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# Exploring Issues Underlying Citizen Adoption of eGovernment Initiatives in Developing Countries: The Case of Tanzania

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**Abstract:** Adoption plays an important role in the success of eGovernment initiatives. Low adoption, particularly by citizens, indicates inadequate utilization and rejection of the initiatives by the intended users. This may lead into failure of eGovernment initiatives. This is particularly important in the context of developing countries such as Tanzania where eGovernment is a newly imported innovation. It is therefore imperative to understand and proactively consider issues underlying citizen adoption of eGovernment initiatives in that context. This study aimed at identifying issues underlying adoption of eGovernment initiatives in Tanzania, a typical developing country. The results are important for designing, deploying, and evaluating of the initiatives in the country. In this paper, we present research results concerning issues influencing adoption of eGovernment initiatives by citizens in Tanzania. Using the case study approach as our strategy, we investigated the adoption of three government organisations. We found that the adoption of eGovernment initiatives in Tanzania is determined by (1) perceived organisational preparedness (2) citizen preparedness (3) service intrinsic issues, (4) access limitations, and (5) organisational context. We perceive that it is possible to achieve higher degree of citizen adoption of eGovernment initiatives in Tanzania. However, the government need appropriate strategies to overcome challenges posed by the issues identified in this study.

**Keywords:** eGovernment, Tanzania, adoption, Africa, developing countries

## 1. Introduction

Adoption is an important aspect for the success of eGovernment initiatives in developing countries. High adoption of the initiatives increases the chance that eGovernment will facilitate social and economic benefits to citizens (Margetts, 2006). However, designing citizen adoptable eGovernment initiatives is still a challenge to many developing countries governments. This is because successful implementation of adoptable eGovernment initiatives in that context requires complex customisation between technology and implementation context in developing countries (Heeks, 2006). In addition, implementation of adoptable eGovernment initiatives requires structural, procedural, cultural, and attitudinal change in the government (Scholl, 2006). Such changes are difficult and resource intensive. Accordingly, government in developing countries are still experimenting between automation and adjustments of government processes, and delivery of citizen adoptable initiatives (ibid). Consequently, eGovernment initiatives are implemented with less emphasis on citizen adoption possibilities.

Existing theories provide useful insights concerning citizen adoption of eGovernment initiatives. However, they also emphasize and predict different and varied determinants of eGovernment adoption, mainly from the developed countries perspective. For instance, Jeyaraj, Rottman & Lacity (2006) and Sabherwal, Jeyaraj, & Chowa (2006) identify 45 and 121 different empirical adoption studies respectively. In addition Kamal (2006) presents a list of 40 issues possible to influence eGovernment adoption. Consequently, Governments and eGovernment practitioners in developing countries are left on a trial-and-error situation on how to approach eGovernment adoption. This may lead into uninformed prioritisation, and contextualisation when designing and implementing eGovernment initiatives. Such a situation may result into eGovernment initiatives which are less likely to be adopted by citizens, hence failure of the initiatives.

## 2. Background: EGovernment in Tanzania

Tanzania is an example of a typical developing country (World Bank, 2009). EGovernment implementation in Tanzania resembles that of many other developing countries. In 2008 Tanzania had an e-readiness index of 0.2929 (UN, 2008). Various eGovernment initiatives have been implemented in the country. They include the establishment of the Government Network Centre intended to house the central government ICT node. Other reported initiatives include training of 3000+ government officials, purchasing and installing ICT equipments, networks, and software,

implementation of internal government systems (Sawe, 2007). In addition, individual government organizations have been implementing initiatives based on their organizational priorities and budgets. Adoption of eGovernment initiatives is equally important to Tanzania. However, limited studies have been identified to have empirically studied eGovernment adoption in Tanzania. The closest studies are that of Kaaya, (2004) and Mgaya (1999), and Yonazi, et al. (2008). While Kaaya (ibid) investigated the implementation of eGovernment in East Africa, Mgaya (ibid) examined the adoption of Group Support Systems in the government. Yonazi, et al. (ibid) explored general adoption issues. No study cited to have been established reasons underlying citizens' decisions towards the adoption of specific e-Government in Tanzania. As a result the understanding of the adoption situation and the actual issues influencing the uptake of specific eGovernment initiatives in the country is still limited.

The preceding discussion highlights an important deficiency in theory and practice. Empirical studies on eGovernment and eGovernment adoption in Tanzania are still rare. As a result the literature does not provide information concerning adoption issues relevant to Tanzania. This suggests that the current initiatives have been implemented with inadequate understanding of issues that determine their adoption. This situation needs to be addressed. Otherwise, eGovernment initiatives may fail and cause severe loss of tax payers' and sponsors scarce resources. In this study we aimed at investigating issues influencing the adoption of eGovernment initiatives in Tanzania. We focused on initiatives that may involve the exchange of information between citizens and the government of Tanzania, i.e. citizen-focused initiatives.

### 3. Method

#### 3.1 Strategy

We focused on establish issues underlying citizens' adoption of specific eGovernment initiatives in Tanzania. This would allow us to understand the situation and issues related to the adoption of eGovernment initiatives in Tanzania. To achieve this, we studied the adoption of eGovernment initiatives a government institution level. This is where eGovernment initiatives are designed, deployed, adopted and evaluated. Such an environment comprises of the implementers (government institutions) and expected adaptors (citizens) of eGovernment initiatives provided us with an appropriate application environment for this study. Accordingly, we found that the case study approach was relevant to facilitate our study and we approached our investigation inductively (Yin, 2003). This approach is relevant when answering the 'how' and 'why' questions. It is also useful when investigators have little control over events, and when the focus is on contemporary phenomena within some real-life context (ibid). This descriptions fit well with the nature and purpose of our study in this phase for three main reasons: 1) we wanted to understand how the current adoption situation of e-Government initiatives by citizens is in Tanzania, 2) we aimed at establishing why the situation is the way it is, and 2) our study concerned a new innovation (e-Government) in the public sector. Accordingly, we had a limited control on various issue influencing variables (e.g. government activities, respondents, and attitude towards e-Government). Therefore, we found that the case study approach was relevant to facilitate our study.

#### 3.2 Case selection

The choice of case organizations was based on the objective of the study. We wanted to establish issues underlying citizens' adoption of eGovernment services in Tanzania. However, Tanzania is a unitary republic comprising of Tanzania mainland and Zanzibar. Thus, it was necessary that we choose central government organisations because they cover both sides of the union (Tanzania Mainland and Zanzibar). We especially focused on organisations with experience of providing some services to the citizens by means of a website. Three organisations (Table 1) granted access to us. We hence investigated factors influencing their adoption by citizens in Tanzania.

**Table 1:** Case study organisations

S/N	Organization	eGovernment initiative
1	National Examinations Council of Tanzania (NECTA)	Online provision of secondary school and teachers colleges examination results
2	Tanzania Revenue Authority (TRA)	Online provision of tax related information
3	Ministry of Finance and Economic Affairs (MoFEA)	Online provision of finance related information and reports

### 3.2.1 NECTA

NECTA is a government body established in 1973 by the Parliament Act No 21 of 1973 (URT, 1973). The organization is responsible for formulating, conducting and regulating examinations in Tanzania. NECTA deals with all examinations, from primary and secondary schools to other professional examinations, including teacher college examinations. We observed that the NECTA website received a seasonal high utilization degree (Table 2). This utilization takes place only during the announcement of examination results. The website experiences a low utilization degree in other periods, for example during exam registration and results-slip seeking.

**Table 2:** NECTA Usage Statistics

Summary per month						
Month	Monthly totals					
	Sites	Kbytes	Visits	Pages	Files	Hits
Aug-08	3224	4016353	12638	85150	219632	369507
Jul-08	4870	5337949	20288	119423	347169	558349
Jun-08	5746	6280011	21655	142491	357186	588527
May-08	12,744	55,850,399	191,683	1,865,029	3,281,508	5,320,417
Apr-08	8929	7381280	28315	176047	420194	742332
Mar-08	4190	3498524	8640	62316	139284	234788
Totals		82,364,516	283,219	2,450,456	4,764,973	7,813,920

Source: NECTA, 17 August, 2008 (Generated by Webalizer Version 2.01)

### 3.2.2 TRA

TRA is a central government revenue body established in 1995. The organization is responsible for assessing and collecting specified revenue, and administering and enforcing the tax related to government revenue (URT, 2006). We The degree of utilisation of the TRA website was established by analysing the web counter figures, and the discussion with the management and other stakeholders. In April 2008, the web counter (installed in November 2007) had registered about 60,000 visits. On 1<sup>st</sup>, 22<sup>nd</sup>, and 24<sup>th</sup> July, we recorded the web counter at 97,825, 100,124, and 102,653 respectively. We hence interpreted this situation as indicating low adoption.

### 3.2.3 MoFEA

The degree of utilization of the website was established by analysing the web-hits of the top most visited WebPages (Table 4-3). Table 4-3 shows that the landing page (about the Ministry) was the most visited webpage since the launching of the website in 2006. It had recorded 13,556 hits as 11<sup>th</sup> Sept, 2008. Both the management and the user respondents perceived that such figures indicate low degree of utilisation of the website for a period of 2 years.

**Table 3:** MoFEA - 10 Most Accessed Webpages (2006-2008)

S/N	Title Page	Page impression
	About the Ministry	13556
	Regular News	11133
	Human Resource Management	10680
	Budget	8914
	Millennium Challenge Account - Tanzania	8245
	Advertisements	6874
	Revenue & Taxation Policy	6037
	Structure of MoFEA	5230
	Central-Local Government Finances	4715
	Government pensioners	4714

Source: MoFEA, 11th September, 2008 (Generated by Webalizer Version 2.01)

The degree of utilization of the website was established by analysing the web-hits of the top most visited WebPages (Table 4-3). This information was also discussed with both the management and the other stakeholders during interviews and FGDs respectively (Appendix 11.B). Table 4-3 shows that the landing page (about the Ministry) was the most visited webpage since the launching of the website in 2006. It had recorded 13,556 hits as 11<sup>th</sup> Sept, 2008. Both the management and the user respondents perceived that such figures indicate low degree of utilisation of the website for a period of 2 years.

### 3.3 Data collection instruments

We needed information that could inform us of issues potential to explain adoption of the selected eGovernment initiatives. Accordingly, we sought information from the case organisations and their stakeholders. Specific information sources were officers and customers of the organisations, and other documentary evidences. Managers and customers provided us with experiences, opinions, and actions that pointed to adoption issues. Documentary evidences informed us of recorded evidences. Table 2 provides a summary of the tools used per each case.

**Table 2:** Summary of data collection tools used per case

Technique	NECTA	TRA	MoFEA	Total
Interviews	16	11	7	34
Focus Group Discussions	8	5	7	20
Observation reports	2	2	1	5
Internal workshop	1	-	-	1
Web statistics report	1	1	1	3
Internal documents Analysed	5	5	5	15
Newspapers analysed	26	-	-	26
Stakeholders workshops	-	-	-	3

## 4. Results

Data were analysed qualitatively (Straus & Corbin, 1990). During open coding we generated an initial code list to highlight key issues. However, whenever we encountered a fresh idea, a new code was assigned to it. This coding practise was useful because it allowed us to enrich our initial understanding through revelation of new insights from the cases. Axial and focused coding involved scrutinizing the codes and categories to establish their relationship with the adoption of e-Government. Memos were then written to explain the resulting categories and the relationship with the adoption phenomenon. Whenever a concept was encountered and needed clarification, a follow-up interview, mainly over the phone, was initiated and clarification sought.

We identified five key issues potential to explain citizen adoption the three eGovernment initiatives in Tanzania. They are organisational preparedness, citizen preparedness, services intrinsic issues, access infrastructure, and organisational context (Table 3). We present each of the issues and their supporting evidences from coding in Appendix 1. We denote the codes in a form of X.Y where X stand for the first latter of the organisation and Y for code number. E.g. N2 means code number 2 from NECTA code list.

**Table 3:** Adoption issues from cases

Issue	Subcategories	Codes
Organisational preparedness	Organisational wide buy-in	N9-13; T13-16; M9-10
	Adequacy of internal processing machinery	N14-16; T17-19; M11
Citizens preparedness	Need for ICT skills	N3-4; T4-5; M4-5
	Financial affordance	N1, T1-2, M2
	Service awareness	N2; T3; M4

Issue	Subcategories	Codes
	Preference for face to face	N5; T6; M7-8
	Age	M3
Services intrinsic issues	Information characteristics	N17-23; T21-25; M13-17
	Website characteristics	N26-29; T31-34; M21-22
	General service characteristics	N24-25; T26-30; M18-20
	Fit in the Union	N30; T20; M23
Adequacy of Access Infrastructure	Adequacy of ICT Networks	N6; T7-8; M1
	Availability of ICT equipment	N7; T9-10
Organisational context	Limit of responsibility	N8; T11; M12
	Nature of the organisation	N9; T12

#### 4.1 Organisational preparedness

Organisational preparedness relates to extent to which a government organisation appears to be prepared to serve citizens in digital fashion. This issue explains citizens' perceptions regarding the extent to which a government organisation appears to be prepared for eGovernment. It is the result of citizens' evaluation two key aspects; (1) visible actions and attitudes of people in a respective organisation, and (2) adequacy of internal machinery towards electronic working environment. We provide a cross case analysis of this issue in table 4.

**Table 4:** Organizational preparedness across cases

Subcategory	Similarities	Differences
Organizational buy-in	Both organizational demonstrated considerable internal oriented buy-in of top management	NECTA's buy-in is centred at the CEO level, but informal and less embraced by low level management TRA has established and formal administrative buy-in, however less supportive to website based services MoFEA has formal internal oriented buy-in, through not embraced organizational wide
Adequacy of internal machinery	Processed, are dominated by the manual paper-based file system and ICT policies are mainly internally oriented Systems are standalone	NECTA has no written policies TRA has ICT policies, strategies, and emphasises on internal electronic processing MoFEA has no ICT policies, but embrace internal electronic practises

We noticed some differences on organisational-buy in and adequacies of internal machinery. However, there as shown in table 4 both organisations indicated similarity in inadequacies in their organisational preparedness towards eGovernment services provision across cases. Inadequate preparedness is indicated by deficiencies in either management actions and/or internal processing machinery. Adequate preparedness requires strength in both aspects. Citizens' evaluation of the organisational preparedness determines their perceptions on the extent to which the organisation is prepared to serve them electronically. Citizens' perception on inadequate organisational preparedness will result into low adoption of respective eGovernment initiatives. Adequate preparedness will promote high degree of adoption of the initiatives.

#### 4.2 Citizen preparedness

Citizen preparedness relates to the extent to which citizens are confident to seek and utilise government electronic services. Citizen preparedness is determined by (1) adequacy of ICT skills (2) financial affordance (3) awareness of existing eGovernment services, (4) preference for face-to-face communication, and (5) the age of a user. We observed that citizens need to have adequate level of ICT skills, awareness of existing eGovernment services, and financial affordance to adopt eGovernment. In addition, they also need to overcome the limitations of age and cultural aspect of preference of face to face to be able to communicate digitally with the government.

Similarities and differences regarding citizen preparedness are presented in table 5. Specific differences were on the possibility for each target user to mitigate the constraints related to financial costs, and ICT skills levels requires to use the websites. While students are required to pay to access NECTA's website, users of TRA and MoFEA websites can access the websites through office

facilities. Further, users of NECTA website are young students with reasonable ICT skills, and awareness of the electronic services. TRA and MoFEA users are adults with limited ICT skills and awareness of electronic services of the government. However, both users are comfortable to face to face contact with the government.

**Table 5:** Citizens preparedness

Subcategory	Similarities	Differences
Financial Affordance	Low income is the main obstacle in all of the three cases	NECTA serves mostly family dependent young students who depend on their guardians to fund their internet access costs TRA and MoFEA users rely on office facilities and internet cafés. This helps them to avoid financial constraints in accessing websites
Need for ICT skills	Need for ICT, especially computer skills was important across the cases	NECTA provided mainly the viewing of examination results, this required moderate ICT skills Searching and downloading information form TRA and MOFEA required more confidence on using ICTs
Awareness of existing services	Apart from general information, other specific services are still unknown	NECTA website is well known country wide TRA website is known, but mainly in Dar es salaam MoFEA website is less popular especially to ordinary citizens
Preference for face-to-face	Face-to-face communication was observed as preferred in all the cases	-

Citizen preparedness can be used to explain the current level of eGovernment adoption in Tanzania. Inadequate citizen preparedness is a result of low financial affordance, low ICT skills, high unawareness, and high preference to face-to-face communication. When there is inadequate preparedness, adoption will also be low. This category reveals the importance of various user centred issues that may influence citizen to adopt eGovernment.

### 4.3 Perceived services intrinsic issues

From case studies we learned that important services quality elements in Tanzania are (1) information quality, (2) website quality, and (3) generic service quality aspects. Information and website quality relate to content and system quality. Respectively, generic service issues include timely responsiveness, usefulness, and convenience of using government electronic services. Citizens will adopt eGovernment initiatives which meet and exceed their expectations. They need to perceive that contents, systems, and generic properties (e.g. responsiveness) satisfy their expectations. Otherwise they will opt to seek government services physically. This will result into low adoption of eGovernment initiatives.

Table 6 provides the observations regarding the services issues category across cases. We observed that the key difference were the seasonality of information the NECTA website and searchability of the MoFEA website. Otherwise inadequacies of the information, websites, and other general characteristics mentioned above were common across the cases.

**Table 6:** Service intrinsic issues

Sub-category	Similarities	Differences
Information characteristics	Information incompleteness Information complexity due to use of English Information obsolesce (outdated) Information usefulness	NECTA provides seasonal information
Website characteristics	Complexity, design, reliability	MoFEA website is searchable
General service characteristics	Poor response to user inquiries The benefit of the nature of the internet (Usefulness/convenience)	-

Service instinct issues category suggests that the deployment of eGovernment services will require a careful consideration of various general and contextual service related factors. These factors concern properties of the contents (e.g. information), and channels through which the content is communicated (container). General issues such as response and the contextual fitting are also

important. We observe that low adoption will be contributed to by the low value of information communicated through low value channel.

#### 4.4 Access issues

Access issues refer to ways through which citizens get access to eGovernment initiatives. Results showed that adequacy of ICT infrastructure and availability equipment for accessing eGovernment services are necessary. Adequacy of ICT infrastructure concerns the availability and coverage of telecommunication and supporting infrastructure such as electricity and roads. Availability of ICT equipment explains the availability of equipment, especially computers, for accessing eGovernment. We present the key similarities and differences in table 7.

**Table 7:** Access issues

Sub-category	Similarities	Differences
ICT Infrastructure inadequacy	All cases are affected by the current status of inadequate ICT networks of the country	NECTA users rely heavily on cybercafés, while TRA and MoFEA users rely on their organizational facilities
Availability of computers	Computers are available in mainly urban areas, and the majority of the users do not have computer. this is not also a case issue	

Access issues may not necessarily be organisational level issue. They reflect the infrastructural situation of the country. Inadequate access situation in the country results into low eGovernment adoption. This will be contributed by the inadequacy of ICT networks and supporting infrastructure, and the unavailability of access of appropriate access equipment. For high adoption the infrastructure situation will need to be improved. Alternatively, mitigation strategies for alternative connectivity (mobile phones, TV, and radio) can be more appropriate to tackle the situation. Otherwise fewer citizens will adopt eGovernment initiatives.

Inadequacy of access infrastructure plays an important role in the adoption of eGovernment. Citizens need to have means of accessing electronic services intended for them. With improved access citizens will be encouraged to seek and utilise the electronic services. In contrary, inadequate access to electronic services will discourage citizens to use the services. This may result in to low adoption of eGovernment initiatives.

#### 4.5 Organisation context

The organisation context relates to the business environment of a government organisation. This issue comprises of two categories namely the nature of the organisation and its business, and organisational autonomy. Nature of the organisation suggests that different organisations are perceived differently by the citizens. This also influences citizens' adoption of their eGovernment initiatives. For instance, a website by the army will attract fewer adopters as compared to NECTA website. This is because fewer citizens are normally attracted to the activities of TRA (Table 8). Contrarily, NECTA, business activities are generic and are voluntarily sought by many people. Citizens are likely to seek and utilise initiative by NECTA as compared to the army website. Likewise, initiatives by the Zanzibar Government will attract people differently as compared to those by the Tanzania Government (fit in the Union). Government organisations need to understand that what they are and do influences citizen adoption of their electronic initiatives.

**Table 8:** Organisation context

Sub-category	Similarities	Differences
Nature of the organization and business	All organisations have their statutory autonomy limitation	NECTA website attracts more people because examination results are mandatory
Organizational autonomy	Computers are available in mainly urban areas, and the majority of the users do not have computer. this is not also a case issue	-

Organisational autonomy was a subtle issue during our investigation. However it emerged as an explanation of the structural limitation on various government organisations. Each government organisation has its own statutory mandate, budget, and limit of authority. Hence, it can only deal with its eGovernment initiatives that are under its jurisdiction. It is therefore possible to strategize on some aspects but limited on other. For instance, an organisation can be responsible for its organisational



preparedness and intrinsic issues of its eGovernment initiatives. However, it may not be possible for an organisation to deal with citizen preparedness and infrastructural situation of the country. Such issues will require joint efforts of the central government. Likewise an organisation is responsible for the quality of its services (e.g. completeness), but limited on what it can do to improve the ICT skills the citizens.

Organisational context may have an important role in the adoption of eGovernment. From to their statutory nature and services they offer, government organisations traditionally attract citizens differently. This can be the case in the electronic environment. EGovernment initiative by government organisations which attract many citizens in the traditional way, will also receive higher adoption. Likewise, organisations which will successfully overcome the limits of its autonomy may provide services which are more likely to meet user expectations. This may promote adoptions amongst the citizens of Tanzania.

## 5. Discussion

The results of this study provide us with issues concerning adoption of eGovernment initiatives at an individual level. In this section we provide our reflection of the results and their implication to the existing body of knowledge. This helps us to highlight key theoretical similarities and differences emerged in the course of this study.

We found in the literature various factors pointing to the importance of organisational preparedness on the adoption of eGovernment (Ebrahim & Irani, 2005; Lam, 2005; Moon & Noris, 2005; Seifert, 2003; Titah & Barki, 2006; Tseng *et al*, 2008; Welch & Pandey, 2007; Webber, 2008). We acknowledge the value of these contributions to eGovernment implementers. Our results differ from them in one important way. Citizens do not have a checklist of factors to help them decide to adopt or reject an eGovernment initiative. Instead, their adoption decisions are influenced by the extent to which a government organisation appears to be prepared to serve them in electronic fashion. Specifically they evaluate organisational wide buy-in in the actions of senior as well as junior staff of an organisation, and the adequacy of the processing machinery.

Issues related to citizen preparedness issues are also supported by the literature. They include the importance of financial affordance (Seifert & McLoughlin, 2007); ICT skills (Kumar *et al*, 2007), awareness of existing service (Choudrie & Dwivedi, 2005), face-to-face communication preference (Hart-Teeter, 2003; Mofleh & Wanous, 2008), and age (Thomas & Streib, 2003; Venkantesh *et al*, 2003). These issues have different importance in different contexts (e.g. Carter & Weerakkody, 2008). Accordingly, researchers present the issues in varied and discrete ways. In this study we provide an overarching category; citizen preparedness. We observe that it is more useful understand the significance of the preparedness of their citizens. This will help to seek and address specific issues that determine the preparedness in specific contexts.

EGovernment adoption issues related to service have been widely discussed in the literature and support our findings. Typical examples are usefulness, complexity, dependability, completeness, trustworthiness, up-to-datedness, completeness (Al-Adawi, Yousafzai, & Pallister, 2005; Davis, 1989; Gilbert, Belestini, Littleboy, 2004; Gupta, *et al*, 2008; Huang, D'Ambra, Bhalla, 2002; Wangpipatwong, Chutimaskul, Papasratorn, 2005; Warkentin *et al*, 2002). However, in this study we identified and categorised related to the content, container, and generic issues. The content issues refer to the factors the information being offered in electronic form, while the container issues were those related to the system of delivery (website). Generic service characteristics encompass those factors which relate to the mode of delivery; the internet (e.g. usefulness/convenience and responsiveness).

The categorisation of service issues presented above is not new. This approach is similar to that used by Dragulanescu (2002), Parasuraman *et al* (1991), and Rotrchanakitunui (2008). However, these theories present service issues in two dimensions only; content and container. Our findings further the existing propositions by suggesting generic issues (e.g. usefulness/convenience and responsiveness). We draw a specific attention to contextual importance on the use of Kiswahili to add value to contents of eGovernment initiatives in Tanzania. These are important contributions in enhancing our understanding of the issues around the services offered in various eGovernment initiatives.

Findings on the importance of access and the adoption of eGovernment is also theoretically supported (Reddick, 2008, UN, 2008). This issue is typical to developing countries contexts and Africa in particular (Kalu, 2007, Schuppan, 2008). Although this finding was expected, we were able to categorise specific access issues that contribute to access limitation. We found that inadequacy of ICT and supporting infrastructure, and unavailability of ICT equipments contribute to the low adoption of eGovernment initiatives. This observation is similar to that of Fuchs and Horak (2008), however our findings differentiates infrastructure limitations from access equipment limitations. In the case of Tanzania, general country ICT infrastructure is poor. Regardless, organisations should not be hindered from implementing eGovernment initiatives for citizens. Alternative channels such as mobile phones, TVs, and radios are widely available. EGovernment initiatives can hence be designed to be delivered and accessed using such equipments. This contribution helps to separate and think of mitigating general ICT infrastructure challenges from equipment constraints.

Organisation context is a new revelation in the eGovernment debate. That is, the natures of government organisations and their business have an impact on the adoption of its eGovernment initiatives. Citizens may be attracted differently to use eGovernment initiatives offered by government organisations with different natures. The main attraction elements are the nature, and the business the organisations deal with. This thinking is yet to be established in the technology and eGovernment adoption literature. We relate this issue to the extant concept of organisational image (Christensen & Askegaard, 2001, The Economist, 2008). Corporate image influences the customer perceptions concerning a business organisation and its services/products (Gray & Balmer, 1998). Likewise, this is relevant to government organisations and their electronic initiatives. Corporate images may influence citizens' perceptions and adoption decisions to provided eGovernment initiatives. This finding was also an important contribution from this study.

The influence of organisational autonomy on citizen adoption of eGovernment initiatives was a new discovery. Currently theoretical proposition related to this issue are still rare. The closest findings we found are those by Gil-Garcia & Pardo, 2005, and EOCD (2003, p.48). This may be because it may not be directly related to the wiliness to adopt innovation. However, as we observed that each organisation has a limit of responsibility in relation to its electronic services. This issue is useful for explaining organisation and central government responsibilities in relation to the factors identified in this study. It is hence an important contribution in this study.

## **6. Conclusion**

The objective of this study was to establish issues potential to explain the adoption of eGovernment by citizens in Tanzania. We identified five issues; government preparedness, citizen preparedness, services intrinsic issues, access limitations, and organisational context. The findings have implications to eGovernment adoption research, stakeholders, and to the developing countries. They contribute to the existing general and subject-specific adoption theories by extending and expounding constructs used to explain eGovernment adoption. This benefits eGovernment stakeholders in their efforts to implement eGovernment. The findings may be applied in other developing countries. Therefore, we can suggest that the utilisation of the highlighted issues may benefit other countries provided that contextual issues are considered.

Our results face some important limitations. Firstly, the factors may have causal effects towards each other. In this study we did not investigate that aspect. Secondly, issues such as national administration style may have an impact on citizen adoption. Thirdly, because this study was conducted only in Tanzania, care must be taken in utilizing its conclusions in other contexts. However, they still provide an important starting point as far as citizen adoption of eGovernment is concerned. They provide initial understating for designing appropriate approached for overcoming any resulting and associated eGovernment adoption challenges in the country.

## Appendix 1: Coding process

**Table 9:** National examinations Council of Tanzania - coding summary

Code No.	Open coding	Axial Coding	Focused Coding
	Affording to pay-for	Affording to pay-for	Citizens preparedness
	Awareness of the existence of the service	Awareness of the existing services	
	Interest on using ICT	Need for ICT knowledge	
	Need for ICT skills		
	Face-to-face preference	Preference for face-to-face	
	Infrastructure - Inadequacy	Access infrastructure limitations	Inadequacy of access Infrastructure
	Infrastructure - Optimisation of available technology	Lack of computers	
	Impact of external entities	Limit of responsibility	Limit of responsibility
	Nature of the organisation	Nature of the organisation	Nature of the organisation
	Administrative buy-in	Buy in	Perceived organisational preparedness
	Lack of enforcing strategy		
	Need for Mindset change		
	Need for coordinating mechanism		
	Policy inadequacy	Need for supportive policies, procedures and processes	
	Practises, procedures, processes inadequacy		
	Internal status		
	Information incompleteness	Information characteristics	Perceived Service intrinsic issues
	Information complexity		
	Information out datedness		
	Information unreliability		
	Expert - Outdated information		
	Expert - Missing service	Information characteristics	Perceived Service intrinsic issues
	Usefulness		
	Poor Responsiveness	General service issues	
	Privacy concern		
	Website complexity	Website characteristics	
	Website design		
	Website reliability		
	Expert - Poor system design		
	Service - Fit in the union	Fit in the union	

**Table 10:** Tanzania Revenue Authority - coding summary

Code No	Open coding	Axial Coding	Focused Coding
	Affording to pay-for	Affording to pay-for	Citizens Preparedness
	Infrastructure - Cost		
	Awareness of the existence of the service	Awareness of existing services	
	Interest on using ICT	Need for ICT knowledge and skills	
	Need for ICT skills		
	Face-to-face preference	Preference for face-to-face	
	Infrastructure - Inadequacy	Infrastructure Inadequacy	Inadequacy of access Infrastructure
	Infrastructure - Point of access		
	Infrastructure - Optimisation of available technology	Lack of computers	

Code No	Open coding	Axial Coding	Focused Coding
	Preferred mode of obtaining services		
	Impact of external entities	Impact of external Entities	Limit of responsibility
	Nature/type of the organisation	Nature of business	Nature of business
	Citizen usage by sanctions	Buy in	Perceived Organisational Preparedness
	Administrative buy-in		
	Need for Mindset change		
	Need for sanctioning		
	Practises, procedures, processes inadequacy	Need for change in business practises and processed	
	Policy inadequacy		
	Coordinating Mechanism		
	Service - Fit in the union	Union Service issue	Perceived Service intrinsic issues
	Information Completeness	Information characteristics	
	Information complexity		
	information out-datedness		
	information Reliability		
	Expert - Missing service		
	Source of Funding (Service Reliability)	Service issues	
	Convenience		
	Responsiveness		
	Trust on technology used		
	Usefulness	Website characteristics	
	Expert - Poor website design		
	Website complexity		
	Poor website design		
	Website reliability		

Table 11: Ministry of Finance and Economic Affaires - code summary

Code No.	Open coding	Axial Coding	Focused Coding
	Infrastructure - Access limitation	Access Limitation	Access infrastructure limitations
	Affording to pay	Affording to pay-for	Citizens preparedness
	Age	Age	
	Awareness of what is available	Awareness of existing services	
	Interest on ICT	Need for ICT knowledge	
	Need for ICT skills	Preference for face-to-face	
	Trust on the system (Technology)		
	Preferring face-to-face	Buy in	Government preparedness
	Government Buy in		
	Need for sanctioning/incentivising	Need for supportive Practices and policies	
	Government Practise and policies		
	Limit of responsibility	Limit of responsibility	Limit of responsibility
	Information reliability	Information characteristics	Perceived service intrinsic issues
	Information completeness		
	Information complexity		
	Poor up-to-datedness		
	Need for Usefulness		
	Use for Convenience	Service issues	

Code No.	Open coding	Axial Coding	Focused Coding
	Usefulness of the internet		
	Poor Responsiveness to enquiries		
	Poor website design	Website characteristics	
	Website reliability		
	Union factor	Union factor	

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