills. This finding is consistent and supported by scholarly research results of NOIE (2003), Salam (2013), UN (2010), Hart, et al, (2011) and George et al, 2011), Davies (2015) and Ahmed Al Salmi (2015), E-government services are improving the availability/accessibility of public services for everyone inconvenience 24/7. It provides different portable documents and files (downloadable format) which can print-friendly (if necessary) to customers/citizens and services are accessible to people with disabilities. E-government put large quantities of data online provide citizens and enterprises with the opportunity to analyze that data, to ensure that government actions are well aligned with society's goals. It increasingly opens opportunities for a large segment of the community seeking government service delivery and accessing all information needed and presented as a requirement for specific services in one place through one mechanism and in a manner that is sensitive to individuals, equity and fairness.

6. CONCLUSION AND FURTHER RESEARCH AGENDA

The study revealed E-government platforms implementation improves good governance in public sectors. As of E-government successfully implement in public sectors, it improves good governance with the standardized β coefficient of 0.901 (90%); transparency and accountability at adjusted R^2 value of 0.546. This effect is significant at P- value of < 0.05) and at 95% confidence interval. E-government is potentially becoming a tool for governments (both in developed and developing countries) to achieve excellence (interaction with different stakeholders, exchanging feedbacks and remained consistently connected with citizens/customers/ and thus empower participants. Hypotheses result summarized in table (7) below.

Table (7) Hypothesis Results and Summary

Hypothesis1 Result1	Implementations of E-government platforms improve customers participation Supported
Hypothesis2 Result2	Using E-government improves equality and fairness in public service delivery Supported
Hypothesis3 Result3	E-government platforms have a positive association with accountability and transparency Supported
Hypothesis4 Result4	E-government has positive effects in combating corruption in public sectors Supported

This article tried to point-out that ICT4D provides wider platform for creating smart societies and modernize public services as the tackling instrument of maladministration and ensuring good governance in public sectors. Furthermore, as public sectors successfully implement different ICT platforms significantly printing costs are decreases whereby it reduces the spillover effects on the environment as well. Further studies on the issue at broader levels including the role and contributions of non-state actors (private sectors, donor agencies, civil society organizations, and political parties) to investigate paradigms of E-government in Ethiopia are waiting for issues for interested scholars. In conclusion, e-government platforms are potentials instruments to reach large customers/citizens, at all times and in all locations by governments in poor countries like Ethiopia.

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