Diffusion of E-Government in Nigeria: a Qualitative study of Culture and Gender

Research-in-Progress Paper

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Abstract

E-government failure is prevalent in developing countries, and of the varying reasons for this, adoption of online products and services by citizens is one strong factor. Using this reasoning, this research-in-progress paper explains how a qualitative approach involving interviews and observations as well as referring to archival documents was used to investigate the aim: *to investigate the relationships between culture and e-Government awareness channels within subcultures (ethnic groups) of Nigeria, a developing country striving to adopt e-Government. This research will also aim to examine gender influences within the subcultures when considering an e-Government awareness channel in Nigeria*. The conceptual analysis is framed by Rogers' (2003) diffusion theory, Hofstede's and Hofstede's (2005) cultural theory and the Association for Progressive Communications' (APC) Gender Evaluation Methodology (GEM) model as presented by Morgan et al (2004). This research offers a rich and deep understanding of the impact of culture and gender upon the diffusion of e-government within Nigeria's indigenous ethnic groups. Further, this research applies aspects of diffusion, culture and gender in the context of a developing country. For industry, this research offers an understanding of the various cultural and gender aspects that can affect the diffusion of an innovation within ethnic groups of Nigeria. For policymakers, this research suggests a snapshot of some contexts in Nigeria where e-government initiatives need to be better considered.

Keywords: Diffusion, Gender, Culture, Qualitative Research, Nigeria

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INTRODUCTION

Recognising the potential that Information and Communications Technologies (ICTs) offer for competitiveness and the effectiveness of communities, governments across the globe are striving to provide online products and services[1] to all user groups. Presently, new forms of ICTs[2], such as Broadband are viewed as critical tools for the future prosperity and growth of economies and there is a drive from both the public and private sectors to have ICTs adopted and used in daily lives.

To ensure that all citizens adopt and use the provided online products and services, many governments have formed and implemented policies and undertaken programmes to encourage internet awareness and usage amongst citizens. However, not all e-government projects and programmes across the globe are successful. This is particularly evident in the instance of developing countries. Many developing countries are below the United Nations (UN) global index for e-Government development (Index is 1.62).

In developing and transitional countries, an estimated 15 per cent of e-government projects are successful with the remaining 85% percent being either total failures or considered as partial

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[1] There are various definitions of e-government, but for the purposes of this research, the explanation and definition used is: E-government is more commonly known as the the provision of online products and services. "e-Government is defined as the delivery of [government] information and services online through the Internet or other digital means'' (Muir and Oppenheim, 2002).

[2] UNDP Evaluation Office (2001) has classified ICTs into 2 categories: Old and New forms. Examples of new ICTs include, Computers, Broadband (the offering of a faster internet service), Mobile Phones and personal digital assistants, such as, blackberries and mobile telephones. Old forms are: Television, Radio and Fixed Line

failures (Heeks, 2002), partly because the theories and policies designed in developed countries are being employed in developing countries (countries with policies and strategies completely diverse to those of developed countries) (Stahl and Elbeltagi, 2004). It has also been suggested that e-government success is also a form of ICT success and accessibility is not the only issue for consideration, but also factors such as culture and gender sensibility (Trauth and Quesenberry, 2006; Bardasi and Wodon, 2006). Indeed having access to such resources does not translate into usage and fulfilment (Morgan et al, 2004). Further, to date, e-government research offers practical recommendations rather than the application or development of theory. Theory building could lead to better and more realistic solutions to overcome the existing problems (Heeks and Bailur, 2006).

Of the continents that have substantial rates of e-Government failures, Africa rates amongst the highest (Heeks, 2003). None of the 10 leading global e-Government countries emerged from Africa, where many developing countries are located. The only African country to be listed among the first twenty countries of the world and to achieve a significant level of e-Government success is South Africa (Bates et al, 2007; Ifinedo, 2005). In terms of e-Government adoption, the gap between developed and developing countries is increasing (Bates et al, 2007). This means that such countries could be disadvantaged when competing with developed countries. "At present, most developing countries are severely disadvantaged within a global economy which is increasingly more technology and information intensive: Unequal distribution of resources, such as telecommunications and technical skills, causes concern about the ability of developing countries to participate in the emerging world economy." (Avgerou, 1998:4).

A reason for the unequal distribution gaps in Africa could be attributed to the slow diffusion of e-Government and ICT projects (Bagchi et al, 2007). Further gender inequality and cultural issues could be some of the contributing factors of e-Government's measured diffusion in Africa (ibid). These problems have always been treated on a general platform however Africa is a diverse continent across several dimensions and contributing factors to the limited diffusion referred to above vary across the continent. As such the employment of universal models for application in Africa obfuscates the diversity of ICT issues on the continent. Nigeria is the most populous country in Africa. It is multicultural, consists of over 250 ethnic groups, has an e-

Government development index below UN's recommended index of 1.62 and has e-Government strategies that have suffered failures as have most other developing countries.

When considering the social, people and human aspects of e-government, culture is a theme that can assist in offering a better understanding. The most widely and recognised cultural theorist is Geert Hofstede, who in Hofstede and Hofstede (2005) identified several dimensions of Nigerian culture (ibid). However, it is also well known that Hofstede's identification of diverse cultures suffers from the notion that "a uniform national culture exists within each nation" (McSweeney, 2002: 108). Clearly this is not the case and Hofstede has recognised that it is more appropriate to speak about societal cultures as opposed to national cultures. This will be discussed further in the paper.

Using this reasoning and due to the principal researcher being a citizen of Nigeria who wanted to understand the influences of various cultures and gender factors that could impact current e-government initiatives, an aim was formed. The aim of this research-in-progress paper is to investigate *the relationships between culture and e-Government awareness channels within subcultures (ethnic groups) of Nigeria, a developing country striving to adopt e-Government. The research also aims to examine gender influences within the subcultures when considering an e-Government awareness channel in Nigeria.*

The contributions of this research are viewed to be the following. Researchers such as Heeks (2002) have argued for a rich and deep understanding of e-Government in Africa. As such an envisaged contribution of this paper for academia is rich cultural and gender insights in understanding the diffusion of e-Government in this instance, Nigeria. To date, minimal research focused upon e-Government, emerging from the Information Systems discipline and focused upon developing countries e-Government efforts, is available. It is particularly in this regard that this paper considers an important contribution is made. Further, within e-Government research, policies and empirical analysis are evident, but this research differs from others as it employs parts of Rogers' (2003) theory, Hofstede's and Hofstede's (2005) cultural theory and the Association for Progressive Communications' (APC) Gender Evaluation Methodology (GEM) model as presented by Morgan et al (2004) that is novel for Nigeria's e-Government efforts research. For industry, this paper offers a better understanding of Nigeria's composition and possible challenges that they may face if considering business opportunities in Nigeria. For

policymakers it provides an understanding of issues and strategies in the provision of e-Government.

To familiarise readers with a background to this research, a background to Nigeria and its efforts at e-government provision is offered. The paper then provides a review of the literature on gender and culture in technology and argues for a conceptual framework that addresses the contextually contingent gendered nature of technology production, utilisation and distribution. This is followed by a description of the research method pursued in this research. A description of the findings and analysis in terms of the theoretical background is provided. A concluding section draws the paper to a close.

Background

Background to Nigeria and e-Government in Nigeria

World Bank (2008) defined developing countries as those having national income per capita of less than US$11,905 (www.worldbank.org 2009). Therefore, despite having rich resources such as oil, Nigeria is classified as a developing country. The country's large population is composed of more than 250 ethnic groups, and amounts to approximately 150 million (CIA:WorldFactBook, 2010). The politically influential indigenous majority ethnic groups are the Hausa and Fulani, (29%), Yoruba (21%), and Igbo (18%) (CIA:WorldFactBook, 2010). Other ethnic groups are: Ijaw 10%, Kanuri 4%, Ibibio 3.5%, Tiv 2.5% (CIA:WorldFactBook, 2010). The official language is English, but Hausa, Yoruba and Igbo (Ibo) are widely used as means of public communication. It is estimated that over 68.6% of the population aged 15 and above can read and write (UNDP, 2006).

Nigeria has many political parties (about 23 as at the last election in 2003) that also act as pressure/interest groups. The country's legal system is based on English common law, Islamic Shariah law (only in some northern states) and traditional law. Traditional rulers in different states and localities play a major role in the country, especially in the areas of grassroots mobilization and conflict resolution.

In terms of e-government, Nigeria has an e-Government development index of 1.02, which is below the UN's benchmark measure of development at an index of 1.62 (Ifinedo, 2005; UN-

ASPA, 2002). The emergence of e-Government in Nigeria can be traced to the advent of democracy in 1999. The first real activity in this regard was the development of government websites. These efforts were uncoordinated and only a few agencies with the resources could establish online presence although the government continues to seek policies and strategies that will accelerate the deployment of the necessary infrastructure. In pursuance of this objective the government has established the National information Technology Development Agency, (NITDA) under the Ministry of Science and Technology (MoST) to champion development of Information Technology (IT) in Nigeria and midwife implementation of the national IT policy. NITDA is also charged with the responsibility of implementing e-Government initiatives using National e-Government Strategy Limited, (NeGSt), a Public-Private-Partnership (PPP) as a special purpose vehicle (NITDA, 2001).

NeGSt's mandate is to drive the development of Nigeria's e-Government initiatives -create a practical strategy and single architecture to guide the evolution of digital government solutions with consistent standards, operating platforms and applications across agencies and government systems. Some other e-Government supporting initiatives include:

- *National IT Policy* -The Federal Government of Nigeria recently adopted a National IT Policy driven by the National Information Technology Development Agency.

- *Presidential Network Project* - This project was created to electronically network all Federal Government Ministries in order to have an effective e-Government. The ultimate aim is to have a common Integrated National Network to incorporate the local, state and federal governments.

- *National Information Communication & Education Program (NICEP)* - NICEP is a backbone infrastructure designed for the implementation of education. NICEP is a modern Rural Integrated Technology System (RITS), which is to consist of a combination of an Earth Station (Network Control Centre) at Abuja, a virtual Stationary Satellite in the earth's orbit and thousands of remote VSATs (Very Small Aperture Terminals) installed at Community Centers/Schools in the rural areas (NCTM, 2001).

Challenges to Nigeria's e-Government efforts are well documented (Ifinedo, 2005). One is the socio-economic inadequacies that exist in countries belonging to the Sub-Sahara region. Other identified challenges include, poor organizational skills, inadequate infrastructural support and poor or limited human capital resources (ibid). Local e-Government initiatives have also been

examined, but from a macro level where identification of policies and initiatives has occurred and the impacts measured using surveys (Ogbomo, 2009).

THEORETICAL FRAMEWORKS

Diffusion

Diffusion is defined as "the process by which an innovation is communicated through certain channels over time among the members of a social system" (Rogers, 2003: 5). To further examine this process, four vital elements are required: innovation, communication channels, time and a social system (Rogers, 2003). To ensure that the innovation is disseminated, a channel of communication within a time frame in a particular environment is essential.

Diffusion of e-government research is mainly investigated in terms of ICT. Such research is largely empirical, that mainly comprises statistical analysis of the adoption and diffusion of ICTs using frameworks such as Technology Acceptance Model, Theory of Reasoned Action, Motivational Model, Theory of Planned Behaviour, Innovation Diffusion Theory, and Social Cognitive Theory, Unified Theory of Acceptance and Use of Technology (Venkatesh et al, 2003). In Nigeria, e-government research based more on secondary data has been undertaken to identify the challenges and impediments that e-government poses for Nigeria (Ifinedo, 2006).

When considering a rich and deep understanding of the diffusion of e-government, culture and gender are considered to be two important factors of consideration (Trauth and Quesenbury, 2006; Heeks and Bailur, 2006). Roger's theoretical understanding of the diffusion of innovations when applied to this research suggests the online products and services being used to offer e-Government in Nigeria are the innovations (As UNDP suggested, the new forms of ICTs, computers, internet, mobile phones). In terms of online products and services the Internet, for example will serve as communication channel. The social systems are the indigenous ethnic groups in Nigeria and the time element is the time taken for an individual to adopt the innovation.

Innovation is another term generally associated with diffusion research. Innovation is defined "as an idea, practice or object that is perceived as new by an individual or other unit of adoption" (Rogers, 2003: 12). The novelty shapes the reaction of an individual towards it. When

considering diffusion, it has also been found that it may not be important to determine how long a product or service is provided for; but the process it will take to develop a favourable or unfavourable attitude towards it. That is, the decision to adopt or not adopt (Rogers, 2003). The time lag at which this decision is made is known as ***innovation decision process***. According to Rogers (2003) time and process must involve knowledge, persuasion or a decision to adopt. Innovation decision process is defined "as the process" of seeking information and information processing activity in which an individual is motivated to reduced uncertainty about the advantages and disadvantages of the innovation (Rogers, 2003). Therefore, for the purposes of this research, **innovation decision process** is referred to, in the context of e-Government as the "***e-Government decision process***." This is due to the innovation being viewed as e-Government.

Based on Roger's (2003) definition of diffusion cited above, the channels of communication that citizens use to obtain information concerning government related information is termed diffusion of e-Government in Nigeria. For example, using computers to obtain information regarding government related activities is the diffusion of e-government.

Communication channels refer to a process by which a message is communicated from one individual to another. Diffusion is a particular type of communication in which there are message exchanges concerning new ideas (Rogers 2003). In this case, the communication channels will examine the means by which an individual exchanges messages about e-Government products and services with another. According to Rogers (2003) the nature of the information exchange relationship in individuals determines the condition under which an individual exchanges or does not exchange information and the impacts of such transfers. Therefore, the nature of exchange of information regarding e-Government products and services in Nigeria will be between individuals knowledgeable or experienced in using e-Government and individuals who have no prior knowledge or experience of e-Government product and services. Nigerian communication channels are generally mass media channels (television, radio, newspapers- UNDPs 'old forms of ICTs'), interpersonal channels (social gatherings, one to one informal meetings) and recently, the newer forms of ICTs- interactive communication channels (internet). Examples and explanations of these forms of channels are offered below.

Nigerian Communication Channels

The older forms of ICTs - mass media channels involving the use of mediums such as television, radio, or newspapers are still currently prevalent in many developing countries, including Nigeria. These forms of communication are generic and do not consider individual interests or needs. Such channels are more applicable to literate individuals and elite classes of a society (Rogers, 2003).

Interpersonal channels of communication involve face to face knowledge exchange between individuals or community. According to Rogers (2003) it is the most effective and persuasive form of technology knowledge transfer. Knowledge transfer can be achieved using peer groups, leaders, or family (Pea, 1987). This is more applicable to the less literate in society.

Finally, interactive channels refer to communication based on the internet. Although the internet has become more important for the diffusion of most innovation in recent times, the percentage of individuals involved in the use of internet especially in developing countries is still minimal to the population (Rogers, 2003; UNDP 2004). This form of information transfer is also evident in the upper classes of society. Members of this class are usually educated and affluent enough to afford the hardware and/or internet services.

Since channels of communication impact peoples' lives, they can be a means of increasing awareness of e-Government products and services amongst the citizens of an adopting country. Based on this assumption the process of awareness channels will be used as a determinant of the perception of an individual who may not have used or heard of e-Government products and services. It has also been found that most individuals evaluate innovation not on the basis of scientific findings, but on the experience of those who have used it (Rogers, 2003). This attribute is mainly associated with first time adopters.

For the purpose of this paper the means of e-Government information transfer will be referred to as **e-Government awareness channel**. Since culture and gender are factors of importance in this research, this research will ascertain how culture and gender affect e-Government awareness channels.

E-Government: Culture and Gender

In e-Government, gender and culture have been studied in many developing countries (Harrison and Huntington, 2001; Kasekende, 2006; Evans and Yen, 2005; Stedham and Yamamura, 2004; Hafkin and Taggart, 2001; Choudrie and Lee 2004). However, minimal research has been undertaken to highlight the importance of gender and culture in the African region (Hassan and Dista, 1999; Kasekende, 2006).

E-Government: A Gender perspective

Much work has been done on gender and technology. For instance, Henwood (1993) found that there is an interrelation between technology and gender in society by identifying that there is a role for women in technology and technology is a culture. Cockburn (1985) found that there are challenges as gender and technology are socially defined. Rowbotham (1995) revealed that technology is an experience of daily life. When considering gender on its own the position adopted in this paper is that of Gillard et al (2008). This *"recognizes that women and men are positioned differently in society and that not all women or all men share the same experiences. It recognizes that the development process has affected women and men differently, with women being increasingly marginalized"* (Gillard et al, 2008: 264, 265; Elson, 1995). When considering development in developing countries Gillard et al (2008) suggest a critical reflection is applied to how development is woven in national and international governance, business practices and concerns, and public and private employment configurations. We also take the position that examining the gender perspective is important for understanding how e-government is developing in Nigeria. Gender and technology are considered important factors for research; therefore, it has been suggested that there should be more versatility and details within research methodology. ICT research can be examined from diverse gender perspectives depending on the focus of the investigation. Harding and O'Barr (1987) identify three main feminist epistemological positions, namely feminist empiricism, feminist standpoint and feminist post-modernism.

Feminist empiricism adheres to conventional research norms and standards though some strands recognise the importance of the influence of social values and interests in scientific knowledge. However in adhering to extant methodological rules and standards it emphasises objectivity and

foregrounds the researcher and not the woman as the knower (Webb, 2000). Standpoint theory views knowing as socially situated and rejects the goal of objectivity. It argues that some standpoints are better than others in revealing knowledge about certain issues (Harding, 1998). However standpoint theory can be too relativist and so privileges the viewpoints of some groups over others (Lemert, 1993). Finally feminist post-modernism denies the possibility of a single feminist stance and emphasises the individuality of women, their multiple identities and therefore the uniqueness of the individual stories they tell about the knowledge they have (Harding and O'Barr, 1987). Furthermore these three main strands of a feminist approach to research are further complicated by the growing complexities of emergent strands relating to the writings of black and disabled women, lesbian research and postcolonial feminist thought (Olsen, 2000).

Morgan et al (2004) argue that taking just one perspective in studying the gender dimensions of ICTs obscures the multilayered and versatile nature of gendered experience. A multifaceted feminist approach to a gender analysis of ICTs is required to enable one to foreground women's experiences, address the diversity that exists within women as a group and recognise the contextual nature of experience. Besides dealing with the multilayered nature of gendered experienced, any effective approach, they argue, must engage with the variety of women's roles in society, their practical and strategic needs, and the factors that direct the creation, utilization and distribution of and ICT intervention. They also suggest that the framework should tackle the extent to which women engage in knowledge creation regarding technology and aid in determining appropriate solutions for changing the gender and technology landscape to deliver a more mainstream approach to women's issues (Morgan et al, 2004).

In that regard, Morgan et al (2004) present the Association for Progressive Communications' (APC) Gender Evaluation Methodology (GEM) model to provide a framework for the study of gender and ICTs, which addresses all the above and suggest ways in which this methodology can be operationalised as indicated in Table 1 below. This study therefore adapts the APC's conceptual framework to the study of the relationship between gender and E-government diffusion in Nigeria. However, further refinement of this framework has been undertaken as this research is focused upon citizens and not policymakers; therefore, only certain gender practical

needs (gender roles , gender access to technology, gender control of resources, gender in technology, gender division of labour) and gender strategic needs(gender inequities) are considered.

Table 1: Gender Issues and Indicators Framework for E-Government Intervention Research

Gender Practical Needs:	Questions to ask
Gender division of labour	What jobs are women being involved in (and which are they not) relating to E-Government. What jobs do they want, why are they getting/not getting these jobs?
Access to technology	What education/training is being offered to these women, what education/training would they like/do they need in E-Government, do they have access to information they need?
Control of resources and empowerment	Are women having an (equal) share in decision-making powers regarding E-Government?
Gender and technology	Are women having an (equal) share in strategy and policy development regarding E-Government?
Gender roles	What are women's use & understanding/meaning of E-Government (e.g. what are their perceptions of E-Government provision
Gender Strategic Needs:	
Gender inequities	What is the interaction between E-Government and women's triple gender roles (e.g. how have their roles been affected)

Source: Adapted from Morgan et al (2004)

E-Government and Culture

E-Government research has been criticised for minimal research in the area of culture (Heeks, 2002, 2003). Culture is viewed to be probably the most difficult factor to isolate, define and measure and yet has a powerful impact upon the diffusion of information systems (Heeks, 2002; Hasan and Dista 1999). The difficulty with culture lies with it being viewed in various ways. For instance, culture can be examined at the national, professional or corporate levels and this can cause confusion in the minds of researchers and readers alike (Trompenaars and Hampden-Turner, 2005). Culture's theoretical foundation has been dominated by the works of Hofstede (1980, 1983, 1991); Schwartz (1994), Trompenaars and Hampden-Turner, 1997) and Hall and Hall (1979, 1990). It is also acknowledged that although there is immense research examining models for cultural analysis, few are widely used (Myers and Tan 2002). Since culture is a subject that has been researched for many years it has several varying definitions (Sornes et al, 2004). As Hofstede's concepts are being used, the definition applied by this research, is that culture is "an interactive aggregate of common characteristics, "a collective phenomenon" which

"is learned, not inherited" (Hofstede, 1981:24). As e-government uses online products and services, the role of ICTs is pertinent for its provision. When considering ICTs and culture, there are three emerging categories: cultural values towards technology, culture in technology and, technology culture (Hasan and Dista, 1999). This paper addresses the area of *Cultural Values towards Technology* (Hasan and Dista, 1999), a strategy pursued by Kovacic (2005). However, this research is different as it considers how cultural thoughts, actions and feelings are shaped when interacting with Information Technology (IT).

Culture and IS

IS research is dominated by Hofstede's (2003) model for cultural analysis based on national boundaries. Hofstede (1991), Hofstede and Hofstede (2005) analysed national culture along five dimensions. Power Distance (PD), Individualism versus Collectivism (IND), Masculinity versus Femininity (MAS), Uncertainty Avoidance (UA), Long versus Short- term Orientation (LTO). Hofstede's theory was used to investigate e-government and Maori culture where the emphasis was not on the technology, but the e-government readiness of various countries around the globe (Kovacic, 2005). The theory led to the identification of national cultures, which is a strategy similar to the one being pursued by this research (Sornes et al (2004). Although Hofstede's cultural dimensions were not applied, the cultural dimensions of a transitional country, Kazkahstan were investigated using secondary resources and led to the identification of challenges such as, the political environment being diverse, corruption, digital divide, lack of customer focus, monitoring and evaluation and technological problems (Janenova, 2010). In developed countries, many e-government papers emphasise the adoption, usage and diffusion issues using empirical studies involving survey instruments (Shareef et al, 2009; Carter and Weerakkody, 2008). Whilst such studies are through and informative, what is amiss in such studies is the diversification of cultures in such countries as well.

In terms of the five dimensions, Nigeria was categorised as a collectivist society where filial piety (respect for elders, financial support of parents), chastity in women and patriotism ranked highly (Hofstede and Hofstede, 2005). Individualism had a low score and Power Distance Index scored high. (ibid). In a country with a high power distance score, there is a reliance of subordinates on superiors which can include superiors at work, at home or in the community. Therefore, in such a country a junior minister of parliament is unlikely to contradict the senior

minister and will not question any inequality. The political party or person in power holds the power and is considered correct and good. In terms of Masculinity and Uncertainty Avoidance the indices were mediocre (ibid) suggesting that Nigerians will take risks and innovate but also value and accept some structure in the society. It also suggests that Nigerian society cherish both masculine and feminine values. Nigeria also scored very low long term orientation scores (ibid). In such societies, there is persistence, relationships are ordered by status and there is an observation of this order, there is a sense of shame, thriftiness and respect for tradition exists and there is a reciprocation of greetings, favours and gifts (ibid).

Hofstede and Hofstede's (2005) dimensions are useful for this research due to their scope of coverage. However, apart from the fact that Hofstede study is now quite dated, critics have questioned his methodology (e.g. McSweeney, 2002) and the static and deterministic nature of the theory. For example, McSweeney (2002) questions the idea of 'national cultures'. In his critique of Hofstede's theory he argues that Hofstede (2005) sometimes assumes that all members of a nation uniformly exhibit the same national cultural characteristics. "*national culture from an analysis of sub-national populations necessarily relies on the unproven and unprovable supposition that within each nation there is a uniform national culture and on the widely contested assertion that micro-local data from a section of IBM employees are representative of that supposed national uniformity*" (McSweeney, 2002: 108).

Such views have caused controversy in IS and other academic subjects (Myers and Tan, 2002; McSweeney, 2002). Research findings have identified that various national cultures react differently to new innovation, but also, within one nation there can be multiple cultures. This is a trait that is evident within developing countries (Myers and Tan, (2002) citing, Harris & Davison (1999); Huo & Randall, 1991; Pappas, 2001; D'Iribarne, 1997), particularly those which were created by the grouping together of disparate groups for colonial purposes (Hofstede & Hofstede, 2005). As such Hofstede & Hofstede (2005) caution the unfettered use of 'nationality' as a criterion for measuring culture. Instead they advocate the employment of the category 'society'.

Returning to culture's theories in the context of this research, there is a tendency to classify all the indigenous ethnic groups in Nigeria as belonging to each of these dimensions; however, when examined closely, the contrary may be true. Hofstede found substantial diversity within citizens in a country and similarities between people from different countries (Hofstede, 1980).

As such Hofstede & Hofstede (2005) caution the unfettered use of 'nationality' as a criterion for measuring culture. Instead they advocate the employment of the category 'society'. Despite criticism of Hofstede it is still most widely used in cultural studies and cited widely within the IS domain (Hasan and Dista, 1999). For this reason, this research conceptualises cultural influences in Nigeria using only certain dimensions of Hofstede and Hofstede (2005). These are: Power Distance,, Collectivism and individualism, Uncertainty Avoidance and Time orientations. Masculinity and femininity were not considered as a result of gender being studied as a research phenomenon. .

Research Method

A case study, snapshot, qualitative research approach was applied to this exploratory research in progress study. The case study was used as an entity of study and as a research method. This research was undertaken in October 2009 for 6 weeks. The case study of this research as entity of study is Nigeria, which is further researched using three embedded case studies, which are in the form of indigenous (ethnic groups) tribes (Yoruba, Ibo and Hausa). Selection occurred on the basis of contacts, logistics allowing accessibility and finally, the political situation that determined accessibility.

As this research aims to provide a deeper understanding of the relationship between culture and gender in relation to understanding, and the perceptions of citizens towards e-Government provision in Nigeria, a qualitative approach was considered suitable for the investigation of the complex relationship (Rubin and Rubin, 1995). Further, it allowed an exploration of the participants' understandings and interpretations within the given context (Stroh, 2000).

Within each embedded case study participants were categorised into three. According to Rogers (2003) information exchange in most cases happens between the same classifications of people. Therefore, the classification of subjects was conducted in consideration of e-Government awareness. Three categories were also formed to conduct the research, which were: Category 1: those who have been exposed to the use of e-Government; Category 2: those who have not used e-Government, but are aware of it; Category 3: those who lack knowledge about e-Government.

Sample Population and Questionnaire

There were 27 participants used for this research (details in Table 2 and 3). There were 12 women and 15 men with the Ibo ethnic group having more participants, and a younger willing population group for this research.

Table 2 Gender Details regarding the Participants

Gender	*Ibo*	*Yoruba*	*Hausa*	
Female	5	4	3	12
Male	7	5	3	15
Total	12	9	6	27

Table 3 Age Ranges of the participants

Age Ranges	*Ibo*		*Yoruba*		*Hausa*		*Total*
	Female	*Male*	*Female*	*Male*	*Female*	*Male*	
17-24	3	O	1	2	1	0	**7**
25-34	1	5	1	1	1	0	**9**
35-44	1	1	2	0	1	1	**6**
45-49	0	0	0	0	0	1	**1**
50-64	0	1	0	0	0	1	**2**
65-74	0	0	0	1	0	0	**1**
75-84	0	0	0	1	0	0	**1**
Total	**5**	**7**	**4**	**5**	**3**	**3**	**27**

The participants were selected based on the categorisation on the awareness of e-government. The researcher also considered gender as a moderate for selection of participants. A questionnaire regarding diffusion, culture and gender issues was initially formed based on the literature review and tested upon and by the academic expert team that hailed from England and

Nigeria. It was pertinent to include an academic expert from Nigeria who could identify important issues relating to local context that the academic experts in England could not. The initial part of the questionnaire asked for demographic details. The second and third sections of the questionnaire were formed based on 4 dimensions of Hofstede's framework for Cultural analysis and 6 aspects of the gender studies frameworks. The final questionnaire consisted of 33 questions. Examples of the questions that were posed are: ***Gender: 1)*** *Do you think that there are some jobs men handle better than women and others that women handle better than men?* ***2)*** *Do you think men stand more chances of getting jobs in e-government related jobs? Why?* ***3)*** *Does the type of job that you have as a woman or man influence your sources of information about government activities (like online voting, online civic registration, online licensing of vehicles or motorcycles and online birth registration)? Or, are just not interested in government information? Why?* ***Culture: 1)*** *Do community leaders like village chiefs, Emir, Obas, Igwes, clergy or Imams consult citizens when they want to undertake decisions involving their community and any government related activities regarding the community?* ***2)*** *Will you want to learn about online birth registration or online vehicles licensing or online application for business permit if you discovered that one of your friends or any of the neighbours and someone in your age group within the same income level is using it for his or her applications?* ***3)*** *Will you be interested in online birth registration or online vehicles licensing or online application for business permit products rather than how the technology behind it works?* The interview protocol pursued in this research encompassed interviewing a household's occupants. Visits were made to households in the three regions and interviews were conducted after an initial welcome by the householders. As the principal researcher is from Nigeria and is aware of individuals' hesitations in gathering with others, visits were made to participants' houses. The researcher contacted locals within the village using personal networks and arranged the visits. The researcher explained the purpose of the research, obtained consent to conduct and record the interviews. In some instances photographs were taken. This norm was prevalent within the Yoruba and Ibo. Among the Hausa, this posed to be more difficult where some female participants did not allow the researcher entry into their houses due to religious observances towards interacting with a male visitor. The researcher established contact with an academic based in the region who in some instances conducted the interviews, but in others the researcher

would ask individuals at bus stops or small corner stores to participate in the research. This is also one of the reasons for fewer participants in that area.

Data Collection

Since this research involved examining gender aspects, it was not appropriate and suitable for the researcher to undertake the research on his own. The areas and ethnic groups used for this research are traditional and some consider it inappropriate, and in some instances taboo, for unknown males to speak to womenfolk. To overcome such issues, the researcher recruited and paid 2 local university graduates as to liaise the research by taking notes and transcribing of some of the participants responses where language was a communication barrier. A Dictaphone was also used for recording the participants' interviews. The note taking, recorded responses and observations allowed triangulation to occur. To analyse the research findings themes and codes were employed, which were predetermined by the questions.

Findings of the Exploratory Study

Embedded Case study 1: Ethnic Society 1: Yoruba

The Yoruba live in Western Nigeria. Of the nine people interviewed in the area (comprising four women and five men), seven were Yoruba by birth, while the other two were settlers in the area (through local migration). All four women and three of the men had access to computers and/or the internet either from home, at work or an Internet café. Two of the men had not used computers or the Internet at all. Findings revealed that about 70 percent of the subjects had interacted with government provided online products and services, but did not recognise the process as an e-Government one. For instance, many had engaged with online government examination registration which is the most common form of e-Government product and service that the citizens were familiar with. This suggests a high level of citizens' interactions with e-Government related activities among the Yoruba in Nigeria.

Diffusion Findings: Yoruba

Diffusion	*Yoruba*
Modes of Communication	In terms of the modes of communication, many participants preferred social interaction and believed that this communication channel would increase use of e-Government products and services. It was mentioned that this way, information regarding good experiences would be rapidly diffused, something that Rogers (2003) also identified in Peru. It appeared that technology diffusion could be expedited by promoting technology use amongst women. *Participants believed that computers usage is related to employing a keyboard and women are better suited to this as the use of a keyboard is associated with work roles that women perform e.g. secretarial work. All the four women worked, and it is surmised (and this requires further research) that Yoruba women control their economic resources. This places them in a relatively strong position in terms of their ability to make decisions regarding the adoption of e-Government provision. In terms of understanding gender roles, access to technology, control of resources and empowerment are factors applicable to the diffusion of e-Government among the Yoruba ethnic group.*
E-Government's awareness process	When considering diffusion's e-Government awareness process, the Yoruba paid attention to word of mouth and social interaction, more than functionality, usability and usefulness of an innovation when adopting an innovation. Additionally, time was not a matter of consideration to the ethnic group. Citizens were indifferent in reply when questions regarding the time taken to adopt an innovation or the duration taken for the results of e-Government initiatives

Gender findings: Yoruba

Gender categories of interest	*Yoruba*
Gender roles: What are women's use & understanding/meaning of E-Government (e.g. what are their perceptions of E-Government provision	Findings revealed that although most participants had access to the various forms of ICTs, men devote more time listening to, or obtaining required information than women using both old and new media. This, in our opinion, places females in a weaker position regarding e-Government perceptions and engagement. Further probing discovered that reasons for this difference could be accounted for based on the gender division of labour. As with all societies, there is a gender division of labour among the Yoruba. Largely, women are housewives and it was believed within the tribe that they did not have much use for government information. Although men did not prevent access to any communication channel or information, interview responses suggested that the women themselves, particularly married females, planned their lifestyles in such a manner that there would be no need for access to e-Government information. This is something that the research intends to verify and validate using a larger sample population in future research. Therefore, for gender roles women do not pay much attention to e-government provision.
Gender Inequities: What is the interaction between E-Government and women's triple gender roles (e.g. how have their roles been affected)	Womens' roles have not been affected by the implementation of technology. Women do have access to technology, but other factors, including an active social circle, reliance on husbands to seek required information, perceptions of the importance of e-government interventions for their immediate needs shape their perceptions of adoption and usage of e-government.

Culture's Findings: Yoruba

Hofstede and Hofstede's (2005) selected categories: Yoruba	
Power distance	Hofstede and Hofstede (2005) Power distance is high. Religious leaders' views and opinions (e.g. church priests) were highly revered, considered powerful and could not be questioned. These leaders also seldom consulted citizens. Further, it was found that no promotions regarding e-Government activities had been undertaken by these leaders. "*If my pastor advised me that we embark on e-Government project, nobody will question it because he is not corrupt and will not do it for selfish reasons; rather for the interest of the church members.*" Using such leaders in previous initiatives led to the rapid diffusion of government related activities. For example, reference was made to such leaders promoting immunisation and HIV/AIDS campaigns and there was some success with the treatment of such pandemics.
Collectivist	High collectivism (Hofstede and Hofstede, 2005). When visiting the houses, artefacts such as a large wooden cross were evident and statements confirming that religious leaders are important decision makers displayed the collectivist attitude
Uncertainty Avoidance	Uncertainty Avoidance was noticed within the society. Citizens from this area displayed apprehensiveness towards the functioning of e-government and its ultimate aim. Some replies attributed it to untrustworthiness of the government due to the government's past actions and policies. Others believed it be the identity of the person teaching or providing e-government training within their locality. . Local authorities leading such awareness will reduced UA and influence the perception of the citizens.
Long term orientation	Hofstede and Hofstede (2005) Low long term orientation. Short Term Orientation was observed in this society due the subject's beliefs that the usefulness of e-government should cater for their immediate needs. One of the subject's replies was: *I cannot leave my hungry children and start learning something that I am not sure is going to work unless if it is a community law*. Such expressions are more among the female subjects. However, some of the male subjects also believed that due to insincerity of the government there could not be much time placed on such innovations because failure will occur and they based such an opinion due to previous examples of history.

Embedded Case Study 2: Ethnic Society 2: Ibo

The Ibo ethnic group is located in eastern Nigeria. The researchers interviewed 12 participants (5 females, 7 males). Of the five women three were engaged gainfully in the labour market and two were students. All except one had a home computer with internet access.

Diffusion Findings: Ibo

Diffusion categories	**Ibo**
Modes of Communication	Once again, as within the Yorubas, participants were of the view that e-Government awareness could be promoted faster and better by females than males. As with the Yorubas, this is due to the perception that operating a computer is like employing a keyboard and since many females sought secretarial training skills, they could utilise and understand a computer better. However, there was no preference to the modes of communication. Some favoured technology usage but others considered social interactions and word-of-mouth as crucial to diffuse e-government's products and services. Overall,

	participants emphasised social interaction being the best and most persuasive way of communication.
E-Government Awareness process	Although some subjects were interested in the functionality of the e-Government products and services, a large number were interested in the outcomes and security of the process. However, others who did not agree with this view displayed interests in technology's function and future consequences of using the innovations. Finally, time was a matter of importance to the subjects from this area; therefore, time orientation might have some significant impact on the e-Government awareness process.

Gender Findings: Ibo

Gender Categories of Ibo	
Gender roles: What are women's use & understanding/meaning of E-Government (e.g. what are their perceptions of E-Government provision	When determining which one of the sexes is likely to have more, or need more e-Government information, it was found that women were in a stronger position than men. In this region, women displayed interest in more women orientated topics such as, fashion than anything else. A woman was asked about whether she considered knowledge pertaining to education or current affairs being important. She replied: "*I can't remember the last time I read newspaper or watched any educating programme on television outside of reading fashion magazines and watching soap operas*". As such, the use of traditional or older forms of ICTS for the diffusion of e-Government provision, at least among women, would face challenges. As in the instance of Yoruba, it was found that there was no gender restriction to accessibility and participation within and of, e-government products and services. The women's own choices shaped their use of such products and services. Gender role is the most visible factor affecting access to information. Most male subjects did not face obstacles when accessing communication channels. However, women used such facilities more for family duties matters. In the Ibos there are no known noticeable society norms or observances that discriminate against any gender unless some traditional rituals and rites, which is beyond the scope of this research.
Gender Inequities: What is the interaction between E-Government and women's triple gender roles (e.g. how have their roles been affected)	The results found that there is consciousness in society with regards to gender difference; however, in practice not many subjects showed any regard for the issue. In this region, social stratification based on wealth and class was prevalent. Therefore, the opinion of a wealthy individual would be considered important and count as 'the word' when considering adopting technology. Gendered perceptions differed based on class. When lower educated individuals were asked whether gender would have any role in their decision making, they agreed that it would. As an example, when visiting the house of a participant who was invited to participate on the basis that the expressed views would be disseminated around the world and was not very well off in comparison to others, the researcher pointed to a female team member. Then the researcher asked whether her promoting a novel product, service or device would attract more or less attention and promote the innovation more. There was a nod of agreement from the respondent. To clarify whether this acceptance is based on gender, the researcher asked him if the item is expensive and the woman was promoting it, would the item still be accepted. The reply stated that if the item was only within his means would he purchase it. Accepting that answer, the respondent further probed that if the item was acquired and difficulties in usage were encountered, whom would he go to, a man or woman. The example then used was a laptop. The researcher asked if a man or woman both approached him to show him how to use the laptop, which he would prefer. He replied to say that it would be the woman because women use such things and have more experience of them. In the instance of highly educated and wealthy citizens, gender was less of an issue.

Culture Findings: Ibo.

Hofstede and Hofstede (2005) selected categories. Ibo	
Power distance	Hofstede and Hofstede (2005) Power distance is high. The differences in collectivism and power distance were more apparent in this ethnic group. A lesser educated male participant was asked if government assistance should be increased in daily life. He replied: "*Of what value is my manhood if I cannot feed my family*".
Collectivist	High collectivism (Hofstede and Hofstede, 2005). Contradiction to Hofstede and Hofstede (2005). Citizens seemed to have more respect for the family rather than overall larger society. A participant was asked the importance of recommendations by the local leader called the 'Igwe' on how to make an e-Government project a community project. He insisted *'nothing'.* He said that the *"Igwe' does not feed me or my family, so why have him dictate over us?"* However, it was learnt that information and knowledge regarding other government activities, such as voting registration, were adopted after religious leaders recommended them to the citizens. Also held in high esteem is a town union leader. Asked whether the town leader's 'word' would be followed, the reply was: "*When it is the decision of the town union, everybody must obey or else you face the consequences.*"
Uncertainty Avoidance	Uncertainty Avoidance was noticed amongst the citizens. Citizens from this area displayed apprehensiveness to the functioning of e-government and its ultimate aim. Some attributed it to untrustworthiness of the government due to the government's past actions and policies. Unlike the Yoruba area's citizens most citizens believed that the identity of the person teaching or conducting e-government training within their locality did not matter. Instead the collective decisions of citizens determined the dissemination of the action.
Long term orientation	Hofstede and Hofstede (2005) Low long term orientation. Short Term Orientation was observed in this society due the citizens beliefs that the usefulness of e-government occurs due to catering to the citizens needs. Most of the citizens felt that due to insincerity of the government the citizens could not place much time on such innovations as the initiatives would not work. An example in the form of the **civic registration exercise** that had failed due to corruption was given. Most of the citizens attempted to identify the immediate benefit of e-government to them and members of their family.

Embedded Case Study 3: Ethnic Society 3: Hausa

The Hausa ethnic group is located mostly in the northern part of Nigeria. This part of the research faced several obstacles, with the major one being rescheduling the research due to riots. An Islamic fundamentalist group known as Boko Haram ("Education is sin") clashed with the members of the Nigeria Police which lead to riots, leading to the death of 150 people (www.thisdayonline.com, 2009). Due to this, the researcher spent over three weeks waiting for the region to stabilise. This caused the researcher's research timing to run overtime. In this region, six participants were interviewed, with an equal distribution of men and women. Two of the women were economically active and one was a student. Both working women had no access

to computers or the internet but the student did. Conversely, two men had access to hardware and Internet and one did not.

The first observation reflecting the divisions in society was at the bus park. From the public car park to the hotel it became apparent that this ethnic group is very gender conscious. Women are not allowed to sit with men when using public means of transport. For instance, the researcher a male offered his seat to a female who was standing nearby. She politely declined the offer and retreated to the back of the bus where other females were seated. During the interview two of the female subjects did not allow the researcher to enter their houses on the grounds of his being a male. For this reason there was greater reliance upon a Research Assistant (RA) to conduct and assist with interviews in this region. This was considered to be a huge limitation for this research, but has led the researcher to consider involving other qualified female RAs for the next phases of this research.

Diffusion Findings: Hausa

Diffusion categories	*Hausa*
Modes of Communication	To obtain access to the internet, most working class individuals require the use of computers, which are mostly located in internet cafes. A large majority of the internet (cyber) cafes are used by men, and their presence dominates the cafes. This makes it very difficult for women to walk into and make use of the computer. This does pose to be a barrier to access as access is restricted by the presence of men. When considering e-Government awareness among the Hausas, class and background have major roles to play in terms of access to resources and reasons leading to adoption a barrier to access as access is restricted by the presence of men.
E-Government Awareness process	When considering e-Government awareness among the Hausas, class and background have major roles to play in terms of access to resources and reasons leading to adoption. In this region, gender has an important role in diffusing and considering adoption of technology. For instance, if a man leads the development of e-Government awareness it will affect the female participation rate. Restrictions related to the gender divide could hamper the diffusion of e-Government in the Hausa region, which is a result different from the other two ethnic groups. Therefore, it can be concluded that among the Hausas, there are known and noticeable society norms and observances that will definitely affect e-Government channels of communications. Also, when considering adoption, it was observed that in this region some subjects were very interested in how the e-Government system functions and who controls it; but there was immense interest in the advantages offered by such systems. Again, such interest could lead to the identification of a key application, which could lead to adoption. In terms of time taken for an innovation to be adopted, it was learnt that the duration taken to use a technology was not an issue of importance. This is a result similar to Yoruba, but different from the Ibo.

Gender Findings: Hausa

Gender Categories of interest	Hausa
Gender roles: What are women's use & understanding/meaning of E-Government (e.g. what are their perceptions of E-Government provision	In this region, gender has an important role in diffusing and considering adoption of technology. For instance, if a man leads the development of e-Government awareness it will affect the female participation rate. Restrictions related to the gender divide could hamper the diffusion of e-Government in the Hausa region, which is a result different from the other two ethnic groups.
Gender Inequities: What is the interaction between E-Government and women's triple gender roles (e.g. how have their roles been affected)	Among the Hausa, the gender division of labour shapes the level of e-Government information that females can obtain and determines the types of work that they can perform. Also evident was that in comparison to men, females were less informed in many general knowledge topics, let alone, e-Government. We were also told that it is not proper for married women to seek information from sources outside their immediate families. A participant told us, "W*hatever I want to know, I will ask my husband if I don't know it*".

Culture's Findings: Hausa

Hofstede and Hofstede (2005) selected categories: Hausa	
Power distance	Power distance is high. Religious leaders' views and opinions were highly revered, considered powerful and could not be questioned. Most subjects believed that the local king called the 'Emir' knows what is good for them and will always listen to and obey him. This suggests there is a high power distance, a result also identified within the other ethnic groups, but to varying degrees. It was also found that although the 'Emir' may not consult citizens, they rely upon him for protection and directions. It was also learnt that no e-Government activities have been executed by the 'Emir'; however, other e-Government activities, such as, registration for voting have been implemented by other religious leaders (known as 'Imams') and such initiatives are adopted by the citizens. To determine the roles of each of these leaders, the participants were asked whom the citizens would obey more, the Emir or Imam? A male respondent stated: "*Imam consult with Emir on sensitive issues but can never clash with the Emir and whatever they do or say comes from God, that God cannot say different things to two people*".
Collectivist	High collectivism (Hofstede and Hofstede (2005). The reply provided above displayed citizens compliance with an authority figure, was evident within the region and also, apparent from other informal conversations held with other citizens. This suggested a high collectivist attitude.
Uncertainty Avoidance	Uncertainty Avoidance (UA) was noticed among the citizens. . The citizens from this area displayed apprehensiveness to the functioning of e-government and its ultimate aim. All the citizens believed that the identity of the person teaching or conducting e-government training within their locality would determine their approach to it. Local authorities leading such awareness will lower UA and influence the perception of the citizens.

Long term orientation	Hofstede and Hofstede (2005) Low long term orientation. Low long term orientation as there was respect for the priest's or king's word and for traditions.

Discussion

Heeks and Bailur (2006) have argued that a more textured understanding of e-Government diffusion can be attained through theory development and application. This paper has attempted to offer insights into the influence of culture and gender on e-Government diffusion by examining their influence on citizens' perceptions and understandings of e-Government in three ethnic groups in Nigeria. It was discovered that even within the same country some of the theoretical foundations can be applied in certain regions and cultures but not to others. For instance, when examining diffusion, within the Hausa participants' interpersonal roles of men was more prominent, but within the Ibo and Yoruba females participants were considered pertinent for the diffusion of e-government as women were viewed to be the ones with keyboard skills. Further, amongst the Ibo and Yoruba participants social interaction outweighed other channels of communication and is viewed as a means of increasing adoption and usage than novel forms of media and internet technology. What was also learnt is that the social interaction occurs due to religion observances amongst Hausa, and Yoruba participants, but within the Ibo participants, it was due to the leading figure in the household, in their instance the men in the household. These findings concur with Roger's (2003) findings suggesting that interpersonal communication is essential within less privileged classes of society. It was also found that leaders do make an impact upon diffusion and this is evident in the Yoruba and Hausa, which corresponds to Pea's (1987) results.

The paper attempts to examine gendered attitudes influence perceptions and understandings of e-Government diffusion within a framework that addresses women's practical as well as strategic needs. The study provided insights into how gendered cultural norms shape perceptions and awareness of, e-Government provision. They also determine access to information about, and use of such provision. This had diverse manifestations in the three ethnic groups. For instance, the gender division of labour was noted from the responses of the participants within all three ethnic groups, but the extent to which this impacts women's decision-making varies. For instance, amongst the Yoruba and Ibo, women participants are decision makers with regard to adoption,

accessibility and usage of technology; therefore, they can assist in e-government diffusion awareness channels. Contrarily, the Hausa participants were noted to have gender divide such that women participants cannot access technology and obtain information of interest to them. In this situation, e-government awareness could be problematic and difficult to achieve without specific strategies that take into account these cultural norms.

The results indicate that e-Government awareness can be increased within all three ethnic participants but this needs to be executed taking into account the gendered cultural norms that shape the adoption of e-Government. Further in-depth research needs to be conducted using the gender analysis framework to assist in obtaining a better understanding and identification of e-government awareness channels. From the gender framework as presented by Morgan et al (2004) it is possible. Further, the greater divide between the roles and status of men and women amongst the Hausa will lead to perceptions of awareness channels that will differ to that of the Yoruba or Ibos. Whilst the greater independence demonstrated by the Ibo and Yoruba women participants suggests that they sought information for themselves, religious traditions of the Hausa dictated that women participants seek information from their husband and family members.

Further perceptions of the gender of the technology itself (technology as culture perspective) also shaped people's ideas about how e-Government awareness could be achieved. An association of ICTs with women's work (secretarial and administrative roles) led to the view of e-Government provision as a female arena. Such views have an impact on the acceptance of e-Government provision.

Culture is a complex issue to consider. This research paper has attempted to identify whether Hofstede and Hofstede's (2005) work would be applicable in practice. For this we also considered that at the time e-Government was emerging; therefore, determining its position within the various indigenous ethnic groups would be of benefit..E-government was viewed to be the innovation and its role in citizens' life was examined using diffusion theory.

Using Hofstede and Hofstede's (2005) findings we found that power distance was high and there was a collectivist attitude in all groups, but again exhibited differently between the groups with implications for e-government awareness channels For example, among the Yoruba's civic

leaders seemed to be revered, whilst among the more entrepreneurial Ibos, people with high status and wealth, as well as family members were given high respect. Finally the religious Hausa respect and revere religious leaders. Amongst the Ibo participants, power distance was lower than Yoruba participants. A common characteristic within all three ethnic groups was uncertainty avoidance, which was noted as average in all three regions. Of the three ethnic groups, the Ibo displayed more individualism and high long term orientation but generally they were all collectivist in nature, with inferences for the diffusion of e-Government. For example among the Ibo, the lower masculinity index would suggest that any e-Government awareness training could be done on a mixed gender basis whilst such training among the Hausa would have to be done in a segregated form. However, the influence of the social nature of all the ethnic groups, particularly the women, in terms of lifestyle, would make it important to give consideration to using women's social groups as channels for e-Government awareness.

An analysis of the interaction between culture and gender in this study shows ways in which culture can underpin gender and vice versa in e-Government diffusion. Noted from the Hausa and Yoruba groups the religious traditions indicate that the reverence given to religious leaders would be useful in employing these leaders as the communications channels for the engagement in any e-Government awareness programmes but gendered norms means that at the more practical information giving and training levels women would have to be trained to train other women.

In terms of how this research addresses the area of *Cultural Values towards Technology* (Hasan and Dista, 1999) it can be learnt that in particularly 2 of the ethnic societies, Yoruba and Hausa participants displayed, cultural values acquired from higher religious leaders impact citizens adoption and usage patterns. In the Ibo group it is less evident; therefore, cultural values also need to be considered when diffusing innovative forms of technology.

It also emerged from the findings that existent barriers in other developing countries, for example, as found by Janenova (2010) in Kazakhstan (political environment being diverse, corruption, digital divide, lack of customer focus, monitoring and evaluation and technological problems) can also be identified in Nigeria. In the instance of Nigeria, the political environment being diverse, lack of customer focus and monitoring and evaluating and technological problems would be challenges to encounter and overcome. This exploratory study has only begun to

uncover the relationship between culture, gender and e-Government diffusion. What has been learnt is that using models developed for developed countries (Hofstede and Hofstede, 2005) formed using high level of resources, high literacy rates and more uniform gendered and cultural norms cannot be applied to explain the experiences of citizens in societies, specifically in this case, developed countries. For example, the study found that theoretical or academic explanations of e-Government were not understood by the participants; therefore, some questions and terms were rephrased to make them understandable for the subjects. More textured approaches to cultural models and a gender analysis framework that considers the macro, meso and micro levels of experience is required to assess the complexity of the relationship between culture, gender and e-Government diffusion. This was not the intention of this research but emerged from this research. Further, what was also learnt from this research for the next, larger phase of study is that contact with participants is required much earlier on and an incentive to ensure participant numbers and interest in the research is required.

For policy makers the findings of this exploratory study suggest a different policy approach to e-Government diffusion. Currently there are limitations to the use of traditional mass communication media to raise awareness. A more nuanced approach to e-Government diffusion that reflects that culture and gendered norms of different groups is required. Particularly for women, consideration needs to be given to the effectiveness of their ownership of such awareness-raising. From our findings we learnt that for e-Government awareness, the behaviour and attitude of suppliers could be a major factor upon the consumption of e-Government product and services. During one of the interviews, one of the participants gave examples of where suppliers or rather instructors made her leave a training session due to her attitude. She concluded she would only go to training if *"it [would] not be like the other time, when they brought computer to our village to teach us how to use it. The so called teachers started discriminating and brought in nepotism to the process. To get the training becomes an issue of who you know. Meanwhile we were told that it will help stop corruption, what kind of corruption will it stop where the people teaching us are corrupt themselves. Will the computer not help them perpetuate their evil act?"* Such remarks confirmed that there is interaction between the providers of e-Government and the consumers of e-Government-the citizens. In our view the next phase of this research should consider the providers as a form of communication channel, although clearly there are challenges to a top-down approach to training.

For practitioners and industry, the insights provided by this study, point challenges that might be involved in managing e-Government diffusion processes in developing countries. Further research is required in this regard.

Conclusions

The principal researcher is a citizen of Nigeria who found that e-government is being promoted in Nigeria. However, he is also aware that there are high failure rates in Africa. Due to such concerns an aim was formed: *To investigate the relationships between culture and e-Government awareness channels within subcultures (ethnic groups) of Nigeria, a developing country striving to adopt e-Government. This research will also aim to examine gender influences within the subcultures when considering an e-Government awareness channel in Nigeria*. What was concluded from this exploratory, research-in-progress study is that despite a small sample number of participants that theorists such as, Hofstede and Hofstede (2005) classifications can be related to certain indigenous ethnic societies of a country. However, from the findings of this research the team learnt that variations to the theoretical models are required. In turn, this can cause diversification in results, which we have attempted to illustrate in this small, exploratory study. Further, gender frameworks can assist in providing a diverse understanding that can be categorised, which some researchers can find beneficial for future developments of theories. However, we did learn that diffusion findings that Roger (2003) found in developing countries such as, Peru are also evident in Nigeria. Further, diffusion is affected by culture and gender in Nigeria, which is certainly something to consider in the future for a larger sample population in Nigeria and/or other developing countries.

What was also found is that it is not an easy prospect examining various factors for e-government diffusion in developing countries using qualitative studies; albeit using only interviews, observation and reference to archival documents. For one, distances are large when covering large countries like Nigeria. Second cultural norms and traditions dictate the way the research is conducted, which can be very difficult, particularly if one is an outsider and not aware of practices and traditions. Third, in a developing country like Nigeria it was found that the formation and co-operation of a network is critical. If this is not prevalent and well developed, there is a substantial danger of failure. What has also been learnt and critical for future research

is that huge challenges exist if quantitative studies without any a pre-prepared network of contacts are undertaken.

For this research the future directions lie in acquiring a larger sample population to compare and determine whether variations in the findings occur. Further, it is hoped that a longer time frame will be used to learn more of how diffusion occurs and to obtain a richer and deeper understanding of the culture, gender and diffusion issues.

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