

# Northumbria Research Link

Citation: Aham-Anyanwu, Nnanyelugo (2016) Enhancing e-participation through a citizen-content engagement framework: the perspective of Nigerians. Doctoral thesis, Northumbria University.

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**ENHANCING E-  
PARTICIPATION THROUGH A  
CITIZEN-CONTENT  
ENGAGEMENT FRAMEWORK:  
THE PERSPECTIVE OF  
NIGERIANS.**

N.M. Aham-Anyanwu

PhD

2016

**ENHANCING E-  
PARTICIPATION THROUGH A  
CITIZEN-CONTENT  
ENGAGEMENT FRAMEWORK:  
THE PERSPECTIVE OF  
NIGERIANS.**

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for the degree of  
Doctor of Philosophy

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Engineering and Environments.

November 2016

## Abstract

Governments around the world are increasingly investing in the publication of data and information on the internet in a bid to promote transparency and public engagement. However, studies have found that there is a poor audience and citizens' engagement with online contents in general, and with governments' digital data and information in particular. Studies have also shown that it is important that governments who seek to engage the citizens in State's decision-making process should first engage them with their informative online contents. But the challenge is that e-public engagement research has been predominantly techno-centric. Therefore, with an exploratory research design and a sequential-mixed methods approach, this study investigated the factors influencing citizens' engagement with governments' online contents based on the views of Nigerians. From the qualitative phase of the study, a citizen-content engagement (C-CE) model was developed. This model was then tested in the quantitative phase, and findings indicate that citizens' engagement with governments' online contents (CE) is directly influenced by the quality and ability of the contents in meeting the citizens' information need (INPCQ), and by the citizens' affinity for governments' platforms (IVP). IVP is influenced by trust in the government (TGA), the ability to actively participate in information creation on governments platforms (CC), and the ability to interact and deliberate with other citizens and government's officials on those platforms (IDelib). Governments' platform-type and citizens' level of political awareness also played a moderating role on IVP. Governments' use of social media was found to be more important than the use of websites in the influence of TGA, CC, and IDelib on IVP. Poor level of political awareness was more important than the optimal level of political awareness in the influence of IVP on CE, which indicates that the more aware citizens are about the government, the less the affinity they have for their platforms. This research is important as the outcome may help governments that are interested in e-participation to shape their contents better in ways that would encourage citizen-content engagement and citizen participation.

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## Interface with the Wider Research Community

During this study the, Researcher shared and exchanged ideas with the wider research community through a workshop, three intra-University conferences, and seminars; four conference papers, a journal article and an edited book proposal; feedbacks from these channels were ploughed back into the study at various stages. At the early stages of this study, the Researcher made a Pecha Kucha presentation at the 2014 Northumbria Research Conference. A presentation was also made at an iSchool Research group seminar, and a research-in-progress paper was written and submitted to the 14<sup>th</sup> International Federation for Information Processing (IFIP) Electronic Government (EGOV) and 7th Electronic Participation (ePart) Conference. The feedbacks from these helped shaped this study in terms of focus and methodology. As the study progressed, the Researcher gave a presentation at a workshop hosted by the British Academy of Management, wrote a research-in-progress paper which was accepted for presentation at the International Conference on Information Systems (ICIS) 2015, and wrote an article that was accepted for publication in the International Journal of Public Administration in the Digital Age (IJPADA). Based on the findings of this study, an edited book proposal was written to IGI-Global and was accepted for production; two conference papers were also written to the International Conference on Information Systems (ICIS) and the Hawaii International Conference on System Sciences (HICSS).

### Accepted Journal Articles

Aham-Anyanwu N. and Honglei Li. (2016) E-state: Realistic or Utopian? International Journal of Public Administration in the Digital Age. Accepted and forthcoming

Honglei Li, Cemal Tevrizci, Nnanyelugo Aham-Anyanwu, and Robert Xin Luo. (2015). The Interplay between Value and Service Quality Experience: E-Loyalty Development Process through the EtailQ Scale and Value Perception, Electronic Commerce Research, 15, 4, 585-615.

### Published Conference Papers

Nnanyelugo Aham-Anyanwu & Honglei Li. (2015) Toward E-Public Engagement: A Review of Public Participation for Government/Governance. In International Conference on Information Systems, Fort Worth, Texas, USA. 13 -16 December 2015.

Honglei Li, Cemal Tevrizci, and Nnanyelugo Aham-Anyanwu (2014) An Empirical Study of E-Loyalty Development Process through E-Satisfaction and E-Trust. In Pacific-Asia Conference on Information Systems, Chengdu, China. 24-28 June 2014.

### Edited Book in Progress

Aham-Anyanwu, N. and Li, H. Achieving Active E-Public Participation through an Integrated Engagement Framework. *To be published by IGI Global*

### Submitted Conference Papers

Nnanyelugo Aham-Anyanwu & Honglei Li. (2017) E-public Engagement: Formulating a Citizen-content Engagement Model through a Grounded Theory Approach. *Submitted to the 25th European Conference on Information Systems.*

Nnanyelugo Aham-Anyanwu & Honglei Li. (2016) Citizens' Engagement with Governments' Content: A Meta-synthesis and Empirical Research. *Submitted to the 2016 International Conference on Information Systems (ICIS).*

Nnanyelugo Aham-Anyanwu & Honglei Li. (2016) Factors Influencing Citizen-Content Engagement on Governments' Online Platforms: Social Media and others. *Submitted to the 50th Hawaii International Conference on System Sciences (HICSS-50).*

## Acknowledgement

If the completion of my doctoral research and thesis is a forest, I am only a tree and, as the popular proverb goes, a tree does not make a forest. I want to use this opportunity to acknowledge the numerous trees that contributed to the growth of this doctoral forest.

Here I am, proud to have come to the end of a three-year long journey. I am also full of gratitude for the various roles numerous people have played in the course of this journey. I will mention as many as I can remember, though I am certain that there are others whose names may not appear here.

To my wife, Onyekachi Aham-Anyanwu and my daughter, Chimamanda Aham-Nnanyelugo, I am truly grateful for your patience, care and love even at moments when it seemed I was a stranger, or even a lunatic who cared about nothing apart from his research. It is over now, and I promise to be the Husband and Daddy I may not have been these past few years. To my parents, Prof and Mrs. Aham Anyanwu, thank you for your love, prayers, advice, encouragement and inspiration to pull through it all. To my parents-in-law, Dr. and Mrs. Richard Egbule, I am very grateful for your effort in ensuring that I was not separated from my family during this journey. To my siblings, Chidinma, Nwabueze, Chinonso, Olisadera, Onyeka and Ejike; thank you for your support, encouragement and prayers and for the role you played during my data collection.

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graduate school-especially Stuart Hotchkin and Allan Osborne who provided valuable help and advice when I needed them.

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Finally, I give all glory and honour to God almighty who gave life to and nurtured me, my family, colleagues and friends into the trees that have made this lush doctoral forest.

### Declaration

I declare that the work contained in this thesis has not been submitted for any other award and that it is all my own work. I also confirm that this work fully acknowledges the opinions and ideas as cited from the work of others.

The ethical clearance and approval needed for this study were obtained. The clearance and approval were granted by the Northumbria University Ethics Committee.

**I declare that the word count of this Thesis is 68, 950 words.**

Name: Nnanyelugo M. Aham-Anyanwu

Signature:

Date: 15<sup>th</sup> November 2016

## Chapter 1 : Introduction

### 1.1 The Motivation For this Study

This research was a product of chance, or what the Researcher refers to as serendipity. The Researcher had initially intended to investigate the persuasiveness of governments' information on the internet. After reviewing the literature in persuasion, the Researcher visited some government-owned online platforms that were set up either for informational purposes, e.g. British-owned [www.blog.gov.uk](http://www.blog.gov.uk) and the Australian-owned [www.awm.gov.au/blog](http://www.awm.gov.au/blog), or for web-mediated activities/transactions, e.g. the British-owned online petition platform on <http://epetitions.direct.gov.uk/petitions> and <http://www.parliament.qld.gov.au/work-of-assembly/petitions> as owned by the Australian government. The aim was to take a cursory look at these platforms and deduce the type of persuasion on them, if any. However, the Researcher noticed that although both types of platforms were designed to elicit responses from the public, the informational platforms appear not to be performing as well as the transactional sites. For example, the [www.blog.gov.uk](http://www.blog.gov.uk) had its first post on the 14<sup>th</sup> of February 2014 and amongst the first 10 posts, one had 22 comments, one had three, three had one each, and the rest had none. As of the 17<sup>th</sup> of February 2015, the last 10 contents had no comments at all. This observation is similar on [www.awm.gov.au/blog](http://www.awm.gov.au/blog).

A preliminary review of literature indicates that governments tend to focus on publishing and making government data and information available on the internet (Coursey & Norris, 2008; Janssen, Charalabidis, & Zuiderwijk, 2012). For instance, the United Kingdom was praised for releasing a "tsunami of data" on the internet (in particular [data.gov.uk](http://data.gov.uk)) in the 2012 Open Government Meeting held in Brasilia (Rogers, 2012). However, the UK National Audit Office (2012) observes that traffic figures do not show that the members of the public are engaging with the contents of [data.gov.uk](http://data.gov.uk). These poor traffic figures exist despite the UK government departments spending between £53,000 and £500,000, and the Cabinet Office spending £2 million annually to publish information and run [data.gov.uk](http://data.gov.uk). As a result, Rogers (2012) claimed that the British government is spending exorbitant amounts of money in the publication of huge amount of online data and information that no one looks at.

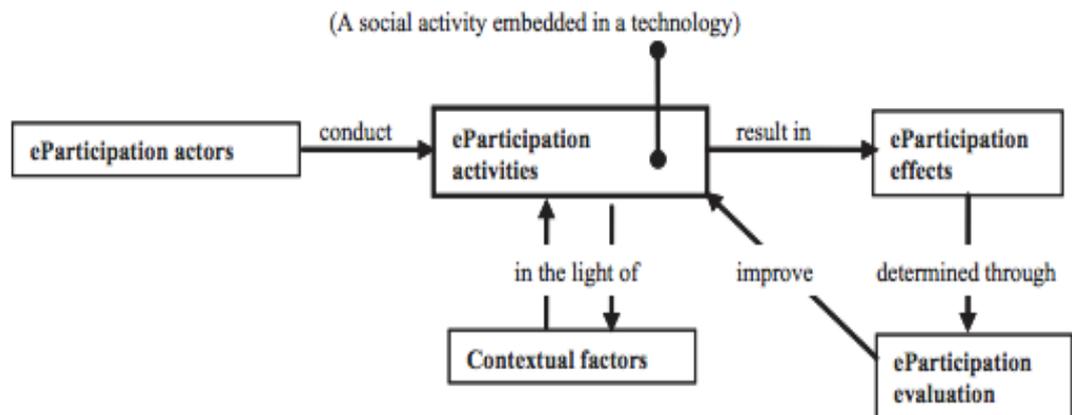
As a result, the Researcher asked: why this apparent lack of engagement with government's online information/contents? What could facilitate more engagement? The zeal to answer these questions became more significant than investigating governments' persuasiveness on their online platforms, and this was the birth of the research.

## 1.2 The Position of this Study in E-Participation Research

This study is part of the e-government research field, but with a bias to e-public engagement/e-participation. E-public engagement, also referred to as e-participation, is the use of information and communication technology (ICT) to enhance political participation and citizen engagement (Panopoulou, Tambouris, & Tarabanis, 2014). Previous studies have reported the benefit of e-public engagement to governments and citizens (Chadwick, 2008; Kardan & Sadeghiani, 2011; Näkki et al., 2011; Novak, 2005; Panagiotopoulos, Bigdeli, & Sams, 2014; Warren, Sulaiman, & Jaafar, 2014; Zheng & Zheng, 2014). It improves governments' transparency (Alvarez, Katz, Llamasa, & Martinez, 2009; Astrom, Karlsson, Linde, & Pirannejad, 2012; Bonsón, Torres, Royo, & Flores, 2012) and restores public trust in government (Parent, Vandebeek, & Gemino, 2005; Tolbert & Mossberger, 2006; Welch, Hinnant, & Moon, 2005).

According to Sæbø, Rose, and Flak (2008), there are five key focal areas in e-public engagement research (Figure 1.1), these include: e-participation actors, e-participation activities, contextual factors, e-participation effects, and e-participation evaluation. The first category - e-participation actors - focuses on the key players in e-public engagement, and they include citizens, politicians, government institutions and voluntary organisations (Medaglia, 2012). E-participation activities category contains all research focusing on technology-enabled social activities and practices (Sæbø, Rose, & Molka-Danielsen, 2010), which include e-voting, online political discourse, online decision making, e-petitioning, etcetera. (Medaglia, 2012). The contextual factors category includes every research focusing on issues that are not part of e-participation activities but affect them by being part of the context in which they take place (Medaglia, 2012). Examples include information availability and its effect on political discourse and e-participation activities, internet access, technology literacy, and all other structural external environmental factors (Sæbø et al., 2010). The e-participation effects research category looks at both desirable and undesirable outcomes of e-participation, which may include improved public engagement, better quality of political deliberation, improved citizen inclusion in public discourse, alienation of some citizens from public participation, etcetera (Sæbø et al., 2010). Finally, is the e-participation evaluation category, which contains studies that aim to measure /evaluate the effects of e-participation activities.

Figure 1.1: E-participation Research Model (Sæbø et al., 2010)



This study can be placed within the contextual factors category and specifically investigates the factors that influence citizens' engagement with governments' online contents as a precursor to optimal e-public engagement.

Furthermore, the United Nations (2014) discussed three types of e-public engagement, which include e-decision-making, e-consultation, and e-information. E-decision-making facilitates citizenship empowerment and contribution to the design of policies, the production of service components and the delivery modes of these service components. E-consultation affords Governments the opportunity to involve citizens in the contribution to and deliberation of states' policies and services. E-information is typically a one-way flow of information from Governments to citizens which facilitates participation by making public information available and accessible to citizens without or on demand. This study is focused on e-information which is the foundation of e-public engagement (Harrison & Sayogo, 2014; Norris, 2001).

### 1.3 Citizen-content Engagement: A Challenge to E-public Engagement

Generally, engagement on the internet - especially on social media- has been of particular importance in the field of marketing as businesses seek ways of attracting customers, improving their online experience, getting them engaged in their advertisements, making sales and thus profit (Calder, Malthouse, & Schaedel, 2009; Gummerus, Liljander, Weman, & Pihlström, 2012; Heath, 2007; Mollen & Wilson, 2010; Sashi, 2012). This interest in online engagement has also spread to the field of politics as politicians try to gain followers using social media (Baumgartner & Morris, 2009; Crawford, 2009; Gueorguieva, 2008). Individuals and firms have also become interested in knowing how well their online websites and contents are engaging their customers

and followers. However, gaining audience engagement online is difficult as studies have shown that there is a high rate of audience disengagement especially with articles/written contents (Haile, 2014; Manjoo, 2013; Mintz, 2014). It appears that the more the audience read, the more they tune out (Manjoo, 2013). While this phenomenon may be well known, there is yet to be an empirical study to investigate what influences engagement on the internet.

To determine citizens' level of engagement with and attention to governments' online contents/information, previous studies have focused on their contribution to the discourse around those contents (Albrecht, 2006; Dahlberg, 2001b; Wright & Street, 2007) and on the amount of social reactions to the contents such as number of likes, shares and comments (Bonson, Royo, & Ratkai, 2015; Bonsón, Royo, & Ratkai, 2014). As a result, there is a predominant research focus on the discourse that exists on government-owned platforms and how the design and moderation of such platforms facilitate or hinder such discourse (De Cindio, De Marco, & Grew, 2007; Jensen, 2003; Jones & Rafaeli, 2000; Preece, 2001; Sack, 2005; Wilhelm, 2000; Wright & Street, 2007). There is a dearth of research on the contents or information provided by the government, their value to the public and their effects on e-public engagement (Janssen et al., 2012). Similarly, Zuiderwijk, Janssen, Gil-García, and Helbig (2014) observed that the citizens' engagement with and use of government's information is an unexplored niche topic that needs more research attention. This oversight needs to be addressed because though the comments that show deliberation may be the strongest evidence of audience-content engagement (Sample, 2014), they have also been seen to be outside the context of the introductory argument/online content (Haile, 2014; Manjoo, 2013; Mintz, 2014), and to depict 'talking without listening' (Barber, 1999; Davis, 1999) or lack of reflexivity (considering the opinions of others and changing one's view in the face of superior argument) which is essential in public discourse (Dahlberg, 2001a; Wilhelm, 2000). Recently, an experimental research was designed to investigate the effect of participation in an online discourse on opinion change and policy preferences. Ironically, this research set out to investigate the discourse on governments' platforms but observed that there was even a bigger problem with audience-content engagement. The Researchers (Smith, John, & Sturgis, 2013, p. 727) owned up that the "most challenging" of their findings for those who wish to design effective online engagement strategies is that "there was little use of background materials among compliers" which results in uninformed contributions and participation in discourse surrounding those materials and defeats the aim of democratic deliberation. Although the researchers provided policy-relevant information, they observed that participants in discussion groups would often inform themselves from the arguments of other participants.

Citizens need to engage with governments' contents/information on the internet before they can participate (give meaningful feedback to the government), which would then generate collaboration (interaction between citizens and government). *The Researcher, therefore, argues that establishing audience-content engagement is important to the discourse that takes place in the e-public deliberative spheres and should be the first step towards the affordances of e-public engagement.* If a government/agency is to execute properly its task of engaging the public online by communicating government policies and getting public opinion, it should not only publish contents/information; the published contents must be able to engage the public before the government/agency can. Therefore, there is the need to ask: "what are the factors that can facilitate citizen-content engagement on the internet?"

#### 1.4 The Importance of this Study

The implementation of e-public engagement is two-dimensional: technocentric and info-centric (Codagnone & Undheim, 2008; Oktem, Demirhan, & Demirhan, 2014; Reddick & Turner, 2012). The technocentric aspect is concerned with ICT-enabled services and transactions through which citizens can participate in government and governance; these include e-voting, e-petitioning, e-surveys, e-deliberation, etcetera. (Medaglia, 2012); Sæbø, Rose, and Flak (2008) called these e-participation activities. On the other hand, the info-centric aspect is concerned with information provision and usage by governments and citizens (Heald, 2012; Michener & Bersch, 2013; Norris, 2001; Saebo, Flak, & Sein, 2011). Furthermore, according to Saebo et al. (2011), the two main entities in an e-public engagement initiative are governments and citizens. Government-focused implementation on e-public engagement can be described as top-down, while a citizens-focused implementation is bottom-up.

Researchers and practitioners pay significant attention to the techno-centric and top-down aspects of e-public engagement research while neglecting the info-centric (Bonson et al., 2015; Leston-Bandeira & Bender, 2013; Roman & Miller, 2013) and bottom-up aspects (Carter & Bélanger, 2005; Olphert & Damodaran, 2007). For instance, there is abundant research on governments' efforts at using technology to improve citizens' participation in governance (United Nations, 2014), the type of technologies adopted for this purpose (Aichholzer & Westholm, 2009), the factors that affect governments' implementation of e-public engagement initiatives (Zheng, Schachter, & Holzer, 2014), and how to adopt and use these initiatives (Alvarez et al., 2009; Bonson et al., 2015; Carter & Belanger, 2012).

Furthermore, citizen-focused e-public engagement research is reactionary, that is, previous studies mainly focus on citizens' opinions and use of the e-participation initiatives made available by their government. For instance - by calculating the amounts of likes, comments, and

shares - Bonson et al. (2015) investigated citizens' engagement with the contents their local governments posted on Facebook. Similarly, Alvarez et al. (2009) investigated citizens' perception of the e-voting initiatives developed by their government. ***The Researcher argues that citizens can play a role in the development of e-public participation initiatives instead of just being mere users (whether passive or active).*** This argument is in agreement with Medaglia (2012)'s call for a shift of e-participation research focus from governments to citizens. It is also in line with Bertot, Jaeger, and McClure (2008, p. 137)'s argument that the purpose of e-government and all its by-products like e-democracy and e-public engagement is to engage the citizenry in governance in a citizen-centred manner.

Although the info-centric aspect of e-public engagement has received little research attention, Arnstein (1969) -in her widely cited article – argued that information is essential for genuine public participation. Information is the foundation of democracies (Harrison & Sayogo, 2014) which in turn determine the possible implementation, use, and success of e-public engagement initiatives (Norris, 2001). At the core of active e-public engagement is the information provided by the government or what Mergel (2013) refers to as a government's attempt at transparency. According to Zuiderwijk, Janssen, Choenni, Meijer, and Alibaks (2012), the process of e-public engagement starts from the publication of information by the government, which the citizens use and subsequently provide feedback on its usage. This information has also been referred to as Open Government Data (OGD), which is “data produced or commissioned by government or government controlled entities” that “can be freely used, reused and redistributed by anyone” (Open Government Data, 2015; Sussha, Grönlund, & Janssen, 2015). OGD not only facilitates better transparency and trust in the government (Sussha et al., 2015), it also encourages participatory governance and creates a “read/write” society who follow and contribute to what the government does (Open Government Data, 2015). Janssen et al. (2012) and Ubaldi (2013) argue that the true value of governments' information lay in its use by the citizens, public or audience to make better decisions about their lives and contribute/participate meaningfully in public affairs. This argument is contrary to the popular belief that the spread and publication of government information determine its value (Janssen et al., 2012). Having a presence online and providing information on the internet for the citizens to access does not necessarily mean e-public engagement (Coursey & Norris, 2008), the citizens must be able to engage with such information.

***The Researcher, therefore, argues that e-public engagement research should include a focus on the information provided by governments and how it influences e-public engagement.*** Such info-centric research should not be reactionary, but should try to investigate what citizens expect from their governments as it concerns information provision. Therefore, instead of just focusing

on citizens' social reactions to existing online government contents as in Bonson et al. (2015)'s research, there should be attempts at understanding factors that may affect citizens' engagement with governments' contents on the internet.

### 1.5 Research Questions and Objectives

The aim of this research is to develop a framework for optimal citizen engagement with governments' contents on the internet. The research questions include:

1. **RQ1:** What are the factors that influence citizens' engagement with governments' contents on the internet? To answer this are the following objectives:
  - a. **R-OBJ1:** To identify factors that influence citizens' engagement with governments' contents on the internet.
  - b. **R-OBJ2:** To develop a model/propose a hypothesis from the above investigation.
2. **RQ2:** How well do these factors explain citizens' engagement with governments' contents on the internet? To answer this are the following objectives:
  - a. **R-OBJ3:** To statistically test the hypothesis developed in R-OBJ2.
  - b. **R-OBJ4:** To propose a framework for optimal citizens' engagement with governments' online contents based on the result of R-OBJ3.

This study adopts a two-phase approach with each phase dedicated to answering one research question, i.e., phase one of this study answers RQ1 and meets R-OBJ1 and R-OBJ2, while phase two answers RQ2 and meets R-OBJ3 and R-OBJ4.

### 1.6 Conceptual Framework

Citizens engage with government information in two perspectives: as artefacts and/or as processes ((Davies and Bawa, 2012) cited in (Susha et al., 2015)). According to Susha et al. (2015), as artefacts, government information should be user-friendly by meeting citizens' information needs and must be designed and presented appropriately. As processes, every relevant stakeholder must be part of the development and implementation of policies for the use of government information (Maruyama, Douglas, & Robertson, 2013). The stakeholders must collaborate in developing such information (Davies, 2010) and users should be able to interact with the providers and give feedback on the use of the information (Zuiderwijk et al., 2012). Where the artefacts refer to the information needs and features of government's contents that can improve citizens' engagement with government contents, the processes aspect refers to those

activities involving the stakeholders that could influence their engagement with government's contents.

There are two types of gratifications on the web: the content and process gratifications (Kayahara & Wellman, 2007). With government information as artefacts, citizens seek content gratification; they seek process gratification as it concerns the process aspect of government information. To investigate these gratifications, a conceptual framework is built around the uses and gratification theory (UGT) which is used to ascertain the why and the how of media use (Urista, Dong, & Day, 2009). However –as will be discussed later - this study is not aimed at testing or validating a theory and will start with an in-depth/qualitative investigation of factors that influence citizens' engagement with governments' online contents. Therefore, it is necessary to point out that the conceptual framework only serves as an initial guide that enables the Researcher identify the key questions to ask the research participants while allowing for emergent ideas and questions as data collection progresses.

## 1.7 Methodology

This study adopted an exploratory research design using a sequential mixed-method approach across the two main phases: a qualitative first phase and a quantitative second phase. The study was based on the taxonomy development model of mixed-methods research, and as such more emphasis was given to the qualitative phase. The decision to use this approach was because there was no existing theory to investigate citizens' engagement with governments' information online explicitly and because the Researcher intended to generate and test a quantitative hypothesis from an initial exploratory qualitative study (Creswell & Clark, 2011).

Data was collected from Nigerians across both qualitative and quantitative phases. For the qualitative phase, the interview technique was used to collect data. The thematic data analysis was used to analyse data from the interview. For the second phase, data was collected using questionnaires, the data was then analysed using Structural Equation Modelling (SEM).

## 1.8 The Thesis structure

This thesis is structured into seven chapters as presented below:

- Chapter 1 (Introduction): This is this current chapter, and it presents a general overview of the research and thesis
- Chapter 2 (Literature Review): This chapter presents the current state of knowledge in the e-public engagement research field, and in the audience-content engagement

research area.

- Chapter 3 (Theoretical Framework and Research Methodology): This chapter presents the guideline - as developed from the literature – for this empirical study. It also presents and justifies the Researcher's choice of methodologies, methods and techniques for this study.
- Chapter 4 (Qualitative Analysis and Hypothesis Development): This chapter presents the analysis of and findings from the qualitative data and the development of hypothesis and key variables.
- Chapter 5 (Quantitative Data Analysis): This chapter presents the development of items operationalising the variables identified in the previous chapter, and the questionnaire that will be used in the quantitative phase of the study. It also presents the analysis of and findings from the quantitative data.
- Chapter 6 (Discussion): This chapter discusses the understandings gained and findings made throughout the research, the implications, limitations and recommendation for future studies.
- Chapter 7 (Conclusion): This chapter presents an overarching conclusion to the research as a whole.

## Chapter 2 : Literature Review

### 2.1 Introduction:

This chapter reviews and presents the literature in the areas of public engagement and e-public engagement. It also reviews the literature on citizens' engagement with government's content and on the nature of the phenomenon called engagement. They are presented in the following sections.

### 2.2 What is Public Engagement?

To adequately conceive public engagement in this study, it is important that the Researcher discuss the concept of the public sphere. While the public sphere facilitates citizen discussions and information sharing outside of the ruling sphere, public engagement is a means by which the ruling sphere delivers to, receives, uses information from and involves the public in state's decision-making process. The following sections would discuss both concepts.

#### 2.2.1 The Public Sphere

Aristotle conceived a two-tiered society made up of the *oikos* and the *polis*. The *oikos* represents the private setting or household made up of "master and slave, husband and wife, father and child" and is the basic social unit of the *polis* (Roy, 1999, p. 1). The *polis*, on the other hand, represents the public setting, the state or the city and is made up of a collection of households and citizens; where the citizens are office holders and administrators of justice (Koçan, 2008). However, Habermas (1997) – a famous German sociologist who originally brought out the concept of the public sphere- suggests the existence of a three-tiered society. The three-tiered society includes a *sphere of private autonomy* which is similar to Aristotle's *oikos*, a *public power sphere* with the right to governance, and a domain of private individuals who come together to form a *public sphere* that mediates between the public power sphere and the private sphere. The concept of the public sphere has been widely cited since then (Fraser, 1992; Graham, 2012; Grbesa, 2003; Kellner, 2000). Habermas defined a public sphere as "a realm of our social life in which something approaching public opinion can be formed" (Habermas, 1964, p. 49), where public opinion refers to a collection of different individual views and beliefs (Herbst, 1993). Habermas went ahead to suggest that a public sphere comes into existence when private citizens assemble to converse in an unrestricted manner. He points out that there are two types of public sphere:

1. The political public sphere where discussions that “deal with objects connected to the activity of the state” (Habermas, 1964, p. 49) are held and where public opinions are towards politics.
2. The literal public sphere where general issues which are not necessarily political are discussed and where that the nature of discussions within a public sphere is dependent on the members (Fraser, 1992; Hauser, 1999).

Both types of public spheres remain open for anyone to partake in but while the literal public sphere can be said to be as old as man, the political public sphere was emergent.

Graham (2012, p. 29), in his work titled ‘Public opinion and the public sphere’, very clearly explains the emergence of Habermas’ three-tiered society from Aristotle’s two. He narrated that historically, political societies were made up of two distinct but porous sets – the rulers, and the ruled. In this arrangement, the ruled owed their rights and entitlement to the authority of the rulers. However, certain historical events affected this structure amongst which were “the spread of Christianity into Northern Europe, the invention of printing, the Reformation, the emergence of industrial production”. With the new structure, the authority of the government became dependent on the citizens. To institute a central authority that would effectively protect their rights to life, liberty, and property, the citizens transferred their rights to self-defence and retributive punishment to the Magistrates through social contracts. These contracts were usually for life and were only terminated when the Magistrate abused his authority or was corrupt. Eventually, there arose concerns about when the social contracts were made and how past agreements were binding to the present. Due to this, a new kind of contract was introduced which allowed the ruled the chance to renew a contract periodically or terminate it through democratic elections. With the introduction of democracy in the system, a group of citizens emerged who analysed decisions made by rulers and also played essential roles in forming and disseminating public opinions, which the rulers had to take note of if they were to get re-elected by the ruled. This group of citizens constituted the “Public Sphere” and included everyone outside the ruling class whose interests, and activities were focused on political affairs like researchers, journalists, broadcasters, writers, etcetera (Graham, 2012, p. 30); Habermas refers to this sphere as the Political public sphere. Today’s political public spheres emerge as a result of citizens’ dissatisfaction with governance or economic issues in society (Shirky, 2011) and public opinions formed thereof are geared towards criticising and controlling the elite, opponents or the ruling class (Pusey, 1987a). The Political public sphere is also seen as essential especially within a democratic state (Grbeša, 2004) as it “mediates between society and state, in which the public organises itself as the bearer of public opinion” (Habermas, 1964, p. 50). The political public sphere is where activists and journalists fit into in today’s political societies although it is open

to everyone, even those in political positions, as long as they contribute to matters of general interest and without coercion by the state.

#### 2.2.1.1 *Characteristics of the public sphere*

Jürgen Habermas' public sphere is the most popular study and model of public discourse, and as observed by Dahlberg (2001a), it is the most systematic critical theory of democratic communication available. According to Habermas (1989), Pusey (1987b) and Hauser (1998) a normative public sphere is characterised by independence from the state and without restriction as it concerns assembly and expression of opinion, freedom of access to the sphere, freedom to put forward individual views, and opinions and freedom to contest the views and opinions of other citizens in the discourse of issues of general interest. Based on these normative characteristics, Dahlberg (2000) cited in (Dahlberg, 2001a) developed a public sphere model with the following normative characteristics: autonomy from state and economic power, exchange and critique of criticisable moral-practical claims; reflexivity, ideal role-taking; sincerity and discursive inclusion and equality.

*The normative public sphere must be autonomous from state and economic power; it must be restriction-free and independent from the state and should allow free speech. A normative public sphere must also allow the exchange and critique of criticisable moral-practical claims; it should be devoid of dogmas, however, it should contain reasoned and criticisable opinions and involve reciprocal critiquing of these opinions (Dahlberg, 2001a; Habermas, 1989). Reflexivity* refers to the consideration and acceptance of opposing views and opinions in the light of better judgement (Dahlberg, 2001a). Reflexivity is the core of rational critical discourse which Wilhelm (2000) described as being the same concept as deliberation. In a public sphere, *ideal role-taking* demands that interlocutors with conflicting opinions should understand the diverse perspectives by putting themselves in the position of the other (Dahlberg, 2001a). This allows participants to listen to each other despite the differences and to respectfully dialogue. The normative public sphere demands that interlocutors must be *sincere*, and must thrive towards sincerely declaring every relevant information, making known their true intentions, interests, needs and desires all of which are necessary for rational discourse and critique to be possible (Dahlberg, 2001a). A normative public sphere must also be characterised by *discursive equality and inclusion*, it must be devoid of status/class and must be open to every citizen (Habermas, 1989). All interlocutors in this sphere are listened to and treated as equals.

### 2.2.2 Public Engagement

Public engagement, on the other hand, was defined by the Economic and Social Research Council (2008) (cited in (Maile & Griffiths, 2014, p. 15)) as the “involvement of specialists in listening to, developing their understanding of, and interacting with non-specialists”. The concept of public engagement has been mainly adopted by medical researchers (Carlsson, Nilbert, & Nilsson, 2006; Lorenc & Robinson, 2015; Pizzo, Doyle, Matthews, & Barlow, 2014; Rissi et al., 2015) in what is called Patient and Public Engagement/Involvement (PPE/PPI). Lorenc and Robinson defined this as the process of involving, consulting and listening to patients and the public with the aim of creating and delivering services that are responsive to patients’ needs and that will improve clinical outcomes and patient experience. Public engagement is also referred to as citizen science (Jackson, Gergel, & Martin, 2015; Shirk, 2015; Supp et al., 2015; Zhao, Fautz, Hennen, Srinivas, & Li, 2015) which affords scientists the opportunity to involve the public in their projects.

However, for the purpose of this study, public engagement will be discussed in the context of government public relations and States’ policymaking process which Phillips (2013) described as being rooted in democracy and as the process of involving the public in the governing system. In correspondence with the definition of public engagement by the Economic and Social Research Council and the context of this study, specialists may refer to the State and policy-makers while non-specialist refers to the members of the public. It, therefore, goes to say that public engagement is the inclusion/involvement of members of the public in the policy-forming process of the State.

Arnstein (1969) introduced a widely cited and accepted conceptualisation and gradation of public engagement termed the ladder of citizen participation. According to Arnstein, there are eight levels/rungs on the ladder of citizen participation which progress from a state of nonparticipation to tokenism and finally citizen power. These levels include: manipulation, therapy, informing, consultation, placation, partnership, delegated power and citizen control. Within the nonparticipation state, power holders educate and cure the citizens through manipulation and therapy. Manipulation refers to phony forms of participations contrived by power holders which aim at making citizens accept a predetermined course of action. At this level, gullible citizens are made to believe that they contribute to decision-making while indeed they are not. On the other hand, therapy refers to the process by which power holders assemble citizens in the guise of including them in the decision-making but with the sole motive of admonishing and preaching to them about their shortcomings. Therapy is used by the government to cure citizens of unfavourable attitudes and behaviour. In the tokenism state,

citizens are both informed and given a voice through informing, consultation and placation. At the informing level, governments provide information to citizens as it concerns the facts about governmental programs, citizens' rights, responsibilities, options, etcetera. Information flow in this level is typically one-way although it can be scaled to go both ways. At the level of consultation, governments make efforts to get citizens' opinions on issues through various means like citizen polls and surveys. It is pertinent to highlight that consultation can be easily misused for the purpose of manipulation; citizens' inputs can be used as a smokescreen to mask the establishment of a pre-determined order or event by the government. With placation, selected citizens are allowed to advise the government, which may result in the adoption of some demands, request or suggestions; however, the right to decide still rests solely on power holders. At the level of citizen power, citizens have increasing degrees of influence in the states' decision-making process via participation, delegated power and citizen control. At the rung of participation, there is a redistribution of power as a result of the negotiation between citizens and power holders. Citizens' views and opinions become more relevant in decision-making when the government, private corporations, and non-profit community-based organisations collaborate to form joint planning and decision-making structures (LeGates & Stout, 2011). Participation and the associated negotiation between citizens and power holder may result in the level called delegated power where citizens achieve dominant decision-making power over a plan or program. In this level, differences are resolved with power holders initiating the bargaining process with the citizens instead of the other way around. At the rung of citizen control, citizens move from negotiating with power holders to fully governing and managing a program or an institution.

Building on Arnstein's ladder of citizen participation, the International Association of Public Participation (IAP2) developed the spectrum for public engagement IAP2 (2007). According to IAP2, public engagement encompasses public information, public consultation, public involvement, public collaboration and public empowerment. Public information, just like public communication, entails the provision of balanced and objective information to the public for them to understand current problems encountered by the State/policy makers, the alternatives, and solutions. Public consultation entails to getting public feedback on alternatives or solutions decided on by the State. Public involvement refers to the inclusion and consideration of public inputs in the development of alternatives, and the provision of feedbacks where necessary. Public collaboration entails that the public input is adhered to not just in the development of alternatives but also in the identification of preferred solutions. Public empowerment refers to placing the final decision-making process in the hands of the public.

With a focus on information flow and with concepts which are not different from Arnstein's ladder of citizen participation, Rowe and Frewer (2005) discussed three levels of public engagement: (1) passive public engagement via public communication. Here, information flow is one-way and goes from the State as the providers to the public as the consumers. Examples include newsletters, leaflets, non-interactive TV (2) quasi-active public engagement via public consultation. Here information-flow is also one-way but goes from members of public to the State and via a process determined by the state. Examples are balloting, referendum, petition signing, and surveys, etcetera. (3) Active public engagement via public participation. Here, information flows both ways, i.e. between members of the public and the State in a deliberative manner as each try to transform the opinions of the other. Examples are deliberative opinion polls, focus groups, public hearing, citizens' panels, etcetera. It is pertinent to point out at this stage that this study will focus more on information flow as discussed by Rowe and Frewer (2005) as against policy settings as discussed by Arnstein (1969) and IAP2 (2007).

Although the public sphere exists outside the power sphere, in a democratic setting, citizens have played a diverse role in state decision-making process through public communication, participation, consultation, deliberation and citizen empowerment (IAP2, 2007; Rowe & Frewer, 2005; United Nations, 2014). These means by which citizens play a role in states' decision-making process fall under two democratic traditions: participatory democracy and deliberative democracy (Cini, 2011). The participatory democratic tradition focuses on two main goals: (1) that every citizen takes part in all the decisions that would affect the quality and conduct of his or her life (2) that the state provides the means by which the public can participate in such decisions independently ((Lynd, 1965) cited in (Cini, 2011)). Participatory democracy typically involves balloting, referendum, petition signing, surveys, etcetera (Rowe & Frewer, 2005) and aims at addressing the quantitative dimension of mass democracy by finding out how many people were involved in arriving at a certain decision in the state (Cini, 2011). On the other hand, the deliberative democratic tradition focuses on discourse and argumentation between members of public and the state as the means by which decisions are made in the state (Fung, 2003). Citizens become part of a process where mutually acceptable and accessible reasons are given for any opinion, stance or decision taken (Gutmann & Thompson, 2003). It may involve deliberative opinion polls, focus groups, public hearing, citizens' panels, etcetera as a mechanism (Rowe & Frewer, 2005), and therefore is based on the quality of the argument/discourse. Public engagement facilitates participatory and deliberative democracies.

### 2.3 E-public Engagement

Public engagement efforts were originally through newsletters, leaflets, non-interactive TV, balloting, referendum, petition signing, surveys, opinion polls, focus groups, public hearing, citizens' panels, etcetera (Dahl, 1998; Phillips, 2013; Rowe & Frewer, 2005). However, with the advent of and improvements in technology, the e-public engagement was birthed allowing for citizens to participate in online political debates and paving the way for citizens' contribution to the decision-making process on the internet. E-public engagement, more commonly known as e-participation, refers to government-led initiatives which use technology, especially the internet, to encourage and support active citizenship with the intent of promoting fair and efficient governance and society (Sæbø, Rose, & Skiftenes Flak, 2008) particularly in policy-making (Ahmed, 2006). E-public engagement is the interaction between citizens and governments as supported by ICT. It is of three types according to United Nations (2014), these include e-decision-making, e-information, and e-consultation.

**E-decision-making** facilitates citizenship empowerment and contribution to the design of policies, the production of service components and the delivery modes of these service components. With e-decision-making, governments provide their citizens with institutionalised opportunities to contribute to the decision-making process (Charalabidis & Loukis, 2012; IAP2, 2007). E-decision-making is not well-established and has been described by Mainka, Hartmann, Stock, and Peters (2015, p. 239) as a mere "ideological notion"; however, it has indeed been achieved by the Estonian Government with the TOM (Täna Otsustan Mina or 'Today I Decide' in English). According to Glencross (2009), TOM is not a medium for the mere collection of signatures or votes but offers a forum where citizens discuss legislative proposals within ten days of submission. Before the expiration of the ten-day window, where necessary, the owners of the submission refine it following public input. At the expiration of the window, the submission is voted upon by the audience, forwarded to the relevant government department and within a month a response is posted back on TOM.

With **e-information**, there is a one-way flow of information from Governments to citizens. E-information helps facilitate participation by making public information available and accessible to citizens without or on demand. E-information was referred to as transparency by Mergel (2013).

**E-consultation** affords Governments the opportunity to involve citizens in the contribution to and deliberation of states' policies and services. E-consultation can either be quasi-active or active. **Quasi-active e-consultation** is liberal and individuated and involves a one-way flow of information from citizens to governments through channels predetermined by the government

(Hands, 2005; Mergel, 2013; Rowe & Frewer, 2005), e.g. online petition and online surveys. **Active e-consultation** is deliberative and involves a two-way flow of information amongst and between citizens and the government. Here, governments “use computer mediated communication to foster strong democracy amongst citizens and between citizens and representatives” (Hands, 2005, p. 13). Active e-consultation involves real-time conversations and is facilitated by social media (Hartmann, Mainka, & Peters, 2013). Active e-consultation should also be collaborative, open, social, communicative, interactive and user-centred (Mainka et al., 2015; Mergel, 2013). Wright and Street (2007) observed that there are three main approaches by which governments provide active e-consultation: (1) the policy forums which are typically highly structured and focused and through which policy documents are made available for citizens to read after which they leave comments/questions. (2) The ‘have your say’ sections which consists of unstructured and open discourses and which typically involves citizens initiating discussions on topics they find important but which may or may not be important to the government. (3) The mixed model which has separate policy forum and ‘have your say’ areas. Flew (2005), while highlighting the benefits of active e-consultation, argued that e-government cannot be just about electronic service delivery, provision of information, or limited consultation typically through e-voting and e-petitions; it is about providing citizens with tangible channels to make seasoned input into policy. With e-deliberation, citizens become part of a process where they must give mutually acceptable and generally accessible reasons for any opinion, stance or decision taken (Gutmann & Thompson, 2003). It enhances a collaborative approach to generating solutions within the state, involves both people and public officials who are affected by the problem (Fung & Wright, 2001), and allows the e-public sphere the opportunity to form, refine and revise preferences through public discourse and towards a mutual understanding and common action (Sirianni & Friedland, 2003). Active e-consultation platforms provide citizens with an avenue for public deliberations and afford governments the opportunity to host, coordinate and appropriate these deliberations. There is an increased need for active e-consultation platforms because of the increasing amount of political deliberations constantly going on in the public sphere, and which when appropriated by activists or opponents of the state can be used to stir up civil unrests. Furthermore, a study by Jensen (2003, p. 349) showed that government-sponsored online political debate platforms are more “successful in achieving democratic ideals of openness, respect, argumentation, enlightenment and deliberation than private ones”.

#### 2.4 Public Engagement in Nigeria: The National Orientation Agency (NOA)

In 1993 the Federal Government of Nigeria established the National Orientation Agency (NOA). NOA was formed through the merger of the Directorate for Social Mobilization, Self-Reliance

and Economic Recovery (MAMSER) with three Divisions of the then Federal Ministry of Information and Culture namely: The Public Enlightenment (PE), the War against Indiscipline (WAI) and National Orientation Movement (NOM) (Iredia, 2012). Alongside communicating government policies to the public and ensuring that the Nigerian Government stays abreast of public opinion, NOA was also tasked with promoting patriotism, national unity, and development of the Nigerian society (National Orientation Agency, 2014).

According to National Orientation Agency (2011, pp. 3-4), NOA's mission statement is:

“To consistently raise awareness, provide timely and credible feedback; positively change attitudes, values and behaviours; accurately and adequately inform; and sufficiently mobilize citizens to act in ways that promote peace, harmony and national development.”

And the key mandate areas are:

1. Public Enlightenment and Social Mobilisation: With this, the NOA aims to facilitate citizen-participation in the political process and to empower them to demand for their rights and to hold their leaders accountable.
2. Value re-orientation and Promotion of Core National Values: With this, the NOA aims to discourage attitudes and behaviour that bring about segregation and disunity, whilst promoting values that bind Nigerians together.
3. Political and Civic Education: With this, the NOA aims to orientate and produce Nigerians whose “passion for Nigeria cannot be quenched by any sectional interest” (National Orientation Agency, 2011, p. 17). The NOA aims to educate citizens about their “rights, duties and obligations, patriotism and nationalism, loyalty to the state, respect for constituted authorities, respect for national symbols and promoting the good image of Nigeria among others”.
4. Peace Education and Social Justice: With this, the NOA aims to promote peace, ensure that there are efficient conflict management systems in place, and that citizens have access to institutions where they can seek justice.
5. Feedback: With this, the NOA aims to collate citizens' reactions as it concerns Government's programs and policies and their lives as citizens of Nigeria, and to channel these to the Government.

NOA's key mandates can be broken down into three main activities: Information provision to the public, collation of feedback from the public and execution of social functions to enlighten

the citizens. Therefore, the NOA is the key avenue through which the Nigerian government seeks to engender public engagement and participation.

## 2.5 A Case for E-public Engagement in Nigeria

According to Internet Live Stats (2015), between the years 2000 and 2014, internet users in Nigeria grew from 78,740 to 67,101,452. As at the 22<sup>nd</sup> of May 2015, the number of internet users in Nigeria stood at 76,688,600. A survey by Pew Research Centre (2014a) shows that internet access and use in Nigeria is highest amongst those aged between 18 and 29 (45%), followed by those aged 30-49 (31%) and 50 and above (4%). A different study by Pew Research Centre posits that in emerging and developing nations, older people (50 +) are significantly less likely than their younger counterparts (18 – 49) to participate politically especially when such participation is online (Pew Research Centre, 2014b). According to this study, 45 and 49% of Nigerians are convinced that sharing online information and participating in online political dialogue respectively are effective ways of getting heard by and influencing the government. These findings point to the facts that Nigerian netizens are increasing rapidly and that a majority of these netizens fall within the age bracket that is expected to be ready to engage with government and participate politically. It is therefore necessary that the Nigerian Government considers ways by which it can digitally inform, interact and meet the needs of her netizens. This is even more relevant as politicians, individuals and firms have used the internet in recent times to distort public opinion (Nwaubani, 2014).

The National Orientation Agency, which is tasked with facilitating public engagement in Nigeria, is mainly active offline and performs its activities by publishing books/booklets which are then circulated for citizens to read –e.g. the “Political Education Manual” which was published in order to educate citizens about participation in the Nigerian political process, and also to inform them of their rights. They also organise social functions-e.g. the “Heir Apparent” which was a reality programme aimed at creating a new set of vibrant and visionary leaders. NOA also conducts surveys to gauge the opinions of Citizens. On the internet and via its website ([www.noa.gov.ng](http://www.noa.gov.ng)), NOA mainly publishes information about itself than any other thing. It has a Facebook page (<https://www.facebook.com/nationalorientationagency>) and a Twitter handle ([https://twitter.com/noa\\_nigeria](https://twitter.com/noa_nigeria)) which - like its official website - reports more on the activities of the agency. For an agency, which is tasked with public engagement in a nation where the citizens are rapidly going online, it is obvious that it is not meeting up to expectation and should do more to engage the citizens on the internet.

The increasing use of the internet as a platform where citizens engage in political debates is not peculiar to Nigerians. Muchener Kreis (2013) - cited in Mainka et al. (2015)-conducted a survey

in 2012 and 2013 which shows that more than 40 percent of internet users in Brazil, China and India are interested in participating in online political debates. The internet –especially via social media- is known to enhance citizen participation and lends citizens a voice to freely discuss and criticise states' decisions and policies online (Näkki *et al.*, 2011). As an environmental tool, social media acts as a space where citizens deliberate (e-public sphere) and also as a means for citizens to campaign against or for a cause (digital activism). The use of social media as an environmental tool, for instance in digital activism, has sometimes resulted to its use as an instrumental tool for organising and coordinating mass protests aimed at bringing about immediate changes in a state and which have toppled governments in recent times (Shirky, 2011). An example is President Joseph Estrada of the Philippines who was impeached on January 20, 2001 as a result of social media-coordinated mass protests demanding his sack. Hosni Mubarak of Egypt was ousted as a result of an 18-day long revolution, which was started by a single Facebook page that quickly spread amongst the citizens (Smith, 2011). Furthermore, the all-inclusive nature of social media can “give too much voice to citizens who misunderstand, oversimplify or distort issues” (Ferree, Gamson, Gerhards, & Rucht, 2002, p. 292) out of ignorance or in the bid to serve their own personal agendas. This presents a rather paradoxical situation where the public sphere as supported by social media needs to be all-inclusive and at the same time stands to lose quality if it is. These highlight the importance for governments and governmental agencies to join these online/social media-based political discussions and arguments; however, in response to dissidence emanating and spreading from social media, governments are known to ban and censor its use, thereby controlling the e-public sphere in states concerned and causing further tension (Shirky, 2011).

According to Mainka *et al.* (2015), it is advisable for governments to be represented on the internet especially on social media if they are to reach as many of their citizens as possible. This is not to say that governments have not joined the social media band wagon. Kavanaugh *et al.* (2012) discussed three main reasons why governments use social media: as an early event spotter, as a measurement tool and as a tool to inform and communicate with the citizens. As an early event spotter, governments use trends on social media to identify topical/current occurrences and issues and can therefore quickly and adequately respond to them. As a measurement tool, governments use social media to gauge public sentiment about policy interventions or lack thereof. As a tool for disseminating information and communicating with citizens, social media is used to enhance transparency in governance and citizen-participation in government-backed projects and policies. It is this last main reason that has drawn a bulk of the attention in previous studies as researcher try to understand how governments inform and interact/communicate with the citizenry using social media (Chadwick, 2008; Dahlberg, 2001b; Graham & Avery, 2013; Kardan & Sadeghiani, 2011; Zheng & Zheng, 2014). Other studies have

also looked at how social media can foster citizen-government collaboration and civic engagement (Panagiotopoulos et al., 2014; Warren et al., 2014). In a recent study by Zheng and Zheng (2014, p. 1), it was discovered that governments' efforts to inform the public tend to be self-promoting "monotonous, rigid and formal" and interaction or communication between governments and the public tend to be "insufficient and preliminary". In another study, it was discovered that governments most commonly tweet or write about special events more than they do about policies (Graham & Avery, 2013) and this mirrors perfectly the way the NOA uses its online platforms.

The review of literature and a search on online journal databases for previous studies on e-government especially with a focus on e-public engagement/e-participation in Nigeria, indicates that there is need for more research in that area and context. Whilst there is a handful of studies that have discussed the challenges and prospects of e-government in Nigeria (Ayo, 2005; Mohammed, Abubakar, & Bashir, 2010; Mudhai, 2009), there is yet to be a study dedicated to e-public engagement/e-participation in Nigeria. Alongside Croatia, the Dominican Republic, Guyana, Honduras, Mozambique, Namibia, Pakistan, South Africa and Tonga, Nigeria ranked 97<sup>th</sup> on the United Nation's E-participation index or e-public engagement index (United Nations, 2014) having scored 0.333 out of a possible 1. Findings from the United Nations suggest that as it concerns e-public engagement, Nigeria performs best at e-information with a score of 48.15%; followed by e-consultation with a score of 18.18% and finally e-decision-making with a score of 11.11%. This dearth of studies in the area of e-government and related concepts is not peculiar to Nigeria as Sandoval-Almazan, Leyva, and Gil-Garcia (2013) have observed that it is common in developing countries. On the contrary, e-participation studies are mainly focused on developed countries, especially in the Americas and Europe (Alvarez et al., 2009; Bonson et al., 2015; Carter & Belanger, 2012; Fan, Zhang, & Ieee, 2007; Freire, Fortes, & Barbosa, 2014; Mahrer & Krimmer, 2005; Oktem et al., 2014; Panopoulou et al., 2014; Saebo et al., 2011; Zheng et al., 2014). Sandoval-Almazan et al. (2013) argued that the construction, deployment and delivery of internet citizen portals in developing countries would not necessary follow the same process as in developed countries, this highlights the need for more research focused on less developed countries.

In the face of little or no previous studies to guide a research, there are three main suggestions: (1) to consider changing the topic as it will be difficult to get support or help (Blaxter, Hughes, & Tight, 2001), (2) treating it as a missing element in the existing research literature, or what is commonly known as research gap, which has to filled with reports from similar research studies (Bachman & Schutt, 2008). Contrary to Blaxter et al. (2001) 's advice, this study shall embrace the challenge posed by the scarcity of e-public engagement research in the Nigerian context, and

will treat it as a research gap which needs to be bridged. Therefore, the focus of this research shall be on Nigeria.

## 2.6 Engagement

As earlier discussed in Chapter one, a challenge to e public-engagement is Citizens' actual **engagement** to governments' contents on the internet. But what is this engagement? In Information Technology, especially as it concerns Human-computer-Interaction research, the focus is mainly on the instrumental value/usability of IT artefacts (Hassenzahl & Tractinsky, 2006; O'Brien & Toms, 2008; Preece, 2001). However, there has been calls for a shift in HCI research focus in order to address non-instrumental and intrinsic needs of users like intimacy/sociability, beauty, surprise, etc. (Gaver & Martin, 2000; Postrel, 2009; Preece, 2001; Sutcliffe, 2009; Vetere et al., 2005) or what O'Brien and Toms (2008) referred to as engaging experiences. As precisely put by O'Brien and Toms (2008, p. 1):

A web interface that is boring, a multimedia presentation that does not captivate users' attention or an online community that fails to engender a sense of community are [*Sic*] quickly dismissed with a simple mouse click. Failing to engage users equates with no sale on an electronic commerce site and no transmission of information from a website, people go elsewhere to perform their tasks and communicate with colleagues and friends.

Engagement is of interest in studies on e-learning, e-reading (Douglas & Hargadon, 2000; Guthrie et al., 2004; Herrington, Oliver, & Reeves, 2003; Jones, 1998; Kearsley & Shneiderman, 1998; Marshall, 2007) and advertising (Heath, 2007; Wang, 2006). However, conceptualising and defining engagement is contentious amongst researchers and practitioners (Calder et al., 2009); this is as a result of the subjectivity of practitioners and researchers from different fields as to what engagement means to them. Existing frameworks and conceptualisations of engagement are therefore specific to the particular domain, user groups and applications for which they were studied with little attempts at generalisation. O'Brien and Toms (2008) also observed that research in engagement has mainly been without any supporting theoretical framework. However, Mollen and Wilson (2010) aggregated the conceptualisation of engagement by scholars across different fields of research and opined that there are three predominant factors in its definition. These defining factors suggest that it is (1) a mental state accompanied by active, sustained and complex cognitive processing, (2) associated with the intent to satisfy utility and relevance at the barest minimum, (3) and that it involves emotional bonding/impact, emotional congruence, pleasure, and satisfaction. Adding to the difficulty in conceptualising engagement is its close relationship with involvement, attention, and experience which, according to Mollen and Wilson (2010) and Calder *et al.* (2009), have brought about divided opinions as to whether they are one and the same or different concepts. In defining

involvement, Thomson, MacInnis, and Whan Park (2005) opined that it is an individual's state of mental readiness to deploy his/her cognitive resources to a consumable object, decision or action. Heath (2007) defined attention as a conscious, rational construct that determines the amount of thought given to an advertisement, or in a general sense -a consumable object, decision or action. Involvement and attention are similar concepts since they involve a conscious attempt by an individual to expend his/her mental or cognitive resources – including thinking/thoughts- on a physical or abstract element. On the other hand, experience is an individual's internal and subjective response to a direct or indirect contact with an element (Novak, Hoffman, & Yung, 2000). It is an individual's belief about how an element fits into his/her life; this belief may be utilitarian or intrinsically enjoyable in nature (Calder *et al.*, 2009). Attention/involvement is an important dimension of engagement (Mollen & Wilson, 2010) while experiences aggregate to form engagement (Calder *et al.*, 2009). An element's engagement-ability is its power to hold the attention of an individual and is different from its persuasiveness or its ability to deliberately change an individual's behaviour or attitude in the desired direction (IJsselsteijn, De Kort, Midden, Eggen, & van Den Hoven, 2006; Rashotte, 2007; Seiter & Gass, 2004; Simons, 1976).

## 2.6.1 Engagement: Related Theories, Models, and Concepts

As earlier observed, there is no single established theory that pertains to engagement, and this makes it hard to adopt a theoretical framework in engagement research. However, O'Brien and Toms (2008) discussed four established theories that are related to engagement and which are especially helpful in defining user engagement with technology. These include aesthetic theory, play theory, flow theory, and information interaction theory. The Aesthetic and play theories, both of which are not yet extensively researched, shall be discussed briefly.

### 2.6.1.1 Aesthetic and Play Theories

According to Jennings (2000), there are two main views of aesthetics - the broad and narrow views. The broad view of aesthetics focuses on those perceptual, cognitive and affective factors that support the creation of engaging and immersive environments. It is concerned with aesthetic experience which occurs when a person is deeply engaged and immersed in an activity just for intrinsic reasons to the point where outside distractions do not interfere ((Beardsley, 1982) cited in (Jennings, 2000)). Beardsley's idea of aesthetic experience is similar to Csikszentmihaly's flow theory as shall be discussed soon. The narrow view of aesthetics focuses on visual appearance or beauty as related to the principles of design: balance, emphasis, harmony, proportion, rhythm, and unity. Pleasing and attractive visuals are important as they create the urge to explore further thereby resulting to engagement. This view of aesthetics is just one

important aspect of engagement and does not wholly define it (O'Brien & Toms, 2008). On the other hand, play is defined as an activity that is voluntary, intrinsically motivating, involves some level of active often physical engagement, and has a make-believe quality (Rieber, 1996). Although play shares some characteristics with flow, it is different because it has the make-believe attribute. According to Rieber (1996), the opposite of work is leisure and not play as work can become intrinsically satisfying that getting paid to do it becomes secondary. Play theories or rhetoric are typically in four themes: play as progress which is when play is used for something useful; play as power which is when play is associated with competition; play as fantasy which is when play is used for creativity; and play as self which occurs when play is used for personal satisfaction (Milne, 2012; Pellegrini, 1995). Play is seen as intrinsic to engagement because it facilitates satisfaction of system users and increases motivation, challenge and affect ((Woszczyński et al., 2002) cited in (O'Brien & Toms, 2008)).

#### *2.6.1.2 Flow theory*

Flow is the experience of complete absorption and involvement in the present moment (Nakamura & Csikszentmihalyi, 2009) and, as discussed above, is an essential part of both aesthetic and play theories. It is a condition wherein people are deeply involved in an activity that nothing else seems to matter; and because the experience is so enjoyable, people will do it even at great costs and only for the sake of that activity (Csikszentmihalyi, 1991). Flow theory and research are concerned with understanding the phenomenon behind activities which are only rewarding in and of themselves despite any extrinsic rewards that may come from them. Getzels and Csikszentmihalyi (1976) (cited in (Nakamura & Csikszentmihalyi, 2009, p. 195)) narrated how Csikszentmihalyi observed an artist who single-mindedly carried on painting while neglecting hunger, fatigue, and discomfort; but soon after the painting, he lost interest in the picture. For flow to occur there must be: (1) perceived challenge or opportunities for action which are within the person's skills or capabilities (2) there must be clear non-distant goals with immediate feedback about the progress made. With these conditions in place, flow experience is likely. Such an experience is characterised by (1) intense and focused concentration on present moment/activity, (2) the merger of action and awareness, (3) the loss of reflective self-consciousness, (4) a sense of being in control of one's actions, (5) loss of awareness of temporal existence, (6) the feeling that the activity is intrinsically rewarding even more than the end goal. While recognising that there are shared characteristics between flow and engagement like focused attention, feedback, control, activity orientation and intrinsic motivation, O'Brien and Toms (2008) argue that there should be some differences. According to them, while flow involves motivation, engagement may arise involuntarily; and while flow demands undivided long-term focus, engagement is possible in a dynamic environment. Flow theory has been used

in studies that investigated why people play games (Ghani, Supnick, & Rooney, 1991; Hsu & Lu, 2004), in studies that investigated the experience employees have while using computers in the workplace (Ghani & Deshpande, 1994; Trevino & Webster, 1992; Webster, Trevino, & Ryan, 1994), and in studies that investigated online consumer behaviour (Chan, Cheung, Kwong, Limayem, & Zhu, 2003; Koufaris, 2002; Lu, Zhou, & Wang, 2009; Novak, Hoffman, & Duhachek, 2003). Though the flow theory is related to the concept of engagement, it is more in tune with HCI and non-text contents and have been used mainly in game development and virtual reality studies (Chen, 2007; Hsu & Lu, 2004; Lauteren, 2002; Mathwick & Rigdon, 2004; Montola, Stenros, & Waern, 2009; Reid, 2004; Rieber, 1996) and not in traditional information-rich environments that are textual, visual or aural based.

### *2.6.1.3 Information Interaction*

Information interaction or human-information interaction refers to the process by which people engage with the content of an information system (Marchionini, 2008; Toms, 2002); its three main foundational objects are the user, system, and content (Toms, 2002). Users bring their human information processing capabilities which are essential in interpreting both system output and informational displays, the system contributes artificial processing capabilities that facilitate communication with users; while the content is a knowledge representation that contains a series of words, phrases, sentences or phrases within a logical superstructure. To ensure an optimal user-content engagement is the concept of Information interaction design (Shedroff, 1999) which involves two structures: information architecture and information design (Toms, 2002).

Information architecture is focused on solving the basic problems involved in accessing and using information (Gullikson et al., 1999; Resmini & Rosati, 2012). It support's Nielsen (1999)'s argument that people come to the web to seek information and not for experience. Information architecture focuses solely on information organisation/categorisation, presentation/aesthetics, navigation and access by web users (Gullikson et al., 1999; Rosenfeld & Morville, 2002) and includes a system of classification, labelling of concepts, navigation and search/access systems for a defined body of information (Toms, 2002). Information architecture is focused on the organisation and presentation of data so that it is better transformed into valuable and meaningful information.

On the other hand, Information design is the art and science of preparing information so that they can be used by human beings with efficiency and effectiveness. Its objectives transcend the development of documents that are comprehensible and easily retrievable to designing interactions that are easy, natural and as pleasant as possible (Horn, 2000). It is a multi-faced practice that doesn't only provide a blueprint for information organisation and accessibility on

websites but also facilitates media immersion, engagement, participation, and experience of users (Nardi & O'Day, 1999; O'Brien & Toms, 2008; Shedroff, 1999). Information design focuses on creating a meaningful experience for the audience which is essential in transforming information into knowledge. It is rooted in HCI (Horn, 2000) and entails that there should be feedback from the engagement between audience and content and that the audience should have control over the outcome of the engagement. The audience should have productive, creative, adaptive and communicative experiences. Interactive design is against passivity as is present in simple navigation and playbacks-only contents (Shedroff, 1999).

Shedroff (1999), in addition to the two information interaction design structures, introduced a new structure which he termed the Sensorial Design. The sensorial design focuses on the creation and presentation of information using the medium or media that best supports the information goal and desired audience-experience. It is the technique involved in stimulating and utilising the five human senses to create a “more compelling, engaging and appropriate experience (O'Brien & Toms, 2008) as well as a more successful communication and interaction (Shedroff, 1999). In Shedroff's view, a complete Information interaction design would involve the marriage of three structures: information architecture (which he referred to as information design), information design (which he referred to as interaction design) and sensorial design. O'Brien argues that while the computer system may be aesthetically appealing and may have design elements that promote play which could, in turn, facilitate a flow experience; it is the interaction between users and content or system that facilitates an engaging experience.

#### *2.6.1.4 Reading Engagement Theory*

The concept of engagement has been widely discussed in the context of reading (Ahola, 2015; Baker & Wigfield, 1999; Guthrie et al., 2004; Jones & Brown, 2011; Nguyen, van Landingham, Massof, Rubin, & Ramulu, 2014; Wigfield & Guthrie, 1997) and is seen as the integration of cognitive, motivational and social aspects of reading. Engagement in reading is evidenced by four factors: time invested in reading, the effect, the cognitive qualities of the reader, and the indulgence in reading activities (Guthrie, 2004). For a reader to invest time in reading, there should be sufficient attention to the text, there should be concentration on the meaning of the text, and there should be sustained cognitive effort; this agrees with Mollen and Wilson (2010)'s definition of engagement as a mental state accompanied by active, sustained and complex cognitive processing. As it concerns affect, the interaction with texts may result in feelings of enthusiasm, liking, and enjoyment; and - according to Mollen and Wilson - is engagement through emotional impact, pleasure, and satisfaction. The reader's cognitive qualities are signified by his/her depth of processing while reading and which typically results in learning;

this is also in agreement with Mollen and Wilson's view of engagement as a mental state with sustained cognitive processing. Participation in diverse reading practices signifies indulgence in reading activities. While this cannot be mapped to any of Mollen and Wilson (2010)'s concepts of engagement; it is also obvious that Guthrie (2004)'s four factors of reading engagement lacked the 'need factor' as identified by Mollen and Wilson.

The reading engagement theory was conceptualised by Wigfield and Guthrie (1997) who argued that only motivated readers will engage more in reading. According to Wigfield, Cambria, and Ho (2012, p. 53), motivation is seen as the "beliefs, values, and goals individuals have for different activities", and - in the context of reading - motivation is an individual's personal beliefs, values, and goals as it concerns the topics, processes and outcomes of reading (Guthrie & Wigfield, 2000). Wigfield and Guthrie (1997) developed a framework of reading engagement to assess children's engagement with reading. This framework describes three categories of factors that impact on motivation for reading and reading engagement which include: competence and efficacy beliefs, goals for reading, and social purposes of reading (Wigfield & Guthrie, 1997). The competence and efficacy beliefs category is concerned with the belief that one can be successful at reading (self-efficacy), the willingness to read difficult contents (challenge), the conscious desire and effort to avoid reading activities (work avoidance). The goals for reading category is concerned with the desire to read about a particular topic of interest (curiosity), the favourable experience or enjoyment derived from reading the content (involvement), the personal value ascribed to reading a content (importance), the acknowledgement received from significant others as a result of reading (recognition), the desire to get favourable evaluation from teachers as a result of reading (grades), and the desire to outperform others in reading (competition). The social purposes of reading category include the process of constructing and sharing the meanings gained from reading with the immediate social circle (social), and the need to meet the expectation of others (compliance). A similar framework was developed by OECD (2010) to measure reading engagement in Programme for International Student Assessment (PISA). This framework focuses on the enjoyment of reading, time spent on reading for enjoyment, the diversity of print materials read, the diversity of online materials read, and reading for school. Whilst these frameworks are focused on children and students, Wigfield et al. (2012) developed a more generic framework called the Motivations for Reading Information Books- Nonschool Questionnaire (MRIB-N). The MRIB-N is not fundamentally different from other frameworks and does, in fact, share similar factors and concepts. It is concerned with the common factors like enjoyment for reading, avoidance, importance, efficacy, and recognition/peer value. The MRIB-N is also concerned with the lack of value ascribed to reading (devalue), lack of recognition or acknowledgement from peers about reading (peer devalue), and the notion that reading a content is difficult (perceived difficulty).

#### *2.6.1.5 The 4-stage model of engagement*

Following a multi-disciplinary exploratory and detailed study of engagement as it concerns information technology, O'Brien and Toms (2008) identified four stages of engagement, each with its own attributes/variables. These stages include point of engagement, period of engagement, disengagement, and reengagement. The point of engagement refers to the onset of engagement and is influenced by the aesthetics of an application, its novel presentation, the user's motivation, the user's interests, and the user's goals which may be experiential or tangible. Period of engagement refers to the sustenance of the engagement which ensures that the application maintains the attention and interest of the users. Period of engagement is influenced by the aesthetic appeal of the application; its sensory appeal, its ability to maintain user's attention; its use of new and novel approaches to interact with users, its ability to enthrall users such that they may lose awareness of time and space or retain some in order to interact with the application, the ability of the user to exercise some level of control over the application, the feedback given to user by the application (which may be visual, tactile or auditory) and the availability of challenge/difficulty or lack thereof depending on the application. Disengagement refers to when an individual quits his/her interaction with an application as a result of an internal decision to do so or certain factors in the external environment. It is influenced by the usability of the application, the difficulty or challenge it poses, the positive effect it has on the users especially as it concerns satisfaction, the negative effect it has on the user, the user's perception of time appropriate for the application or already spent on it, and external interruptions. The point of re-engagement refers to resuming interactions with an application after having earlier disengaged from it. It is simply influenced by positive past experience, intrinsic and extrinsic motivation.

#### *2.6.1.6 Endex Model of engagement*

With the aim of developing a tool for evaluating national newspapers as it concerns readership-engagement, McGarrigle and Sanderson (2010) identified five key readership-engagement factors which include: the informative/inspirational factor, the loyalty/emotional attachment factor, the entertainment factor, time factor, and the frequency factor. For each of these five factors, there are associated input variables which are twelve in total. The informative/inspirational factor includes willingness to recommend the newspaper to a friend, the reader's belief that the paper re-enforces his/her outlook on the world, the belief that the paper yields a stimulating read, that it is a source of reference, that it is inspirational, that it is thought-provoking, that it challenges the reader's views on the world and that it is an absorbing read. The loyalty and emotional attachment factor include difficulty with substituting the

newspaper and the disappointment associated with not getting hold of one. The entertainment factor includes the entertainment and relaxation derived from reading the newspaper. The time factor includes time spent reading the paper and the number of times the paper was picked up. Finally, the frequency factor includes the 'recency' and frequency of reading. These twelve variables constitute a single engagement index or what has been referred to as Endex (Gibbs, 2012). However, Calder *et al.* (2009, p. 322) argued that all these variables are consequences of engagement and do not describe engagement itself; according to them "it is engagement with a website that causes someone to want to visit it, download its pages, be attentive to it, recommend it to a friend, or be disappointed if it were no longer available".

#### *2.6.1.7 The Uses Gratification Theory (UGT)*

Just like this study, the uses and gratification theory is an audience-focused approach to understanding the use of media; it seeks to understand not how media consumption affects the audience but how and why the audience consumes media (Urista *et al.*, 2009); and it is based on the assumption that the audience is not passive but have wants and needs which detect their deliberate choice and consumption of media (Rubin, 2002). It was developed by a psychologist named Herta Herzog in 1944 as she studied satisfaction amongst radio audiences but has since been extended to the study of audience gratification across several mediums of communication like prints (Finn, 1997), televisions (Palmgreen & Rayburn, 1979; Wenner, 1982), the internet (Ko, Cho, & Roberts, 2005; Stafford, Stafford, & Schkade, 2004), video games (Sherry, Lucas, Greenberg, & Lachlan, 2006), and mobile phones (Leung & Wei, 2000; O'Keefe & Sulanowski, 1995). It is also getting increasingly popular in social media studies (Park, Kee, & Valenzuela, 2009; Raacke & Bonds-Raacke, 2008; Urista *et al.*, 2009). The uses and gratification theory holds that there are social and psychological needs which give rise to an individual's expectations of the media s/he consumes and which then impacts on his/her engagement with that media with the aim of attaining gratification (Katz, Blumler, & Gurevitch, 1973). It is widely held that people use media for five main reasons: (1) to be informed and educated or to satisfy cognitive needs, (2) to be entertained or to satisfy affective needs, (3) to develop a personal identity by mimicking characters in the media context or to satisfy personal integrative needs, (4) to get socially integrated and enhance social interaction or to satisfy social integrative needs, (5) and for escapism or to attain a tension-free state (Rodman, 2009). However, studies that employ the uses and gratification theory identify different sets of gratification for the item under study (Leung & Wei, 2000; Stafford *et al.*, 2004; Urista *et al.*, 2009). Kayahara and Wellman (2007) posit that the two major categories of gratification on the internet are the process gratification which is concerned with the experience associated with navigating or using internet functionalities and the content gratification which deals with the acquisition of required

information. While Stafford *et al.* (2004) agree with Kayahara and Wellman, they suggested a third category which is socialisation. The Uses Gratification Theory has been used several times in the study of engagement (Calder *et al.*, 2009; Dimmick, McCain, & Bolton, 1979; Leung, 2009; Sherry *et al.*, 2006).

As it concerns government-owned platforms, Wang, Bretschneider, and Gant (2005) observed there are two main reasons citizens visit government online platforms: to obtain relevant information and interact with government/government officials, and to complete some transaction/benefit from an online service. According to Davies (2010), citizens would visit government platforms to satisfy three facets of information needs: political participation, community-based participation, and individual choice. As it concerns political participation, citizens are interested in policies of government/parties, the performance of politicians and performance of governmental departments and agencies. On community-based participation, citizens are interested in ways by which they can work together with government to solve problems; here citizens are co-producers. Individual choice or personal democracy refers to needs for government information for personal use; here citizens are mere consumers of information.

#### *2.6.1.8 Information Need Theory*

The UGT shows that intent to consume information is an important factor that affects audience engagement with media contents. On the internet, these gratifications include process gratification which pertains to the ease of getting information and could be enhanced by information architecture, content gratification as an outcome of acquiring information and can be enhanced by information design, and social gratification. While the three gratifications sought by internet users are important; for this study, a major focus is on the content gratification and which is related to human-information interaction; this is because this study aims to improve audience engagement with information provided online by Governments as an antecedent to e-public deliberation. With this being the case, it is pertinent to ask: what information will the public need from Governments? This leads us to 'Information need' as conceptualised by Taylor (1962). Information need was defined by Ormandy (2011) as the recognition that one's knowledge is inadequate to satisfy a goal within a given context or situation in which s/he finds himself at a given point in time. This was referred to as the Anomalous State of Knowledge by Belkin (1980) and is the reason an individual gets involved in the process of asking questions that will help satisfy a conscious or unconscious need (Taylor, 1962). This process of asking questions was seen as information-seeking behaviour by Wilson (2006) and may involve making demands on formal systems, other information sources or even from other people through

interaction/information exchange. A more popular but related terminology to Wilson's Information-seeking behaviour is Information Retrieval (IR) which refers to the process of obtaining from a bank of information resources, those particular resources that will meet the individual's information need (Bian, Liu, Agichtein, & Zha, 2008; Broder, 2002; Craswell & Hawking, 2009; Frakes, 1992). Belkin (1993, p. 1) outlined how important it is to understand the information need of the audience with the intent of creating good audience-content engagement and interaction. He opined that:

People are not just passive recipients of messages, but rather active seekers of texts, and active constructors of meaning from these texts. They look for texts of potential interest; they make judgements about the usefulness or interest of texts by engaging with them. Thus, our engagement with texts and our interpretation of them are central to our being able to use them for our goals, whatever they may be.

On the web, there are three types of information need: (1) navigational need with the immediate intent to reach a particular page or site, e.g. by visiting [www.gov.uk/browse/tax](http://www.gov.uk/browse/tax). (2) Informational need with the intent to search for information which is relevant to meet needs or interest, e.g. by searching on Google for UK Universities that offer Post Graduate courses; this is closely related to traditional information retrieval (Broder, 2002). (3) Transactional need with the intent to reach a site where certain transactions or web-mediated activities will take place, e.g. shopping, chatting/socialising, gaming, downloading, etcetera. (Broder, 2002; Craswell & Hawking, 2009). These needs are related to the gratification sought by users as earlier discussed in section 2.4.1.7 which include process, content and socialising gratifications (Kayahara & Wellman, 2007; Stafford et al., 2004). A study by ((Rose and Levinson, 2004) cited in (Craswell & Hawking, 2009)) shows that 60% of web queries were informational, 25% were transactional, and 15% were navigational. Furthermore, community question-answering (CQA) and web search using search engines are the two main ways of stating informational needs on the internet (Bian et al., 2008). With CQA, information needs are specified as natural language questions, and the desired results are direct self-contained answers from the community. On the other hand, queries using search engines provide a list of links or documents. However, review of the literature shows that information seekers can also directly visit an informative platform with the intent to consume information (Broder, 2002; Craswell & Hawking, 2009; Kayahara & Wellman, 2007; Stafford et al., 2004).

### 2.6.2 Measuring engagement on the Internet: Web analytics

With individuals and firms aiming to measure and understand how their online contents are engaging their audience, web analytics was born. Web analytics refers to the analysis of websites with the intent to understanding their performance (Ferrini & Mohr, 2009), understanding the

behaviour of the audience, improving the websites and enhancing the audiences' experience (Waisberg & Kaushik, 2009) and thus engagement (Gerlitz & Helmond, 2011). Review of literature shows that web analytics is carried out in two main ways: by measuring the audience's implicit relationships with the online content or media vehicle and by measuring their explicit relationship of the same. Implicit web analytics is also referred to as the on-site web analytics and can be carried out only by owners of the target websites or anyone who has access to the backend of the site.

On-site web analytics are reliant on the audience's interaction with the unit of content, commonly known as a page. What qualifies as a page is dependent on the analytics tool(s) used and could be "Flash, AJAX, media files, downloads, documents, PDFs" (Burby & Brown, 2007, p. 6) as well as the usual web pages. In a study funded by the Web Analytics Association, Burby and Brown (2007) discussed some on-site web analytics which include page views, hits (Ferrini & Mohr, 2009), visits/sessions, page views per visit, unique visitors, entry page, landing page, exit page, visit duration, the referrer, click-throughs, click-through ratios, page exit ratio, single-page visits, bouncing/single page view visits, bounce rates, conversion, engagement time (Haile, 2014; Mintz, 2014), eye tracking (Drusch, Bastien, & Paris, 2014; Granka, Joachims, & Gay, 2004; Jacob & Karn, 2003; Michailidou, Christoforou, & Zaphiris, 2014), and mouse-tracking (Helman, Stolier, & Freeman, 2014; Mueller & Lockerd, 2001; Smucker, Guo, & Toulis, 2014).

Explicit web analytics, also known as off-site web analytics, can be performed by anyone who can see the frontend of the website, whether members of the audience or owners of the website. These include easily observable metrics like number of shares, comments, the number of likes, etcetera. Previous studies have suggested that an individual's online influence is evident in the level of engagement the audience have with his/her online contents. These studies have mainly relied on off-site web analytics with a focus on network contagion and information diffusion (Cha, Haddadi, Benevenuto, & Gummadi, 2010; Lerman & Hogg, 2010; Onnela & Reed-Tsochas, 2010; Ye & Wu, 2010) to detect and measure engagement and thus influence. Before the current method of measuring influence, the focus was on the number of clicks a content receives. The focus was then shifted to measuring reach and frequency when it was realised that online robots were used to imitate human click-throughs (Chen & Wells, 1999). As rightly observed by Toder-Alon, Brunel, and Fournier (2014), message frequency and dispersion or valence has taken the bulk of research as it concerns understanding influence in the context of social media. For example, Ye and Wu (2010) focused on message propagation, the number of followers and re-tweets in their study on social influence on Twitter. Similarly, Goggins and Petakovic (2014) mentioned the number of shares, comments and likes as evidence of influence on Facebook while direct tweets, replies, mentions, and retweets explain influence on Twitter.

These studies measure the influence of individuals on social networking sites by investigating the spread of their contents. Though a popular or influential person (source) can have widespread/viral contents on social networking sites, contents about a popular figure can also propagate widely, its source notwithstanding e.g. news on the death of Michael Jackson (Ye & Wu, 2010). Therefore, it can be argued that the content -not just the source, can account for information propagation on social networking sites.

### 2.6.3 Problems with current web-analytic approaches and alternative approaches

As it concerns on-site web analytical approaches, it can be argued that the above-listed metrics- apart from providing a calculated guess- cannot reliably detect audience-content engagement. For instance, the visit duration metric has no way to show that the visitor was busy reading the contents on the website for the duration of the session; but there is a chance that s/he did. An exception to this is are the engagement time metric, eye tracking and mouse tracking which has been hailed as the most accurate means by which engagement can be measured as they take into consideration the movement of the eye movements, cursor, clicks, hovers, scrolls and time spent in determining a visitor's engagement with an online content (Haile, 2014; Jacob & Karn, 2003; Mintz, 2014). However, these metrics can only be ascertained by gaining access to the backend using expensive web analytic tools which are installed by and accessible to those who have access to the sites' backend and/or by using expensive analytical tools. Both options cannot be employed in studies of online audience-content engagement where the researchers have no access to websites' backend or are financially constrained.

Similarly, current research shows that off-site web analytical approaches are also not completely indicative of engagement. Chartbeat observed that people currently mistake content propagation for content engagement. According to the CEO - Tony Haile, there is no correlation between social shares and the audience actually reading the content (Haile, 2014). This finding was confirmed by another company-Upworthy, who with their "attention minutes" metrics measures the amount of time the audience spend on an online article. Data gathered and analysed by Upworthy show that people who spend 25% of the average attention minutes on an article shared the article more than those who spend 100% of the attention minutes on it (Mintz, 2014). In view of this, it can be said that online social activities, for example: likes, shares and comments left are not necessarily indicative of audience-content engagement. However, the strongest indicator of engagement with contents are feedback or comments left by the audience (Albrecht, 2006; Dahlberg, 2001a; Sample, 2014), but even these have to be analysed based on the context of the content (Herring *et al.*, 2005) before engagement can be ascertained. This is so because real life instances show that an online content may have an enormous number of comments which on the

periphery signifies engagement, but a closer look shows that a significant amount of these comments are out of context and therefore cannot signify engagement with the online content.

## 2.7 Summary

Review of literature showed that there is no overarching theory that could be adopted in the study of audience engagement with online information/contents. However, nine models, concepts, and theories related to engagement were discussed. The Researcher categorised these theories and concepts into four main groups:

1. Concepts/theories based on hedonism: Theories here are purely psychological and consider how intrinsic motivation can drive immersion with an object of interest; within this bracket are the flow, aesthetic and play theories. However, it can be argued that the Flow theory encapsulates both aesthetic and play. In IT research, these theories are normally used to investigate how user interface designs and Human-computer interaction can enhance the experience and hence engagement.
2. Concepts/theories based on conscious needs: Theories in this bracket consider what the consumers of information or users of an artefact have consciously decided to achieve by engaging with the information or artefact; it is about extrinsic motivation. In this bracket are the Endex model of engagement, the Information need theory and the Uses gratification theory (UGT). It can be argued however that the Endex model and Information need theory are part and parcel of the UGT, this is so because UGT considers online gratifications which may be functional/transactional, informational, and/or social.
3. Theory based on ease of information retrieval and use: O'Brien and Toms (2008) had mentioned information interaction as being related to engagement. However, this concept shall not be treated as a theory in this study.

The next chapter will focus on designing a conceptual framework using one or more of the concepts and theories discussed in this chapter. This framework will guide the Researcher towards providing answers to the research questions of this study. The next chapter would also discuss the research methodology for this study.

## Chapter 3 : Conceptual Framework and Research Methodology

### 3.1 Introduction

This is a chapter of four parts that discusses the conceptual framework, research methodology, methods and techniques adopted in this study. The first part presents the conceptual framework, the second part provides an overview and justification for the Researcher's choice of mixed-methods approach, the third and fourth parts present the methodology and methods used in the first and second phases of this study respectively.

### 3.2 Part One: The Conceptual Framework

A conceptual framework is a collection of ideas, assumptions, expectations, beliefs and theories that support and inform a research (Maxwell, 2013). It is a written or graphical product developed by a researcher based on his/her understanding of the literature, and could include concepts, constructs or variables and the presumed relationships among them (Miles & Huberman, 1994). The conceptual framework provides scope to a study and can also be tested or explored. Conceptual framework is commonly used interchangeably with theoretical framework (Maxwell, 2013), but an important difference is that theoretical frameworks are based on existing theories, and mainly used in quantitative studies where they are tested or verified (Brians, Willnat, Manheim, & Rich, 2011; Creswell, 1994); they are not essential in qualitative studies which do not test theories.

Using a combination of concepts and theories discussed in Chapter 2, a conceptual framework was developed to provide scope and direction to the first phase of this study, which seeks to perform an in-depth, qualitative investigation of factors that influence citizens' engagement with governments' online contents. Without this framework, the first phase of this study would completely adopt a grounded theory approach which is susceptible to researcher-induced bias. Therefore, the conceptual framework in this study serves as an initial guide that enables the Researcher identify the key questions to ask the research participants while allowing for emergent ideas and questions as data collection progresses, hence mitigating researcher-induced bias.

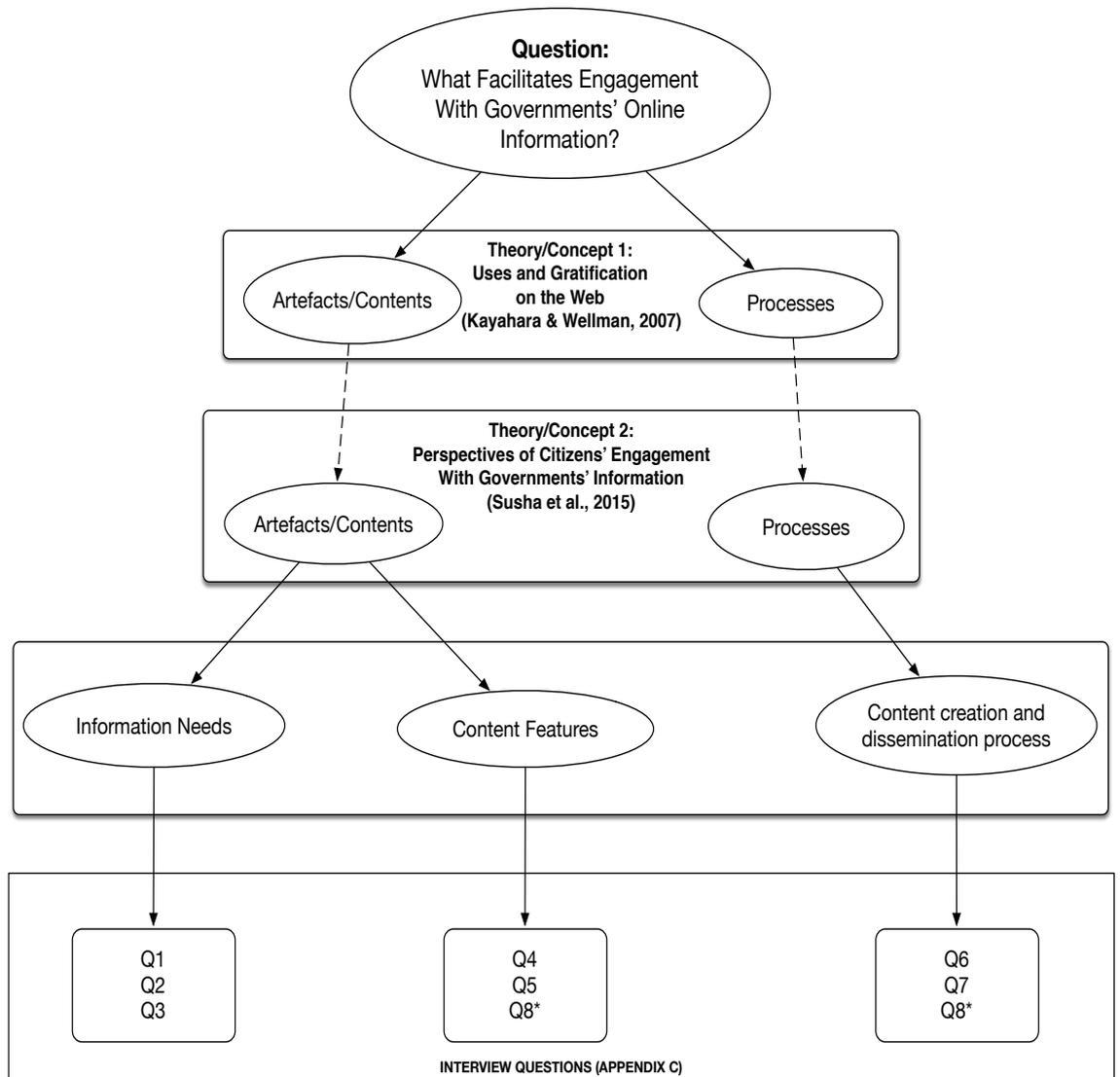
#### 3.2.1 The Conceptual framework: The fundamental concepts and theory

From the literature, it was observed that:

1. Citizens would visit governments' platforms for information and/or transactions (Wang et al., 2005). This study is focused on the information side of why citizens visit government platforms.
2. Citizens engage with government information in two perspectives: as artefacts and/or as processes ((Davies and Bawa, 2012) cited in (Susha et al., 2015)). According to Susha et al. (2015), as artefacts, government information should be user-friendly by meeting citizens' information needs and must be designed and presented appropriately. As processes, every relevant stakeholder must be part of the development and implementation of policies for the use of government information (Maruyama et al., 2013), collaborate in developing such information (Davies, 2010) and users should be able to interact with the providers and give feedback on the use of the information (Zuiderwijk et al., 2012). Where the artefacts refer to the information types/topics and features of government's contents that can improve citizens' engagement with government contents, the processes aspect refers to those activities involving the stakeholders that could influence their engagement with government's contents.
3. There are two types of gratifications on the web: the content and process gratifications (Kayahara & Wellman, 2007). With government information as artefacts, citizens seek content gratification; they seek process gratification as it concerns the process aspect of government information. This reflects the uses and gratification theory (UGT) which is used to ascertain the why and the how of media use (Urista et al., 2009). Therefore, the UGT provides the lenses through which this study can investigate citizens' engagement with governments' online contents.

Understanding citizens' needs is essential in this study as it has been described as an important factor in their engagement with governments' information (Bertot et al., 2008; Davies, 2010; Davies, 2012; Eggers, 2005; Mainka et al., 2015). The conceptual framework has been developed to result directly to the ultimate objective of this research which is investigating citizens' engagement with Governments' online contents. From this framework, and as shown in Figure 3.1, three main questions emerged: what are citizens' information needs? What are the desirable content features? What activities can facilitate citizen-content engagement? To adequately answer these main questions, eight sub-questions (Q1-Q8) were developed as outlined in Appendix C.

Figure 3.1: Conceptual Framework



\* Question 8 captures both content features and processes

### 3.3 Part Two: Research Methodology Overview

The purpose of this part of the chapter is to explain the rationale behind the researcher's choice of research approach (methodology and methods) and to justify the choices made thereof. This part of the chapter would discuss the research philosophy and paradigm, the nature of the study and the required research approaches, other factors that influenced the researcher's choice of research approach, the researcher's choice of approach and ethics.

### 3.3.1 Research philosophy and paradigm

The Researcher believes that there is a single reality, accepts that human infallibility would inhibit the chances of detecting the nature of this reality, but still strives towards it. This belief places the researcher as a post-positivist (Trochim, 2006) and entails the use of methodologies that allow for the generation of hypotheses through in-depth study/investigation of a given phenomenon within its complex and dynamic social context (qualitative), and methodologies that test these hypotheses (quantitative).

### 3.3.2 Research Methodology: Need for the ‘Taxonomy Development Model’ of Mixed-Methods Approach

Regardless of the researcher’s philosophical bias, more important determinants of the choice of research approach are the research nature as determined by the questions and objectives (Benbasat, Goldstein, & Mead, 1987; Dawson, 2002; Patton, 1990; Wellington, Bathmaker, Hunt, McCulloch, & Sikes, 2005) as no approach can be said to be more appropriate than others across every context. To adequately provide the answers a researcher seeks, it is pertinent that fit-for-purpose methodologies and methods are applied. The aim of this research is to develop a framework of factors that governments should consider in order to improve their citizens’ engagement with government’s contents on the internet

This study adopted a multi-method approach based on the taxonomy development model by Creswell and Clark (2011). A multi-method approach entails the application of two or more research methods to the investigation of a research question to limit incorrect inferences and conclusions due to measurement errors. Multi-method research approach can be mono-strategic, i.e. involving same methodology (qualitative or quantitative) or multi-strategic, i.e. involving a mixture of methodologies (both qualitative and quantitative) (Venkatesh, Brown, & Bala, 2013). Multi-strategic multi-method is also called the mixed-methods. ***This study shall adopt a sequential mixed-method approach across two main phases: a qualitative first phase and a quantitative second phase.*** This approach was termed exploratory design (Creswell & Clark, 2011), qualitative-quantitative sequential exploratory strategy (Terrell, 2012), and developmental mixed-methods approach (Venkatesh et al., 2013). In their widely cited book, Creswell and Clark (2011) observed that there are two variants of the exploratory design type of mixed-methods studies: the instrument development model and the taxonomy development model. Although both models start with a qualitative phase and end with the quantitative, the difference is in the way the researcher connects both phases. In the more popular instrument development model, the researcher explores a research topic qualitatively with a few participants, then uses the findings to develop items and scales for a quantitative survey. More

emphasis is given to the quantitative phase in this variant. In the taxonomy development model, the qualitative phase is conducted with the aim of identifying important variables, a classification system or an emergent theory (hypothesis) while the quantitative phase tests the findings of the first phase in more detail.

This study shall be based on the taxonomy development model of mixed-methods research, and as such more emphasis will be given to the qualitative phase; this is because there is no existing theory to investigate citizens' engagement with governments' information online explicitly, and because the study intends to generate and test a quantitative hypothesis from an initial exploratory qualitative study (Creswell & Clark, 2011).

### 3.3.3 Research methods

Both phases of this study require the sampling of the opinions of study participants where the Researcher questions an entire population or a representation of the population, gathers their response and analyses same. Therefore, the Researcher chose interviews for the qualitative first phase of the study, and a survey using questionnaires for the quantitative second phase. Interviews and surveys allow for the gathering of information from a research population by questioning the participants (Pickard, 2013) and are popular in information systems/science research (Box, Hepworth, & Harrison, 2002; Jankowska, 2004; Kuruppu & Gruber, 2006).

### 3.3.4 Data Source

This study collected data from Nigerians for the qualitative and quantitative phases due to the following reasons:

1. **Theoretical Relevance:** A former colony of Britain, Nigeria is a West African Country of about 173 million citizens. Having conducted a search on online journal databases for previous studies on e-government especially with a focus on e-public engagement/e-participation in Nigeria, the Researcher observed that there is presently no such detailed study. While there is a handful of studies that have discussed the challenges and prospects of e-government in Nigeria (Ayo, 2005; Mohammed et al., 2010; Mudhai, 2009), there is yet to be a study dedicated to e-public engagement/e-participation. This dearth of studies in the area of e-government and related concepts is not peculiar to Nigeria as Sandoval-Almazan et al. (2013) have observed that it is common in developing countries. Sandoval-Almazan et al. (2013) also argued that the construction, deployment and delivery of citizen internet portals in developing countries would not necessarily follow the same process as in developed countries. Furthermore, European

countries and the United States dominate the contextualisation of e-public engagement research; this prompted the invitation by Moatshe and Mahmood (2012) for similar studies in developing African, Asian and Middle-eastern countries.

2. **Methodological Relevance:** As this study is exploratory, contextualising it to a single cultural background would allow for more in-depth investigation that could inform future studies (Zainal, 2007).
3. **Practical Relevance:** According to Internet Live Stats (2015), between the years 2000 and 2014, Internet users in Nigeria grew from 78,740 to 67,101,452. As of the 22<sup>nd</sup> of May 2015, the number of internet users in Nigeria stood at 76,688,600. A survey by Pew Research Centre (2014a) shows that internet access and use in Nigeria is highest amongst those aged between 18 and 29 (45%), followed by those aged 30-49 (31%) and 50 and above (4%). A different study by Pew Research Centre posits that in emerging and developing nations, older people (50 +) are significantly less likely than their younger counterparts (18 – 49) to participate politically especially when such participation is online (Pew Research Centre, 2014b). According to this study, 45 and 49% of Nigerians are convinced that sharing online information and participating in online political dialogue respectively are effective ways of getting heard by and influencing the government. These findings point to the facts that Nigerian netizens are increasing rapidly and that a majority of these netizens fall within the age bracket that is expected to be ready to engage with government and participate politically. It is, therefore, necessary that the Nigerian Government considers ways by which it can digitally inform, interact and meet the needs of her netizens. It has become even more necessary because politicians, individuals, and firms have used the internet in recent times to distort public opinion (Nwaubani, 2014).
4. In 1993 the Federal Government of Nigeria established the National Orientation Agency (NOA). NOA was formed through the merger of the Directorate for Social Mobilization, Self-Reliance and Economic Recovery (MAMSER) with three Divisions of the then Federal Ministry of Information and Culture namely: The Public Enlightenment (PE), the War against Indiscipline (WAI) and National Orientation Movement (NOM) (Iredia, 2012). Alongside communicating government policy to the public and ensuring that the Nigerian Government stays abreast of public opinion, NOA is also responsible for promoting patriotism, national unity, and development of Nigerian society (National Orientation Agency, 2014). The National Orientation Agency, tasked with facilitating public engagement in Nigeria, is mainly active offline and performs its activities by publishing books/booklets which are then put in circulation for citizens to read –e.g. the “Political Education Manual” which was published in order to educate citizens about participation in the Nigerian political process, and also to inform them of their rights.

They also organise social functions-e.g. the “Heir Apparent” which was a reality program aimed at creating a new set of vibrant and visionary leaders. NOA also conducts surveys to gauge the opinions of Citizens. On the internet and via its website ([www.noa.gov.ng](http://www.noa.gov.ng)), NOA mainly publishes information about itself than any other thing. It has a Facebook page (<https://www.facebook.com/nationalorientationagency>) and a Twitter handle ([https://twitter.com/noa\\_nigeria](https://twitter.com/noa_nigeria)) which - like its official website - reports more on the activities of the agency. For an agency that is tasked with public engagement in a nation where the citizens are rapidly going online, it is obvious that it is not living up to expectation and should do more to engage the citizens on the internet.

5. **Convenience:** Although it was possible to collect data from other developing countries, the Researcher is Nigerian and found it more convenient to collect data from Nigerians.

### 3.4 Part Three: Qualitative Phase

This part of the chapter discusses the methodology, methods and techniques that were adopted in the first phase of this study. R-OBJ1 and R-OBJ2 were achieved by the completion of this phase and the findings were discussed in Chapter 5. This phase aimed to develop a hypothetical model of citizens’ engagement with governments’ online contents as there is presently no existing models of theories for such study. For this phase, data was collected using interviews which are a popular qualitative research technique in information systems research (Schultze & Avital, 2011). Interviews allow for the retrospective investigation or ‘what is’ and also for prospective investigation or ‘what might be’ through direct conversations between participants and researchers. With interviews, researchers gain insight into the opinions and lives of the participants resulting to rich data which is the hallmark of qualitative research (Brekhus, Galliher, & Gubrium, 2005).

The Researcher had a set of questions and had intended to collect data solely from interviews conducted on Facebook. A pilot study was conducted on Facebook with six participants to test the interview questions and ensure that they would elicit required data; this lasted for six weeks.

The Pilot study not only helped improve the questions, but it also helped the Researcher note the challenges of conducting the interviews on Facebook. Through the pilot study, the Researcher observed that interviews over chat/messaging platforms could be time-consuming as they typically entail multiple asynchronous chat sessions for each respondent. The Researcher also observed that some participant lost the zeal to continue with the interview especially after the first two sessions. With this in mind, the Researcher decided that a better approach would be to ask each participant to select between textual and oral interviews.

Participants were asked to choose between Facebook/Skype chats, Skype/Telephone calls and face-to-face interviews where possible. Of the 16 respondents, six had their interviews conducted over Facebook chat, three over Skype Chat; two over Skype calls, three over telephone calls, and two were in person. The data collection process lasted for about four months.

#### 3.4.1 Sample size

According to Crouch and McKenzie (2006), qualitative research is concerned with gaining in-depth understanding and meaning about a given phenomenon and not making generalised hypothesis; therefore, frequencies and statistics are rarely important. The guiding principle in qualitative research as it concerns sample size is the concept of saturation (Mason, 2010) which refers to the point when there is no new data emerging from the data collection process (Francis et al., 2010) or the point where the emerging data becomes counter-productive and adds nothing to the overall study (Dey, 1999). However, this concept of saturation has been contentious. Some researchers rightly point out that most qualitative researchers do not realistically have the resources it requires to keep collecting data until point of saturation (Green & Thorogood, 2013), while others argue that some studies claim to have reached saturation without a proof of what it means and how it was achieved (Mason, 2010) as that there is no framework or set of principles to guide and report saturation in qualitative studies (Francis et al., 2010).

For this study, this research will adopt Francis et al. (2010, p. 1234)'s principles for specifying data saturation which state that:

1. The researcher should specify an initial sample size from which to collect data: For this study, the Researcher shall take 20 as the defined sample size. This will be in agreement with common practice in qualitative PhD research (Mason, 2010) and also in agreement with established qualitative researchers like Green and Thorogood (2013). This sample size may well increase if new data keep emerging.
2. The researcher should specify an additional number of interviews to conduct following a point when saturation is reached. If no new data emerges at the 20<sup>th</sup>, the Researcher shall interview five more people. However -adapting this principle- if no new data emerges at the 15<sup>th</sup> interview, the interview stops at the 20<sup>th</sup>.

#### 3.4.2 Sampling Method

Since this study is interested in investigating factors that affect citizens' engagement with government's online contents, the possible participants are all Nigerian citizens who have access to the internet and are interested in government-related information. Access to the internet is

determined by demographics like economic background, education, age, gender, value orientation (Albrecht, 2006) and location (Prieger, 2003). Similarly, interest in governments' information, activities and politics is dependent on age, economic background, education, gender and location (Albrecht, 2006; Haerpfner, Wallace, & Spannring, 2002; Isaksson, Kotsadam, & Nerman, 2014; Melo & Stockemer, 2014; Pew Research Centre, 2014b). A survey by Pew Research Centre (2014a) shows that age is the strongest indicator of Internet usage in Nigeria. The survey shows that Internet access and use in Nigeria is highest amongst those aged between 18 and 29 (45%), followed by those aged 30-49 (31%) and 50 and above (4%). Based on this data, the Researcher is aware that selecting participants from 50 and above for this study would not generate the needed data. Furthermore, in a survey by Pew Research Centre (2014b), it was observed that in emerging and developing countries which Nigeria is a part of, the level of education had the strongest positive influence on interest in and engagement with politics and governance. Therefore, based on these, the likelihood of getting substantive participants for this study from Nigeria is increased if they are selected from the educated aged 18 to 49 years.

Where it is impossible to include the entire population of interest in a research study, sampling is used to select representatives of the population (Pickard, 2013). Welman, Kruger, and Mitchell (2005) discussed two classes of sampling methods: the probability samples and the non-probability samples. Probability sampling is concerned with affording a researcher the statistical basis to generalise his/her study to a wider population by ensuring that participants (sample) are selected such that they represent the wider unselected population (Pickard, 2013). It is predominantly the preserve of positivists and the quantitative research methodology and includes simple random samples, stratified random samples, quota samples, systematic samples and cluster samples (Kumar, 2005; Pickard, 2013; Welman et al., 2005). On the other hand, non-probability sampling disregards the probability of selecting participants or constituting a sample that is representative of the wider population. It is useful "where the elements in a population are unknown or cannot be individually identified" (Kumar, 2005, pp. 177-178) and where the purpose of the research is not to generalise findings to the wider population but to learn from the recruited participants (Brikci & Green, 2007; Pickard, 2013). Non-probability sampling, therefore, is predominantly the preserve of the interpretivists and the qualitative research methodology. It is pertinent to state that during the first phase of this study, the purpose is not to generalise findings but to access and use information concerning a phenomenon and as provided by participants. A qualitative research which aims at generalising its finding to the wider population should be questioned (Pickard, 2013).

The Researcher ensured that this study recruited only participants who can provide information about the *target issue* (Krueger & Casey, 2000), and can *articulate their thoughts in speech*

*and/or in writing* (Strickland et al., 2003). Since this research is in the Nigerian context, the Researcher recruited participants who are between the ages of 18 and 49 and who have gained University degrees. This is because studies have shown that Internet use is high amongst people in that age bracket and that the level of education had the strongest positive influence on interest in politics and government-related issues (Pew Research Centre, 2014a, 2014b). To ensure that quality data is gathered from participants that would be interviewed, the Researcher focused on observable characteristics that could improve the level of critical thinking and contribution in this phase. Participants' level of educational qualification was used as a yardstick for selection. To recruit the participants, this study adopted different non-probability sampling techniques. These were:

***An accidental sampling:*** An online survey was developed on Survey Monkey. The link to this survey was sent to people in the Researcher's immediate social circle between the ages 18 and 49; they, in turn, forwarded it to other people. Everyone who completed the survey was a potential participant for the interview study and data collated from this survey helped the Researcher in the recruitment of the best possible participants for the study. 51 people completed the survey which asked for names, age, gender, level of education, and interest in being interviewed.

***Self-selection sampling:*** The online survey informed the respondents about the interview, requested for their contact details and asked them to indicate their interest to be interviewed by selecting yes, no or maybe. A 'yes' selection made the respondent a definite participant for the interview as long as other selection indices were satisfactory; a 'no' selection ruled the respondent out, and a 'maybe' selection required the Researcher to persuade the respondent as long as other selection indices were satisfactory. Of the 51 respondents, 38 were willing to be interviewed; 10 were undecided, and three declined. The number of people who were willing to be interviewed was more than the projected sample size for this study.

***Snowball sampling:*** To ensure that there is even a greater chance of the survey reaching credible prospective participants for the interview, the Researcher requested recipients of the survey to forward it to people whom they believe would provide valuable data for the study. Out of the 51 respondents, 26 were from the Researcher's immediate social circle while 25 were external.

***Purposive sampling:*** To ensure that the best selection of participants were interviewed from the entire population of survey respondents, the survey asked for their highest academic qualifications. The higher the qualification of a respondent, the more likely s/he would possess effective communication and critical thinking skills. Of the 38 respondents who were willing to be interviewed, 16 had Masters Degrees while 22 had Bachelor Degrees.

Amongst the 38 respondents who were willing to be interviewed, there were 18 males and 20 females. There were 16 females with undergraduate degrees and four with postgraduate degrees; six of the males had undergraduate degrees while 12 had postgraduate. Acknowledging that the intention to take part in the research may not transcend in actual participation, the Researcher decided to invite all 38 respondents for the interview –only 14 accepted the invitation and five were used to pilot the study. The Researcher was compelled to recruit further participants outside the survey respondents, and of the 12 who agreed to be interviewed, only seven eventually participated.

As shown in *Table 3.1*, 16 people were interviewed- 15 were male; 12 had postgraduate degrees, and four had undergraduate degrees. It was difficult to recruit female respondents for the interview, and this may be because males have been seen to be more interested in e-participation than women (Pew Research Centre, 2014b). All respondents in this study were Nigerians, but not all were resident in Nigeria.

*Table 3.1: Respondents' Demographic Details*

Alias	Gender	Age	Location	Profession	Highest Qualification	Interview Medium
Respondent 1	Male	33	Thailand	Masters Student	Bachelor's degree	Facebook Chat
Respondent 2	Male	37	Nigeria	Optician	Bachelor's degree	Facebook Chat
Respondent 3	Male	33	United Kingdom	PhD Student	Master's degree	Skype Chat
Respondent 4	Male	32	Nigeria	Lawyer	Bachelor's Degree	Skype Chat
Respondent 5	Male	41	United Kingdom	PhD Student	Master's degree	Telephone Call
Respondent 6	Male	29	Nigeria	Unemployed	Master's degree	Facebook Chat
Respondent 7	Female	32	Kenya	Banker	Bachelor's degree	Facebook Chat
Respondent 8	Male	36	Nigeria	Civil servant	Master's Degree	Telephone Call
Respondent 9	Male	33	Nigeria	IT Specialist	Master's Degree	Telephone Call

*Table 3.1: Respondents' Demographic Details*

Alias	Gender	Age	Location	Profession	Highest Qualification	Interview Medium
Respondent 10	Male	38	United Kingdom	Lecturer	Doctorate degree	Face-to-Face
Respondent 11	Male	34	Nigeria	Engineer	Master's Degree	Facebook Chat
Respondent 12	Male	42	United Kingdom	Banker	Master's Degree	Face-to-Face
Respondent 13	Male	38	United Kingdom	PhD student/Lecturer	Master's Degree	Skype Call
Respondent 14	Male	38	Nigeria	PhD student/Lecturer	Master's Degree	Skype Chat
Respondent 15	Male	31	Nigeria	Job seeker	Master's Degree	Facebook Chat
Respondent 16	Male	37	Nigeria	IT Specialist	Master's Degree	Skype Call

Although the Researcher had intended to interview at least 20 participants as discussed in section 3.4.1, getting those who agreed to be interviewed to participate became a serious challenge. Efforts to recruit more participants continued concurrently with data collection and analysis and by the 11<sup>th</sup> participant to be interviewed, no new themes were emerging. The Researcher, therefore, decided to stop the data collection after the 16<sup>th</sup> participant had been interviewed with no new themes emerging.

### 3.4.3 Development of Questions and Materials used

The participants were all emailed an information sheet (Appendix A) which explained the purpose of the research, why they had been chosen to participate, what was expected of them, and whom to contact if they had a complaint about the Researcher. They were also emailed Consent forms (Appendix B) to read, sign and return.

An initial set of questions (Appendix C) was also drafted. In designing the questions for the interview, the Researcher considered:

1. The types of interviews: Turner III (2010) discussed three types of interviews which include the informational conversational interview, general interview guide approach and the standardised open-ended interview. The informational conversational interview refers to the spontaneous generation of questions in the course of a natural interaction; here, questions are not pre-planned but manifest from ongoing participant observation. This method is best fit for studies adopting observation as a research technique. The general interview guide approach is more structured and refers to the pre-planned tailoring and presentation of the same question in different ways to each participant; here the researcher words the questions differently to suit each participant. This method is best fit for studies adopting individual interviews as a research technique. The standardised open-ended interview allows the researcher to structure and standardise his/her interview questions such that every individual participant gets asked the same question using the same wording; it, however, allows follow-up questions to be asked depending on the participants' initial answers to the standardised questions. This approach can be used where the research technique is either an individual interview or a group interview like the focus group. This study adopted the standardised open-ended interview approach.
2. The 'Science' behind the questions asked: In the Researcher's First Annual Progression Report Panel, the Chairman- asked what the science behind the proposed interview questions was. Coming from an Engineering Background, the Chairman wanted to be sure that the questions the Researcher would ask are not purely subjective but are based on already existing, tested and trusted knowledge. However, the Researcher explained that in the field of information systems and sciences - just as in social sciences – qualitative interview development is subjective and is framed around the information that a researcher is interested in. Furthermore, although the choice of questions was subjective, the Researcher ensured that they were consistent with the research framework as discussed in Part one of this chapter. Where necessary, questions asked in previous related studies were borrowed. For instance, Beer, Marcella, and Baxter (1998), Jankowska (2004) and Kuruppu and Gruber (2006) guided the development of the questions that focused on participants' information needs.

As the interview progressed, new themes/areas of interest emerged from the data; these were subsequently added to the interview questions. The data collection started with 10 questions, but there were 15 questions altogether by the end of the process.

### 3.5 Part Four: Quantitative Phase

This part of the chapter discusses the methodology, methods and techniques that were adopted in the second phase of this study. R-OBJ3 and R-OBJ4 were achieved by the completion of this phase. This phase of the study will be quantitative and would test the hypothetical model developed in the previous phase. The quantitative methodology allows for the use of statistical, mathematical, numerical and computational data and techniques in the systematic empirical investigation of observable phenomena (Given, 2008). In this phase, the Researcher wants to investigate- statistically and otherwise -what a wider population finds as salient or not amongst the factors identified in Phase One. Therefore, a survey using quantitative questionnaires present the best means of data collection (Kumar, 2005).

The process started with the development of items and questionnaire using the findings from the qualitative analysis and the literature. The items and questionnaire development procedure included item generation, content adequacy assessment, and questionnaire development. The quantitative methodology process also included sampling and pilot study. Details of this process are found in the first part of Chapter 5.

#### 3.5.1 Research Participants, Sampling and Sample Size

The study population of focus in this phase of the study is made up of Nigerians aged 18 and above. Although a probability sampling method would have yielded a high degree of representativeness of the study population, it requires the identification of each member of the population and the quantification of this population. However, the Researcher cannot identify nor quantify –individually- the number of Nigerians with the predetermined characteristics. As a result, this phase of the study shall rely on non-probability sampling. This phase of the study would adopt the Snowball sampling technique as the researcher would start from his immediate social circle and spread the recruitment of substantive participants from there. Since the study population size is unknown, there is no way to justify the sample size for this phase of the study. Therefore, the Researcher shall, without proof, assume the second principle of sampling as discussed by Kumar (2005, p. 168) which says that “the greater the sample size, the more accurate will be the estimate of the true population mean.” With this principle in mind, the Researcher shall endeavour to reach as many participants as is possible although the eventual sample size will still not be representative of the study population.

### 3.6 Conclusion

This chapter - of four parts - has presented a conceptual framework built around the UGT from which three key questions were identified. This chapter also presented a background of the methodology that shall be adopted in this study and across its two phases. The taxonomy-development model of mixed-methods approach was adopted with a qualitative first phase using interviews and a quantitative second phase using survey/questionnaires.

## Chapter 4 : Qualitative Analysis and Hypothesis Development

### 4.1 Introduction

This chapter presents the analysis and results of the first phase of this study conducted through interviews. The procedures involved in the analysis are discussed, and the findings presented together with illustrative data extracts. The findings are presented as hypotheses which will be tested in the second phase of this study.

### 4.2 Qualitative Analysis Method

Thematic analysis method was adopted to analyse the qualitative data collected. According to Braun and Clarke (2006), Thematic analysis is a method through which themes within a qualitative data corpus are identified, analysed and reported. Themes related to the research questions are identified to capture important aspects of the data. Thematic analysis is predominant in qualitative research (Guest, 2012), and its fundamental and underlying principles are found in other qualitative data analysis methods like content analysis, discourse analysis, grounded theory analysis; but there are nuances. Like thematic analysis these other methods are used to identify patterns across qualitative methods; but unlike thematic analysis, content analysis is used for quantitative analysis of qualitative data by focusing on frequency of themes (Ryan & Bernard, 2000; Wilkinson, 2000). Discourse analysis, Interpretative Phenomenological Analysis (IPA) and grounded theory are all theoretically bound (Braun & Clarke, 2006; Jørgensen & Phillips, 2002). Discourse analysis is specifically used to identify the underlying meanings of texts and languages and how texts and languages are used in social contexts (Hodges, Kuper, & Reeves, 2008). The IPA focuses on aspects of the texts or language that depict people's real life experiences. Grounded theory approaches texts with the sole intent of developing theories from them (Braun & Clarke, 2006; Charmaz & Belgrave, 2002; Guest, MacQueen, & Namey, 2011; Smith, Flowers, & Larkin, 2009). Thematic analysis is different because it is qualitative, flexible and not theoretically bounded.

Thematic analysis can be conducted either deductively with a predetermined theory/framework, or inductively which like grounded theory analysis allows themes to emerge from the data without a priori theory (Alhojailan, 2012; Braun & Clarke, 2006; Guest et al., 2011). However, Srnka and Koeszegi (2007) suggested the use of a deductive-inductive procedure to ensure both reliability and validity. The Researcher, therefore, adopted a deductive-inductive thematic analysis process using the conceptual framework developed in Chapter 3 and also allowed for the development of original systems that capture the essence of the phenomenon under investigation.

Although the thematic analysis is criticised for not having set guidelines (Antaki, Billig, Edwards, & Potter, 2003), Braun and Clarke (2006) developed a 6-phase guide to doing the thematic analysis. These phases include familiarisation with the data, generation of initial codes; searching of themes, reviewing of themes, definition and naming of themes, and producing the report. These phases are shown in Table 4.1. For this study, Braun and Clarke’s 6-phase guide to thematic analysis shall be adopted and adapted where necessary.

*Table 4.1: Phases of thematic analysis (Braun & Clarke, 2006, p. 35)*

<b>Phase</b>	<b>Description of the process</b>
1. Familiarising yourself with the data	Transcribing data (if necessary), reading and re-reading the data, noting down initial ideas
2. Generating initial codes	Coding interesting features of the data in a systematic fashion across the entire data set, collating data relevant to each code
3. Searching for themes	Collating codes into potential themes, gathering all data relevant to each potential theme
4. Reviewing themes	Checking if the themes work in relation to the coded extracts (level 1) and the entire data set (level 2), generating a thematic map of the analysis.
5. Defining and naming the themes	Ongoing analysis to refine the specifics of each theme, and the overall story the analysis tells; generating clear definitions and the names for each theme.
6. Producing the report	The final opportunity for analysis. Selection of vivid, compelling extract examples, final analysis of selected extracts, relating back of the analysis to the research question and literature, producing a scholarly report of the analysis.

**First Phase:**

The data collected from this study were textual (as in Facebook and Skype messaging) and verbal (as in face-to-face interviews and voice calls over Skype and telephone). Each textual data item was imported into the Nvivo software which the Researcher used for the data analysis. Nvivo is a Computer Assisted Qualitative Data Analysis Software (CAQDAS) developed by QSR. Like other CAQDAS, Nvivo helps researchers present an accurate and transparent picture of collated

qualitative data while also providing an audit of the data analysis process (Welsh, 2002). Other popular CAQDAS packages include ATLAS.ti, QDA Miner, MaxQDA; however, the Researcher chose Nvivo solely because it is the only CAQDAS licenced for use at Northumbria University. Northumbria University also provides special training for its usage.

Verbal data were first transcribed verbatim and then also imported into Nvivo. The Researcher read through the data immediately after collection, transcription (where necessary) and import into Nvivo. Important and interesting segments of the data were highlighted and noted. Each of the 16 data items was read thrice in this phase.

### **Second Phase and Third Phase:**

Srnka and Koeszegi (2007) referred to these phases as unitisation (phase 2) and categorisation (phase 3). Respectively, these phases involve the preliminary tasks of dividing the material into units of analysis (coding) and developing a category scheme. At the fourth reading of each data item, the Researcher focused on coding important and interesting segments of the data. The note-taking in the previous phase made this easier. Interesting segments of the data corpus were collated into appropriate codes. These codes were determined deductively by the framework designed in Chapter 3 and inductively by their ability to capture the essence of the citizens' engagement with governments' online contents (Srnka & Koeszegi, 2007).

Beginning with the three pre-determined categories (information need, content features and activities) as shown in the theoretical framework, the Researcher conducted several rounds of preliminary coding on the data corpus. Other relevant categories that would provide theoretical insight into the phenomenon under investigation emerged from the data corpus. The Researcher also coded interesting features of the data corpus which were outside the theoretical framework and which did not capture the essence of the phenomenon under investigation; according to (Braun & Clarke, 2006), this is advisable as they may be of potential importance.

### **Fourth and Fifth Phases:**

At the end of the preliminary coding and categorisation Initial data sets under the three pre-determined categories (information need, content features and activities) were identified. Afterwards, there commenced an iterative process of changing, eliminating, adding and re-categorising the data set to capture the essence of the phenomenon under investigation. This process went on even as findings from the interview data corpus were documented until a perfect fit for all categories/themes, sub-themes/sub-categories and codes was ascertained (Braun & Clarke, 2006). After this refinement, five themes were identified: information needs, the

attributes of the contents, the perception of writers' credibility, citizens' affinity for governments' online platforms, and trust in government/agency. These five themes make up the variables that directly impact on citizen-content engagement.

### 4.3 Findings

This section is the 6<sup>th</sup> phase of thematic analysis according to Braun and Clarke (2006) and entails the presentation and description of the results and how they depict the factors that impact on citizens' engagement with governments' information especially in the Nigerian context. In this section, each theme will be discussed individually, and some data extracts will be presented to highlight the findings further.

#### 4.3.1 Content-engagement

Although debated, previous studies have predominantly indicated that online social activities such as liking/favouriting, sharing, commenting and/or spread of on online contents - including government contents -are indicators of audience engagement with the contents (Janssen et al., 2012; Toder-Alon et al., 2014). For example, studies by Ye and Wu (2010) and Goggins and Petakovic (2014) reported that message propagation/spread, re-tweets, shares and comments are evidence of audience content engagement on the internet.

Interestingly, all the respondents in this study reported that the indicator for engagement with governments' contents on the internet is reading the contents completely (without abandoning it before the end); For example:

No matter how lengthy it is; it depends on how engaging it is. If it engages me, I will read it completely.

***Respondent 12***

If it is interesting, what I do is read through without abandoning it. Sometimes I get discouraged if the person is coming from a biased point of view. Sometimes when I read through the first paragraph and see the person's line of argument...if it is an area I am well informed about, I would see that there is already some bias in the person's analysis then, I quit.

***Respondent 13***

This finding is in contrast with Bonson et al. (2015)'s focus on the number of shares, likes and comments as proof for citizens' engagement with governments' contents. Indeed, a significant

number of studies have relied on the spread (Cha et al., 2010; Goggins & Petakovic, 2014; Lerman & Hogg, 2010; Onnela & Reed-Tsochas, 2010; Ye & Wu, 2010) of and discourse that follow online contents (De Cindio et al., 2007; Jensen, 2003; Jones & Rafaeli, 2000; Preece, 2001; Sack, 2005; Wilhelm, 2000; Wright & Street, 2007) as adequate proof of audience-content engagement.

Although this study was not set up to investigate the validity of the predominantly held opinion about the indicators of audience-content engagement on the internet, this finding agrees with the opinions of researchers and practitioners who observed that social activities on an online content are not necessarily great indicators of audience-content engagement. They argue that there is no correlation between spread of online contents and audience engagement with such contents and that comments left on online contents can sometimes be outside the context of the information provided (Haile, 2014; Manjoo, 2013; Mintz, 2014). This finding also agrees with the reading engagement theory which suggests that engagement in reading is evidenced by the sufficient attention given to the text with the reader concentrating on the meaning of the text (Guthrie, 2004).

From the qualitative data analysis, five key themes/variables were identified as being directly important in facilitating citizen-content engagement: information needs, the attributes of the contents, the perception of writers' credibility, citizens' affinity for governments' online platforms, and trust in government/agency.

#### 4.3.2 Information Need

This theme describes the information that citizens need from the government. As discussed earlier in Chapter 3 (conceptual framework), providing the needed information to the citizens is expected to enhance their engagement with governments' online contents and facilitate e-public engagement (Davies, 2012; Susha et al., 2015). This assertion was supported by the respondents who discussed how their information needs and interests influence their engagement with government contents on the internet. For instance:

I also have to say this, even as individuals, there are areas of interest. For instance, if you open a web page, and there is a kind of story, if it is an area that you are interested in...for instance, I am more into government, politics, economics, sports. So as much as possible I do not miss those stories, especially if they are interesting stories.

***Respondent 10***

It will only put me off if the information contained therein is not of interest to me. It all depends on the topic of interest. For instance, national issues that deal with youth empowerment, jobs and economy are issues of interest to me. These I read from beginning to the end.

**Respondent 15**

According to **Respondent 13**, “*it must be an article that deals with the area that I am interested in*”. The findings suggest that information need directly influences citizens’ engagement with the Nigerian government’s online contents. Therefore, this suggests that:

**Finding 1 (Hypothesis 1):** Online government contents that meet the information needs (IN) of citizens will be positively associated with their engagement with such contents (CE).

As was expected, there were diverse opinions from the respondents as it concerns the focus of information they want from the Nigerian Government. A study by Bonson et al. (2015) found that citizens in a Local Governments within Western Europe are more engaged with information that directly affect their lives and/or is related to local issues. In this current research, there were 47 information needs in total; these were categorised into three: (1) information for political participation e.g. government’s financial income and expenditure, policies, plans and activities. (2) Information for individual choices/personal use e.g. for research, employment, welfare, etcetera. (3) Information on trending socio-political events. These categories accounted for three out of the 10 types of citizen information needs as identified by Johannessen, Flak, and Sæbø (2012, p. 30).

As regards information needs for political participation, citizens are interested in policies of government/parties, the performance of politicians and governmental departments and agencies. For example, the respondents stressed the need for information that updates them on government’s activities and achievements. These include information about policies and plans and how they may affect citizens, information on projects being planned and/or executed by the government from various government agencies, information on funds accrued to and spent by the government, and information on the economy (Davies, 2010). They said:

Mainly, I will want the government of the day to publish information about their strategic decisions and plans of how to move the country forward. I mean, every citizen wants to know what's going on? What are planned? What's the long-term plan for Nigeria? I mean the tenure of the government is usually four years, so four years is a medium term, it is not a long term. So, we want to know what you plan to achieve, how you are steering the ship of the country for that four years?

***Respondent 12***

Detailed information about the policies and programmes (sic) of the government towards achieving developmental goals which include reduction of poverty, illiteracy, unemployment, infrastructural development and provision of security, etc.

***Respondent 6***

I also want to see information about how laws and policies by government affect all citizens, as a means of properly dissemination such information to the layman's understanding.

***Respondent 4***

Information on contract awards and updates on execution; regular Information on infrastructure provision and updates, regular updates of every government's achievements especially in terms of their campaign promises.

***Respondent 1***

Daily update of government activities, the current status of all on-going projects, prompt upload of financial expenditure of government and IGR (internally generated revenue) statement.

***Respondent 9***

I need Information about Nigerian state government's monthly allocations. I need to use it to reconcile and ascertain the level of infrastructural development that is on ground in the various states.

***Respondent 11***

Personally, I expect a lot of economic data...you know, a lot of economic information because probably that is how best the country can play. We also would like to know what economic decisions you are making, for example, the CBN, what are the economic

decisions they are making such that they can move the country up economically. Such decisions include fixing of interest rates that will obviously affect borrowing and lending from a banking perspective. So those are the kind of information I will like to have.

***Respondent 12***

Anything that borders on Nigerian economy interests me because I want to know why certain things are done the way they are done.

***Respondent 13***

They need to tell the citizenry what is happening to the economy. Talking about foreign reserves, how many Nigerians know about it? When you talk of per capita income how many people know about that? The government needs to break down issues of the economy in a way that every person will need to understand what is happening to our economy.

***Respondent 5***

Similarly, **Respondent 14** said he was interested in “*Issues bothering on government policies, politics and economy*” just as **Respondent 15** said that “*national issues that deal with youth empowerment, jobs and economy are issues of interest to me*”. In essence, the respondents would want to know -in the simplest terms- the economic state of the nation and the economic decisions being made by the government.

On information for individual choices, the respondents discussed their interest in information for their personal use and benefit especially as it concerns employment and empowerment of citizens, access to government’s interventions and citizens’ rights. Furthermore, respondents mentioned the importance of providing information to individual citizens who may have a specific need for such information, usually to enrich knowledge in their profession and studies. This finding is in support of Faibisoff and Ely (1974) who observed that each individual will have his/her subjects of interest which may yet be dependent on the type of activity which s/he is engaged with at a given moment. This makes it very difficult to determine the information an individual may need for personal use. In the context of governance, the difficulty to understand citizens’ personal needs for information is compounded with the current era of individualised access to the government where citizens deal with the government as an individual customer instead of being part of an organised public (Crenson & Ginsberg, 2003). A possible implication would be the need for governments to create an avenue for information provision on demand. According to the respondents:

I need information on how to go about a lot of things. There are a lot of opportunities and provisions by the government which people cannot even access ordinarily.

***Respondent 11***

If the NOA can focus on information aimed at reducing youth unemployment and government policies that empower youths, then young Nigerians will definitely keep a date with them on a daily basis.

***Respondent 15***

Fine, at the moment I am an IT person, I want to be well informed on what is happening in the IT environment in my country... for me to be acquainted with the latest trends, latest information and happenings. Nigeria launched a satellite; I doubt how many IT persons that know why it was launched, what it is being used for at the moment. People see me as an IT person and can say 'can I ask you something?' I say 'yes'; 'I learnt that Nigeria launched a satellite, what is it being used for at the moment?' I'd just say that it is being used for meteorology.

***Respondent 9***

Uhm, there are a number of reasons why I may go for government information, one is for professional reasons because I am an academic whose area of specialisation requires me to get myself acquainted with what is going on in government because I am in the political science and international relations. I am interested in the Nigerian politics and African politics as part of my research. So, that could be one reason why I look for government information because it helps in my teaching and research.

***Respondent 13***

Finally, the respondents discussed their need for information that would focus on current socio-political issues in the country. This type of information was referred to as 'local information' by Johannessen et al. (2012) and Bonson et al. (2015) and contains trending information from the political scenery, local events, and projects, etcetera. The respondents highlighted the need of information on the diverse but trending issues socio-political issues in Nigeria, with some examples including how the government is dealing with corruption, ethnic and religious conflicts. For example:

I also want to see on the NOA website consistent update of events, a viable website with the up to the last-minute information about trending national issues and its effects on the nation.

***Respondent 9***

Information about the current state of affairs in the nation. This is to make sure NOA remains the trusted way to get Government information. It will help avoid rumour mongering too.

***Respondent 1***

... One that captures the mood of the nation, it is one that is contemporary in the sense, I mean you are a Nigerian, and if I ask you what are the issues in Nigeria, there are things that come to your mind because those are issues of the day. So, if I open up a web page, I would want to read about those things. For instance, imagine what is happening in the Senate in Nigeria right now, if I find any news as far as the Senate president is concerned I want to read it. Especially for those of us who are doing research that is related to Nigeria, you just want to be on top of things. So, as far as I am concerned, that sort of news would always capture my attention.

***Respondent 10***

I will like to be updated on every political issue in Nigeria. If we take a kind of leverage from the reigning thing that has to do with the slogan of the present government which is war against corruption. Now, this is one avenue that orientation can help, not only helping to facilitate government policies and views and aspirations; it will also help to educate the people more on what corruption is all about. Religious issues, both between Christians and Muslims. These are some of the issues that NOA can investigate and bring into the social media and these are issues that are currently dealing with the Nigerian society.

***Respondent 5***

#### 4.3.3 Content Attributes

Content attributes describe the features of governments' online information or contents that may impact on content engagement. The respondents identified both visual, and perceived content attributes in agreement with Sussha et al. (2015).

### *Visual attributes of the content*

The visual attributes refer to the presentation of governments' contents on the internet. They describe visible and discernible features of governments' online contents that impact on audience-content engagement. They include the length of the contents, and use of pictures and videos. The respondents discussed the influence of the length of content on their engagement with such content. They described the length of an article regarding its word-count and/or compared it with a typical Microsoft Word document consisting of 500 words a page. Most of the respondents were of the opinion that the longer the content, the less likely that they will remain engaged with it. This phenomenon has been observed by Haile (2014), Manjoo (2013) and Mintz (2014) who suggest that the more that people read contents online, the more they tune off or disengage. This may be because the audience does not have enough time to delve into details of the information on the content (Zuiderwijk et al., 2012). Similarly, Morkes and Nielsen (1997) recommended that online contents should have concise texts as the majority of the audience would want the content to fit on a single screen. Following a study of online readers, Nielsen (2008) suggested that by default, online contents should be strictly restricted to around 500 words unless they are meant for a targeted elite readership. According to the Respondents:

It should be straight to the point and not too long; I mean (an) article is not a textbook. There are some articles you read and you have to scroll down for ages. I will think an online article should not be more than 1500 words; in fact, maybe between 1000 to one 1500 words. Use Facebook posts as an example, how many times have you read a post or a comment that seems endless? I do not, I just scan through and post mine which is always short.

***Respondent 2***

I will say if an average word document is 500 words, that - to me- is just about two (web) pages. To be honest with you, I think I will consider an article to be long if it is more than three pages. If it is more than three pages I will consider it too long, that is about 750 words; you know, less than 1000. If it is more than 1000, at least I know that...I begin to decide how best to read it.

***Respondent 10***

It depends on how long, I mean, if it is so large I cannot finish it. I do not have time. I look at the topic, read the first paragraph, read the closing paragraph then go to the comments, and read what people commented. I do not want it to be more than 500 words.

***Respondent 16***

**Respondent 1** said “*sometimes I scroll down through the article b4 (sic) reading it. If it is too long, I feel discouraged*”. When asked the maximum word-count he could tolerate, he said “1200”. Similarly, **Respondent 3** said he could read more than 1000 words only if he was “*forced to read at gunpoint*”.

However, there was also a warning against very short online articles. **Respondent 2** said: “*I also hate shallow articles. I clicked on one, and I felt like slapping the person that wrote it. It was just about five sentences*”. This agrees with Henry (2009) whose study shows that online contents with more words tend to have more links to them from external sources on the web. However, Henry’s study refers to links to online contents and not really engagement and may be due to the perception that the more the words, the greater the information contained, a fact that **Respondent 14** alluded to when he said that “*Serious issues cannot be discussed in few lines*”. Again, Henry’s focus on links is exactly what Mintz (2014) and Haile (2014) described as online social activities which have no correlation which audience-content engagement.

In a slightly different opinion, **Respondent 4** suggested that though there is usually a limit to the length of an online content he tolerates; even if this limit is exceeded, his engagement with the content shall be sustained as long as the content meets his information needs. According to him:

Anything more than 500 words will ordinarily affect my interest. However, if the content centres on a current issue and I have an interest in the said issue I will read it no matter the size.

**Respondent 4**

Furthermore, the Respondents discussed the role pictures, and videos can play in improving citizens’ engagement with governments’ online contents. This agrees with the study by Bonson et al. (2015) who found that pictures improve citizens’ reaction to governments’ posts on Facebook. Renowned web-usability researcher and expert –Jakob Nielsen- also suggests that graphics and texts should complement each other (Morkes & Nielsen, 1997). To describe the importance of pictures in improving audience-content engagement; **Respondent 2** said: “*I love articles that are full of pictures... pictures that are relevant to the subject matter.*” Similarly, **Respondent 6** suggested that “*diagram attached have a role to play (in enhancing content engagement) ...it makes it catchy.* **Respondent 14** advises “*prepare it (the content) in an attractive format with pictures*”; and **Respondent 7** said, “*it should have pics (sic), graphs and tables*”. Focusing on videos, **Respondent 5** said:

It should not just be about writing articles, people will not care to read much. As you are writing that article, try to put up some video clips because what people watch visually

attract them a lot. As they are now watching that, they will now try to read a bit of what you have written. In that way, you have maximised that particular medium of reaching them. That is my own thinking...there is need to combine print with visual especially for a society that looks like ours. It is in a developed society that people can easily read and write, and they are attracted to reading. But in a place where the reading culture is not very prominent amongst the very many people that are concerned, you now have to combine that print and visual for them to understand properly what you are doing.

***Respondent 5***

Therefore, this study proposes

**Finding 2 (Hypothesis 2-1):** Online visually appealing government contents (IVP) will be positively associated with citizens' engagement with such contents (CE).

*Perceived Content Attributes*

These refer to the perceived information quality of the contents. According to Iivari and Koskela (1987), the quality of content or its informativeness is not just about relevance and comprehensiveness, it is also about recency/timeliness. There should always be the right amount and quality of information for citizens to access in order to improve e-participation (Medaglia, 2012). The respondents suggested that it is a factor of its timeliness, relevance to the audience, accuracy, simplicity and story-like presentation where possible. These factors have been discussed in the literature (Chen, Clifford, & Wells, 2002; Iivari & Koskela, 1987; Nardi & O'Day, 1999; O'Brien & Toms, 2008; Peng, Fan, & Hsu, 2004; Shedroff, 1999). As has been observed by previous researchers, citizens' engagement with governments' content is negatively impacted when the information is obsolete (Janssen et al., 2012; Lee & Kwak, 2012).

**Respondent 2** said: *“Most times you have outdated articles on (government platforms). Something you read some time ago and you visit months after, it is still there. No update.”*.

**Respondent 4** suggested that *“if it is not on a current issue or an issue on the front burner for example if it is a stale issue I will not read it”*. According to **Respondent 9**:

“I also want to see on the NOA website consistent update of events, a viable website with the up to the last-minute information about trending national issues and its effects on the nation.

***Respondent 9***

Davies (2012) and Sussha et al. (2015) also posit that citizens require information that is relevant to them from their governments to encourage e-participation, therefore, governments' contents must meet citizens' information needs (as discussed earlier). According to the respondents:

I also have to say this, even as individuals, there are areas of interest. For instance, if you open a web page, and there is a kind of story, if it is an area that you are interested in...for instance, I am more into government, politics, economics, sports. So as much as possible I do not miss those stories, especially if they are interesting stories.

**Respondent 10**

It will only put me off if the information contained therein is not of interest to me. It all depends on the topic of interest. For instance, national issues that deal with youth empowerment, jobs and economy are issues of interest to me. These I read from beginning to the end.

**Respondent 15**

Similarly, Janssen et al. (2012) and O'Riain, Curry, and Harth (2012) suggest that lack of authenticity, the inaccuracy of government information and concerns over the trustworthiness of the source mitigate citizens' engagement with the content. **Respondent 1** opined that he would abandon the content if he thinks "*it is full of lies and unrealistic information*", and according to **Respondent 3** the content will be abandoned if he is "*convinced that it is a mere propaganda and has elements of lies meant to deceive the people.*". **Respondent 16** says "*You know there is (sic) so much fake news out there... I check to see exactly where the information is from*". Some of the respondents highlighted their cynicism towards the authenticity of government's information. This cynicism for government information was echoed by Lee (2005) who suggested that advances in technology have increased governments' ability to engage in pseudonymous and anonymous communication with the citizens, and to proliferate propaganda (Baldino & Goold, 2014). For example:

Governments in general, everywhere in the world -but it has to do with degrees now-tries to promote itself in what they are doing and play less on the areas that they are not doing well. So, there are some elements of emotions and sentiments that go on in that projection for whatever they are writing and whatever they are giving to us. In areas, which they are not achieving they play less on it, and begin to highlight more on the areas they are doing well. So, when you take it back to most of the 3rd world countries like in Nigeria, the level of corruption makes it impossible for the government to be very sincere in giving information pertaining to her daily activities.

**Respondent 5**

There are several e-media and government's registered websites, but information there is always censored if they are meant to damage the government's image

**Respondent 15**

I will not want to see information that seems to cover up facts. You can defend government policies without telling lies. Also, outright wrong information, maybe I start to read an article I have some bit of information and the writer goes all out to dish out incomplete or wrong information. Articles that are full of lies...you will always know an article written to please one patron or another or make him appear good, there are so many in government circles.

**Respondent 2**

When you do not trust the people, who are in governance, whatever comes forth from them you might not be interested in going through. I'm talking about my own personal perspective.

**Respondent 16**

I want articles based on facts and figures. I mean, correct figures. For example, you are quoting the population of Nigeria as, if you start quoting the population of Nigeria as 50 million, I will definitely stop and trash it. So, what also gets my attention is the quality of information, or data that is in the article.

**Respondent 12**

As it concerns simplicity, Morkes and Nielsen (1997) suggest that internet users prefer simple and informal writing. Janssen et al. (2012) observed that governments make the mistake of assuming that citizens have the capabilities and knowledge levels required to use government information. They noted that governments would normally apply statistical techniques in collecting, analysing, interpreting and presenting data even when statistical knowledge is scarce. This results in a situation where the content is not understandable to the general public, and where citizens and users of the content find it difficult to use the information because they are unfamiliar with the definitions and categories that were used to present the data (Zuiderwijk et al., 2012). **Respondent 2** said “*the article must be in simple easy to understand English...I do not want to read an article with a dictionary by my side*”. Similarly, **Respondent 7** suggested that “*it should not be overly scientific, overly technical, or difficult to understand. It should be very pictorial and broken down*”. Further instances include:

Sometimes too you find an article that is very technical; technical in terms of the usage of words, and you ask yourself, is this meant for a layman? You know, I better use my time somewhere else.

**Respondent 10**

When an article has a lot of bombastic words, it will not really help for one to flow in reading that article. Not every minute you are opening dictionaries to find out the meaning of words, whereas the essence of such write-ups is to communicate. And for a communication breakthrough to take place, it has to do with you internalising everything you are reading as the whole thing is flowing and you are grabbing it.

*Respondent 5*

The story-like presentation of the content -where possible- facilitates the media immersion, engagement, participation and experience of users (Nardi & O'Day, 1999; O'Brien & Toms, 2008; Shedroff, 1999). To achieve these is the aim of information design which is the art and science of preparing information so that they can be used by human beings with efficiency and effectiveness. It is to designing interactions that are easy, natural and as pleasant as possible (Horn, 2000). According to the respondents:

If it has lots of grammatical mistakes, so disjointed, not flowing as I read it. It will be uninteresting to continue reading it. It is a matter of people writing articles and knowing how to write articles that can really captivate the interest of the audience. The moment the article is not well written, I do not think I'd waste my time reading such article.

*Respondent 5*

Unstructured kind of publication may not be easy to read. The structure of the publication, maybe the lexis and structures of the publication are not well defined, and it might be a turn off that it is not written by a professional or a learned person.

*Respondent 9*

It must be catchy and should be written in a story kind of way. It has to be arranged well, edited well and checked for errors both grammatical or typographical errors. I do not want to be correcting the grammar and tenses as I read, in fact, it is one of the things that put me off.

*Respondent 2*

Therefore, this study proposes

**Finding 3 (Hypothesis 2-2):** The perceived quality of online government contents (PCQ) will be positively associated with citizens' engagement with such contents (CE)

#### 4.3.4 Perception about writer

The respondents described the influence of their judgement about a content's writer on engagement with the said content. This phenomenon is not new in research and is referred to as evaluative feedback through which an audience judges a message sender as it concerns his/her ethos or credibility. The readers judge the "appropriateness, effectiveness or correctness" of the message source's opinions, thoughts, feelings or behaviour (Capps, 2001, p. 59). As it concerns textual communication, the audience judges the writer's language for professionalism, grammar correctness and spelling errors or lack thereof (McLean, 2014). **Respondent 14** said: "*I do look for reliable writers/editors. I do not read everything. The credibility, sincerity and writer's unbiased (sic) approach to issues matter*"; according to **Respondent 3** "*I lookout for the author's credibility, if the author is popular and wrote well in the past, I am likely to read*". According to **Respondent 9**

When I am reading a government article, and I begin to read in between the line that the writer or the publisher is partisan, i.e., not really telling the truth -it is easy to tell when one is partisan- it is discouraging. At that point, I will say that the guy is out there to confuse people not to convince them, and it will make me not consume the article. I would not read it with an open mind and wouldn't comment.

**Respondent 9**

What I do is look at the author of the article and some of them put their details, positions e.g. editor in chief. Some do write and not provide details. When I look at the author and the credibility of the author, that determines if I'm going to read it or not. I look at the author, the person that wrote the article. If his/her title is credible, I would...for example, if an article is written by the Vice President, Professor Osibanjo, it sparks interest to (sic) me because I know him personally, and I know how credible he is. Essentially, I look at the credibility of the writer.

**Respondent 12**

Therefore, this suggests that:

**Finding 4 (Hypothesis 3):** The credibility of the writers of government's online contents (PWC) will be associated with citizens' engagement with such contents (CE)

#### 4.3.5 Affinity for Government's Online Platforms

There are two main motivations for use of online platforms: extrinsic and intrinsic (Castañeda, Muñoz-Leiva, & Luque, 2007). Users who are extrinsically motivated to visit an online platform do so as a means to an end, while the use of the platform is an end in itself for intrinsically motivated users. As observed by Wang et al. (2005), citizens would mainly visit governments' platforms for information and/or transactions. Visiting governments' or any online platforms for transactions would depict extrinsic motivation; on the other hand, visiting an online platform for entertainment would be intrinsic. However, where information is needed from the platform, there is a mixture of both extrinsic and intrinsic motivation (Castañeda et al., 2007; Wolfenbarger & Gilly, 2001). Reddick and Turner (2012), Sandoval-Almazan and Gil-Garcia (2012) and Oktem et al. (2014) suggest that citizens visit governments' platforms for information more than for transactions. This claim agrees with the interview data as there was a consensus that information is the main reason for visiting government's online platforms in Nigeria; the other reason being to lay complaints. For example, **Respondent 2** said "*As regards government platforms, it is either to see the policy direction of the government or her agencies...I also lodge complaints if I have any*", **Respondent 7** said, "*I visit them to get the official statement or reports from the government pertaining to certain issues of interest*". According to **Respondent 5**:

Okay, Uhm, each time I visit the website of my government, what I will like to know is what is happening in Nigeria. I go there for the reason of knowing what is happening in Nigeria.

**Respondent 5**

The respondents highlighted the impact which governments' online platforms can have on citizens' engagement with the hosted contents. There is abundant literature especially in the field of e-marketing which show the impact of media vehicles/platforms on customers' engagement with adverts placed on the platforms (Calder et al., 2009; Chen & Wells, 1999; Gibbs, 2012; Mollen & Wilson, 2010; Peng et al., 2004). Findings from these studies basically suggest that it is more likely that customers would engage with adverts placed on their platform of choice than on others (Paek, Hove, Jung, & Cole, 2013). According to Matuszak (2007), businesses should reach their audience on the online platform they visit most. Succinctly put, if the citizens do not visit government platforms, then they would not see the contents, and therefore citizen-content engagement would never take place.

Therefore, this suggests that:

**Finding 5 (Hypothesis 4):** Citizens' affinity for government's online platform (IVP) will be positively associated with citizens' engagement with the contents on it (CE)

The respondents discussed some factors that could influence their affinity for and intent to visit governments' platforms; these include: trust in government/Agency and the platform attributes.

#### *Trust in Government and Leadership of Agency*

Findings from a study by Carter and Bélanger (2005) showed that trustworthiness influences citizens' intention to adopt and use e-government initiatives. Trustworthiness refers to users' perception of confidence in an electronic marketer's reliability and integrity (Belanger, Hiller, & Smith, 2002). Citizens must have the trust and confidence in both the government and the technologies used for service or information delivery. In Carter and Bélanger (2005)'s study, there were two dimensions of trust: internet-trust and government-trust. However, the respondents in this current study discussed trust in incumbent government and trust in agency leadership as having an impact on their engagement with government's online contents and their affinity for government's online platforms.

Cynicism for government's information impacts Citizen-content engagement. This assertion has been observed by previous studies that pointed out the ease of propaganda proliferation by governments as aided by advances in technology, and the negative impact it has on citizens' engagement with government information (Baldino & Goold, 2014; Janssen et al., 2012; Lee, 2005). According to the respondents:

Governments in general, everywhere in the world -but it has to do with degrees now-tries to promote itself in what they are doing and play less on the areas that they are not doing well. So, there are some elements of emotions and sentiments that go on in that projection for whatever they are writing and whatever they are giving to us. In areas which they are not achieving they play less on it, and begin to highlight more on the areas they are doing well. So, when you take it back to most of the 3rd world countries like in Nigeria, the level of corruption makes it impossible for the government to be very sincere in giving information pertaining to her daily activities.

***Respondent 5***

There are several e-media and government's registered websites, but information there is always censored if they are meant to damage the government's image

***Respondent 15***

When you do not trust the people, who are in governance, whatever comes forth from them you might not be interested in going through. I'm talking about my own personal perspective.

***Respondent 16***

Therefore, this suggests that:

**Finding 6 (Hypothesis 4-1a):** Citizens' trust in government/agency (TGA) will be associated with their engagement with government's contents (CE)

The respondents also discussed how the trust in government influences citizens' affinity for governments' online platforms. This was observed by Bélanger and Carter (2008), Warkentin, Gefen, Pavlou, and Rose (2002), Carter and Bélanger (2005) and Welch et al. (2005) who discussed how citizens' perception of confidence and trust in governments impact on their adoption of e-government. According to the Respondents:

There are many people who are against the same government that has set up this agency and their policies. So, they are not only against the government but also against policies of the government and such institution like NOA which the government has set up. So, since this organisation has started for a very long time and so many people look at it to be one of these avenues that government wants to use to eat money (sic). You know, are they reorienting us? Let them go and reorientate themselves first before they come to us. So, there are some people that dismiss issues like that.

***Respondent 5***

You might also want to think about government's interference. I know that the NOA is a government agency, but I expect them to have some level of independence to be able to do their work, but what you find is sometimes, there is too much intervention. They are simply not able to do their job. If I have that feeling that this organisation is just another waste of government funds I am not going to go looking at their websites.

***Respondent 10***

What may discourage citizens from visiting NOA website is if there is a failure of governance because NOA is a sensitisation outfit of whatever government that is in place in Nigeria. When there is failure of governance in such a way that citizens are not happy the way government is going about things, there is massive unemployment, there is poverty all over the land, things are not going on well, workers are not being paid salaries, roads are not fixed, people now get angry with government so anything that concerns government people develop apathy for it. They do not want to know, they do not want to hear about it, essentially, when such a situation arises, it will discourage the citizens from going to NOA website.

It is not going to be essentially about the thing done by NOA because NOA's responsibility is to carry out sensitisation on what government is doing, but the moment government fails in essential sectors, people seeing NOA as a government platform will develop that hatred about whatever that is going on there. They do not want to know. Not necessarily because NOA did anything, but because it is a government platform and they are unhappy with the Government.

***Respondent 13***

According to Lee and Turban (2001) (cited in (Carter & Bélanger, 2005, pp. 9-10)), "the decision to engage in e-government transactions requires citizen trust in the state government agency providing the service". The respondents identified the impact of citizens' perception of NOA's director/leadership on their affinity for its online platforms. This is an interesting finding as the respondents are not only concerned about the credibility of the content's writer, but also about the credibility of the head of the agency which makes the content public. For example:

Also, the turn off for people not visiting NOA also has to do with the personality of the Director General. You need to show integrity and visibility; you need to get into the subconscious of people and your followers that information coming from you is for the interest of everybody and not partisan. When you can do that, you win the trust of the people. They must have trust that whatever comes from the organisation is for the people.

***Respondent 9***

Then again, you also want to look at the people in the organisation especially the leadership. Who is the chairman, or the DG of NOA? Is he one of those that have been accused of corruption at one time or the other? Of course, you just ask yourself, what good can come out of that? There are names that if you bandy them around, people would say no. You need to put people that would bring legitimacy to that organisation. If I do not find such people, I will never be interested in NOA affairs.

***Respondent 10***

The bosses must be part of it. No be to sidon dey waka with police and escort (The bosses should not just be lazy or moving around with police and escort). That kind of job is a field/grass root job; let them come down to earth. The moment we see a change in orientation in the political class, people like me will take them more serious.

***Respondent 11***

Therefore, this suggests that:

**Finding 7 (Hypothesis 4-1b):** Citizens' trust in government/agency (TGA) will be associated with their affinity for government's online platforms (IVP)

### *Platform Attributes*

The respondents described three attributes of governments' platforms that would influence their affinity the platforms, these are: its similarity with the public sphere, and its hedonic/persuasive features.

### *Similarity to the Public Sphere*

Habermas (1964, p. 49) defined the public sphere as a realm of our social life in which something approximate to public opinions can be formed, while the public opinion refers to a collection of different individual views and beliefs (Herbst, 1993). A public sphere must be independent of the state and has no restriction as it concerns assembly and the expression of opinions. Every citizen should be allowed access, be free to put forward individual views and opinions and be free to contest the views and opinions of other citizens in the discourse of issues of general interest (Hauser, 1998; Pusey, 1987a). Habermas went further to suggest that a public sphere exists when private citizens assemble to converse in an unrestricted manner. The respondents were of the opinion that governments' platforms should allow citizens free and unrestricted access, allow them to post their contents on the platforms, and to interact and deliberate with other citizens and government officials. These reflect a classical public sphere with the significant difference being that a public sphere should be without interference from the government.

According to Belanger and Carter (2006), e-government implementation is impacted by the digital divide regarding access and/or skillset. Citizens may not be able to benefit from e-government due to inadequate access to the internet or governments' platforms, or due to inadequate skill sets or knowledge in using the digital services/platforms. For the respondents in this study, skillset was not mentioned as an issue; they focused on access and in two aspects: access to the internet and access to governments' platforms. Access to the Internet influences citizens' adoption and use of governments' online platforms and services (Carter & Belanger, 2012). **Respondent 12** said:

The very obvious reason right now is the internet provision in Nigerian. Everyone has internet access over here (Britain), so it is a lot easy to get on the internet. But in Nigeria, how many people can afford 1 gigabyte at 2000 Nigerian Naira? So, the cost of getting on the internet is a barrier, so that also has to be dealt with. The Nigerian government needs to work with the providers, get this cost down and make it easier for the common man to have access to the internet because that is the first thing. If they do not have

access to the internet they obviously cannot read this information we are talking about. That is the very first barrier, and that has to be dealt with.

**Respondent 12**

Similarly, **Respondent 5** wanted government to ensure that citizens do not pay for access to its online platforms:

If it is possible for citizens to have access to government's platforms without paying... the government should try to look for a way of sponsoring them so that they do not pay for that. Let it be that NOA would now be paying for whatever media or channel used so that there would not be an inhibition on them in contributing their quota.

**Respondent 5**

On the other hand, Lin and Lu (2000)'s study showed that the ease or difficulty in accessing a website affects users' belief in it. According to **Respondent 2**, "*Government's platforms must be readily accessible*". Similarly, **Respondent 16** said:

For example, I visit Vanguard (a newspaper outfit) three to four times a day, and it is because of their mobile app which makes it is easily accessible. At least through that, I can have an overview of what is going on...the government needs to copy that.

**Respondent 16**

If every agency lives up to the expectation, I do not need to beg them to access data. For the fact that Nigeria has the Freedom of Information bill in place, that means that these agencies are not prohibited from making information available to the citizens and members of the public who might need them. They are expected to have the information/pieces of information ready and structured on their websites for easy access.

**Respondent 13**

Nigerians do not want to read the information provided by the government, putting a further barrier before getting the information makes the matter worse. Let there be no requirement to register before accessing the info.

**Respondent 12**

Therefore, this suggests that:

**Finding 8 (Hypothesis 4-2):** Accessibility (FA) will be positively associated with citizens' affinity for government's online platforms (IVP)

Bonson et al. (2015) found that there were greater signs of engagement on governments' Facebook pages when citizens are allowed to post contents on the wall. Having such freedom means that citizens are not just mere recipients of government services and information but collaborate amongst themselves and the government to provide the needed services and information (Bason, 2010; Sørensen & Torfing, 2011) in what is called co-production. The respondents showed interest in being able to create and publish information on government's online platforms in agreement with Zuiderwijk et al. (2012) who observed that limitation of information provision on governments' platforms to a minority of researchers affects its use by citizens. For example:

If you look at the responsibility of NOA, it has a lot to do with members of the public, so I think the website should be open to allow members of the public to post information. I think if I know that I can make a report, if I know that I can critique the activity of the NOA, I will be happy to visit the website.

***Respondent 10***

Being able to post articles on governments' platforms would definitely help drive more Nigerians onto the platform. If for example we are friends, and I see your article on the platform, I will say 'oh, that is good.' That will also motivate me also to want to put an article on there.

***Respondent 12***

However, the respondents suggested that the information posted by citizens on governments' platforms should be vetted and monitored to avoid misuse. For example:

There's no problem with other Nigerians providing information; it's just that as a government agency, you want to be seen to provide credible information not just take information from every tom dick and harry and put it on the internet. You want to vet that information, check the credibility before putting it on the internet. So, it is good; it would be good for Nigerians to be able to put information on there but that information has to be somehow vetted before being allowed to stay on the platform.

***Respondent 12***

When I say this again, it is with a bit of caution. I would want NOA's website to be for NOA, but I would also expect NOA to say "look, you are free to post maybe if you identify concerns with our operation or something is happening somewhere that you feel we should know about, yes you can post it" but of course when you make a post, I also

expect NOA to have an officer that will be looking through all those posts because you want to be careful as to what comes on the website.”

***Respondent 10***

Therefore, this suggests that:

**Finding 9 (Hypothesis 4-3):** The ability for citizens to post contents on government’s platforms (CC) is positively associated with their affinity for these platforms (IVP)

Closely related to the need for co-production is the need for interaction on government’s platforms. Lilleker et al. (2011, p. 199) defined a platform’s interactive features as “those which allow visitors to interact in some way with the host or other visitors”. The respondents discussed the need for government’s platforms to allow interaction and deliberation amongst citizens and between citizens and government officials. According to Mahrer and Krimmer (2005) and Oktem et al. (2014), such capabilities will encourage dialogue between citizens and governments on governments’ platforms. For example:

There should be a feature that enables interaction among readers. That is where opinions are formed or quashed. There must be an interactive platform; they could create an app and allow people download and get engaged in discussions.

***Respondent 11***

Part of the things most organisations are doing now is moving away from just having a website and having blogs, Twitter handles, Facebook pages with dedicated people who do interactions there, update it, respond to chats and enquiries. That will make it a lot more interesting and challenging to the citizens, and people will now at will always want to visit. With these, when an issue comes up, they can set up a tweet, and someone responds and chats "oh why did this happen?". There should always be a feedback. Feedback encourages continuous usage. The moment there is no feedback mechanism, it discourages people

***Respondent 13***

NOA is national and by that we are looking at 150-180 million Nigerians and about 10 million foreigners (who are) resident in Nigeria. So we are looking at about 200 million people to inform. Already they have a website, but they to make the website interactive and functional. By interactive, feedbacks can be given; you create a comment area, and somebody out there would respond to those queries and comments.

### ***Respondent 9***

I will prefer a platform with live interactivity where people can chat and call in for solutions. There must be an interactive forum which will feature both live calls and chats platforms

### ***Respondent 15***

Group chat helps visitors to ask themselves questions and get clarifications. Have you visited Nairaland.com before? Somebody posts a question or an article and people contribute. Do you know nairaland.com help people to interact as well as get relevant information they want? It may take time but by the time you have gone through all the comments and submissions from people, you would have known almost all that you wanted.

### ***Respondent 2***

Therefore, this suggests that:

**Finding 10 (Hypothesis 4-4):** The ability for citizens and government officials to interact on government's platforms (IDelib) is positively associated with their affinity for these platforms

### ***Hedonic and persuasive Features***

The respondents also highlighted the need for governments' platforms to host challenges and activities that can attract the youth; these should be interesting and fun. The use of interesting activities on an online platform as a way of attracting visitors and developing loyalty to the platform is not new in the literature (Chen et al., 2002; Chen & Wells, 1999; Peng et al., 2004); these studies suggested that online platforms should be entertaining, fun and imaginative. Weiksner, Fogg, and Liu (2008) observed that an online platform's hedonic and persuasive features include activities that can cause provocation and retaliation, instigate revelation and comparison, cause competition, and encourage self-expression and group exchange.

**Respondent 14** said that, "*NOA should think towards using their platform to run promos (sic), competitions and challenges that are capable of attracting the youths.*" According to

### **Respondent 12:**

Another way is to create incentives and try to lure people to whatever information you are putting on the internet. There are so many ways of doing that; you could start doing some sort of lottery. You may say you are looking for first 100 readers, and the 100th

person wins something. Try and throw something in the air, something that will motivate people to go online.

***Respondent 12***

The respondents also highlighted the importance of getting notification about new contents and activities on government's platforms. Andrew, Borriello, and Fogarty (2007, p. 262) referred to this as suggestion technology and defined it as "one that incorporates active notifications that contain information that allows someone to do something he or she might not otherwise have done". The persuasive capability of the suggestion technology has been studied in online platforms, especially the social media (Andrew et al., 2007; Fogg & Iizawa, 2008; Weiksner et al., 2008). For example:

At least every morning you wake up, Facebook reminds you of notifications, Twitter reminds you of trending news, and all the rest. These people (platforms) remind you of these things, there are notifications and this is what made them popular. I have three or five areas of interest, and government should be able to have a mechanism on their website that I can subscribe to for daily or weekly newsletter to read. Without logging into the website, I am informed with popups on my smartphone. If it is a catchy information I can just click and go to the website and read about the publication in detail and from there, I can make decisions.

***Respondent 9***

Therefore, this suggests that:

**Finding 11 (Hypothesis 4-5):** Hedonic and persuasive features of government's platforms (HF) are positively associated with citizens' affinity for these platforms (IVP)

#### 4.3.6 Moderating factors

Based on the literature and the opinions of respondents, there are moderating factors that may influence some of the findings discussed earlier; these include the type of platform and citizens level of political awareness. These possible moderating factors are discussed below.

##### *Type of platform*

In a study by Johannessen et al. (2012), they discovered that government websites were the most preferred platforms through which politicians, government administrators and civil society interacted with the government. This was followed closely by a preference for the email whereas the social media and contact over the telephone were not that popular. In contrast to the finding by Johannessen et al. (2012), findings from this present study indicate that social media,

especially Facebook, is the most preferred medium; a preference for websites closely follows this. However, the respondents advised that a single medium should not be used as was also observed by Johannessen et al. (2012). The focus in this section is the influence of the type of medium used by the government on trust in government, and similarity to the public sphere (access, content creation, interactivity, and deliberation) as determinants of affinity for the medium/platform. This shall be based on respondents' opinions and from the literature.

### ***Platform type moderating effect on trust in government/agency***

A study by Moy and Scheufele (2000) found that media type used by governments had an effect on political and social trust. In recent times, governments' use of social media has been identified to facilitate transparency and trust (Bertot, Jaeger, & Grimes, 2010; Bertot, Jaeger, & Hansen, 2012; Bonsón et al., 2012). In agreement with these studies, respondents discussed the influence of using social media on their trust for the government and intent to visit government's platforms, for instance, according to Respondent 13, the Nigerian government needs to build trust by becoming more active on social media. In his words:

The first step is building trust in the brand. How do you build trust in the brand? You have to use social platforms that have gained the confidence of Nigerian citizens. This will help lead people towards the website and over time you can now be independent because people are now aware that you have started doing the right thing.

***Respondent 13***

Similarly, Respondent 5 said:

If you create your own website from the start, the Nigerian society would say "na them-them (it is the same set of untrustworthy people), forget it. Is it today that we have been seeing this? Is this not an avenue by which the government wants to spend our money?" And you find out that they will go with such language, and none of them will be interested in getting in there (visit the platforms). So, that is why I said that it has to go through Facebook first.

***Respondent 5***

Therefore, this suggests that:

**Finding 12 (Hypothesis 5-1):** Social media use by governments would have a more positive effect than websites on the influence of trust in government/agency (TGA) on citizen's affinity for government's platforms (IVP)

### ***Platform type moderating effect on accessibility***

Most of the respondents also discussed the impact of platform type on citizens' access to government's online platforms. They indicated that the predominant and ubiquitous access to and use of social media by the citizens entail that the government should also be active on such platforms. This is in agreement with Matuszak (2007)'s call for corporations to use social media to reach their audience or a prospective audience where they like to hangout. Moreover, according to Vollmer and Precourt (2008) (cited in (Mangold & Faulds, 2009, p. 359)), with social media, consumers/citizens are in control as they have greater access to information and greater command over the consumption of information that ever before. The respondents said:

I would be more attracted if NOA can improve her social media presence as youth are more likely to search for trending national topics on social media than listen to the radio (thanks to smartphones and handhelds)

***Respondent 3***

I really want to them to utilise the social media platform because of the number of people who use them

***Respondent 2***

Social media is best because that is the easiest means of getting to the information to the whole population especially the younger generation.

***Respondent 6***

One viable platform that I would always recommend is the social media. You know...even though there are challenges as far as Internet usage in Nigeria is concerned but, there have been lots of development and improvement in that area so if they can effectively engage social media to communicate with Nigerians I think that would go a long way in helping them achieve their objectives.

***Respondent 10***

Social media could be more effective. A lot of young folks who even lack formal or tertiary education are alive on social media. So it is faster to spread information there because these guys will not go about logging into websites.

***Respondent 11***

Therefore, this suggests that:

**Finding 13 (Hypothesis 5-2):** Social media use by governments would have a more positive effect than websites on the influence of accessibility (FA) on citizen's affinity for government's platforms (IVP)

The major social media platforms mentioned were Facebook and Twitter mainly because of the number of Nigerians on them (Facebook) and the brevity of words (Twitter). For example, **Respondent 4** said, "*contents on Facebook are more likely to be read than contents on NOA website.*" According to **Respondent 5**

If you look at Nigeria of today, if you want to reach out to the youth very many of them are on Facebook, if you want to reach out to the youth, Facebook is the best channel to use.

**Respondent 5**

Clearly, a lot of Nigerians are on Facebook, so that is a very good platform for NOA to try and delve into. And Facebook is first on the list.

**Respondent 12**

Social (especially Twitter) is usually very precise in its reportage (thanks to 140-character limit). Hence it makes it easier for me follow government updates.

**Respondent 3**

However, the respondents also mentioned the need for a mixture of different social media platforms and traditional websites. For example:

If NOA wants to create its own website, it would be beautiful. But in my own opinion, there must be a way to attract someone from one website to the other. Start from the on go of getting into that Facebook I am talking about. Not with the aim of staying there forever. Now when you get there, you now begin to introduce people to your own website. You could say that anything they see on Facebook, for them to see it in details, they should go to the website. In that way, you are drawing them from the Facebook to the website.

### ***Respondent 5***

I think a website is a powerful tool, all you need to do is to make it visible. Also, social media is a powerful tool at the moment; the website should be linked to major social media platforms so that citizens skip directly to government's web page in order to get information.

### ***Respondent 9***

#### **Platform type moderating effect on collaborative content creation**

Bertot et al. (2010) observed that social media has four key strengths: collaboration, participation, empowerment, and time. It provides the opportunity for remote users to connect, socialise, form communities, share information and work towards achieving a common goal. In a study by Bonson et al. (2015), it was found that citizens were more active on government's Facebook accounts which allowed the posting of contents on their wall. Social media allows the creation and exchange of user-generated contents (Berthon, Pitt, Plangger, & Shapiro, 2012); this is not possible with traditional websites which are characterised by unidirectional communication (Cormode & Krishnamurthy, 2008).

Therefore, this suggests that:

**Finding 14 (Hypothesis 5-3):** Social media use by governments would have a more positive effect than websites on the influence of collaborative content creation (CC) on citizen's affinity for government's platforms (IVP)

#### **Platform type moderating effect on Interactivity and deliberation**

Another difference between social media and traditional websites is the possibility for interactions. Platforms with interactive features allow interaction amongst users and between users and hosts (Lilleker et al., 2011). There is limited evidence of interactivity on traditional websites (Lilleker et al., 2011; Lusoli & Ward, 2005; Schweitzer, 2008). On the other hand, social media is known to be based on interactivity and facilitates communication between citizens and governments (Hofmann, Beverungen, Räckers, & Becker, 2013; Linders, 2012; Mossberger, Wu, & Crawford, 2013)

Therefore, this suggests that:

**Finding 15 (Hypothesis 5-4):** Social media use by governments would have a more positive effect than websites on the influence of interactivity and deliberation (IDelib) on citizen's affinity for government's platforms (IVP)

### *Political Awareness*

Political awareness refers to a citizen's sensitivity to and interest in government and public policies and "affects virtually every aspect of citizens' political attitudes" (Zaller, 1990, p. 1). The respondents discussed this phenomenon in two kinds: awareness/interest in government/agency and in their online platforms. According to the respondents, the level of political awareness is determined by the citizens' political efficacy and the government/agency's effort to be visible or prominent to the public. For the former, a respondent said:

Unlike me, you know there are people who are naturally not cut out for things concerning the government and all that. Such persons would not like to visit government's websites or even read government information. There may be a lot of people like that in Nigeria, I cannot say how many.

#### ***Respondent 13***

The latter is referred as observability by Rogers (2003) in his Diffusion of Innovation theory, while Moore and Benbasat (1991) called it visibility. According to Rogers, it is the degree to which product usage and impact are visible to people. Users' intent to use a system increases with the awareness that others are using it (Carter & Bélanger, 2005; Moore & Benbasat, 1991; Rogers, 2003). The respondents highlighted the need for governments and government agencies to create awareness about what they do and about their online platforms too. This points towards the principles of marketing and advertisement which entails promoting the concerned agencies and their online platforms (Grow & Altstiel, 2005; Panopoulou et al., 2014). According to **Respondent 14**, "*their platform is not properly advertised*". Similarly:

(There is) lack of awareness; if you do not know that NOA exists, why do you want to visit them? NOA should start by letting Nigerians know that (they) exist. I'm sure I'm saying this because I'm aware that there is something like the NOA. If you go to Nigeria and ask a lot of people, you will be shocked that they do not know that the organisation exists, so the first thing they should do is let Nigerians know of their presence.

#### ***Respondent 10***

It is down to what the agency is doing, what are their roles? They need to be recognised by their roles in society and offline before people can take them serious on the internet.

#### ***Respondent 8***

Therefore, this suggests that:

**Finding 16 (Hypothesis 6):** Optimal Political awareness would have more positive effect than poor political awareness on the influence of citizens' affinity for government's platforms (IVP) on content engagement (CE)

#### 4.4 Summary of Findings and Hypothesis

Following the qualitative analysis, the Researcher hypothesised that six factors (IN, VAC, PCQ, PWC, IVP and TGA) directly influence citizens' engagement with governments' contents on the internet (CE). TGA and four other factors (FA, CC, IDelib, and HF) were also hypothesised to indirectly influence CE through IVP. These 11 factors (CE, IN, VAC, PCQ, PWC, IVP, TGA, FA, CC, IDelib and HF) constitute the main constructs that will be further investigated in the next phase of this study. The Researcher also hypothesised that governments' choice of platforms have a moderating effect on the influence of TGA, FA, CC and IDelib on IVP, with the use of social media likely to have more positive effect than websites (this is described by PC). Finally, the study hypothesises that citizens' political awareness would have a moderating effect of the influence of IVP on CE, with an optimal level of awareness more likely to have more positive effect than poor level of awareness (this is described by PA). These findings and hypothesis are as shown in *Table 4.2* and the conceptual/hypothesised citizen-content engagement (C-CE) model is shown in *Figure 4.1*.

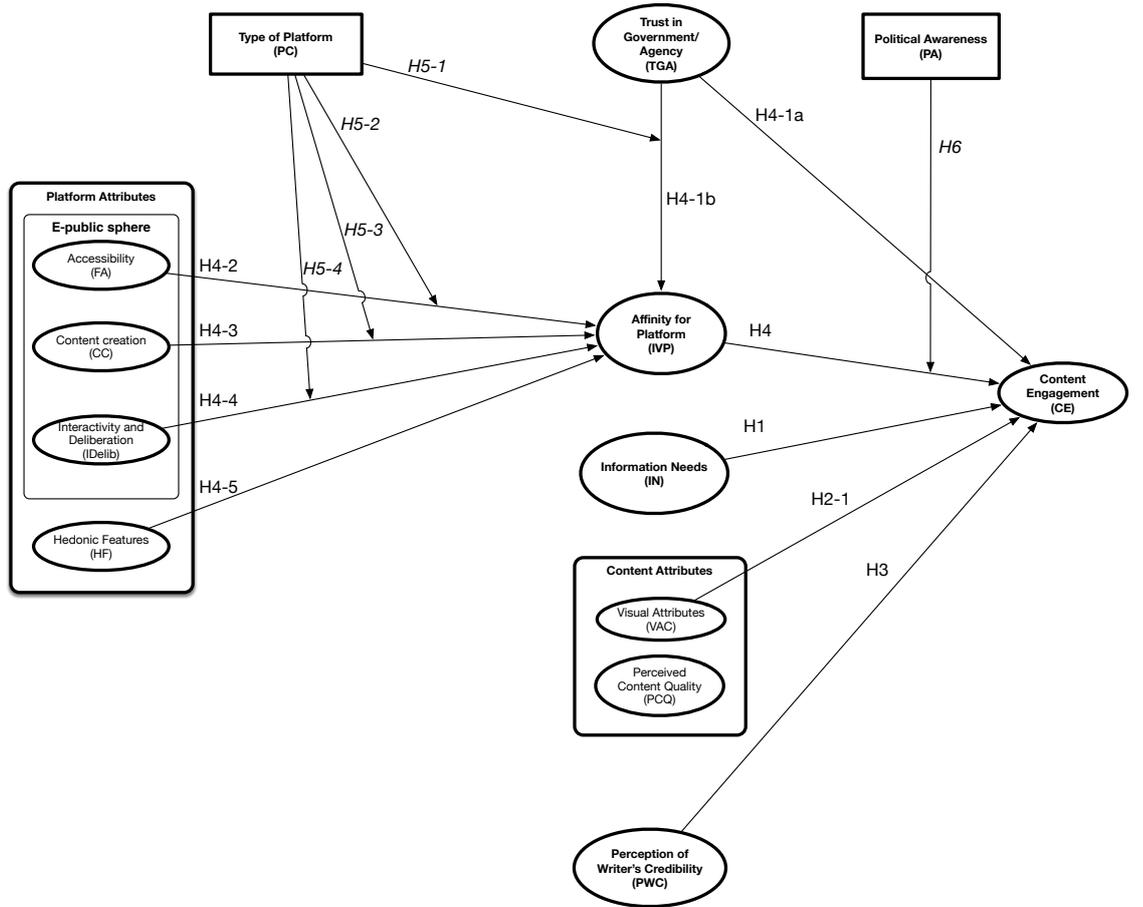
*Table 4.2: Table of Findings and Hypothesis*

Findings		Hypotheses	
<b>F1</b>	<b>H1</b>	Online government contents that meet the information needs (IN) of citizens will be positively associated with their engagement with such contents (CE).	IN → CE
<b>F2</b>	<b>H2-1</b>	Online visually appealing government contents (VAC) will be positively associated with citizens' engagement with such contents (CE).	VAC → CE
<b>F3</b>	<b>H2-2</b>	The perceived quality of online government contents (PCQ) will be positively associated with citizens' engagement with such contents (CE)	PCQ → CE
<b>F4</b>	<b>H3</b>	The credibility of the writers of government's online contents (PWC) will be associated with citizens' engagement with such contents (CE)	PWC → CE
<b>F5</b>	<b>H4</b>	Citizens' affinity for government's online platform (IVP) will be positively associated with citizens' engagement with the contents on it (CE)	IVP → CE

Table 4.2: Table of Findings and Hypothesis

Findings	Hypotheses		
F6	H4-1a	Citizens' trust in government/agency (TGA) will be associated with their engagement with government's contents (CE)	TGA → CE
F7	H4-1b	Citizens' trust in government/agency (TGA) will be associated with their affinity for government's online platforms (IVP)	TGA → IVP
F8	H4-2	Accessibility (FA) will be positively associated with citizens' affinity for government's online platforms (IVP)	FA → IVP
F9	H4-3	The ability for citizens to post contents on government's platforms (CC) is positively associated with their affinity for these platforms (IVP)	CC → IVP
F10	H4-4	The ability for citizens and government officials to interact on government's platforms (IDelib) is positively associated with their affinity for these platforms	IDelib → IVP
F11	H4-5	Hedonic and persuasive features of government's platforms (HF) are positively associated with citizens' affinity for these platforms (IVP)	HF → IVP
F12	H5-1	Social media use by governments would have a more positive effect than websites on the influence of trust in government/agency (TGA) on citizen's affinity for government's platforms (IVP)	TGA → IVP (Platform type i.e. PC)
F13	H5-2	Social media use by governments would have a more positive effect than websites on the influence of accessibility (FA) on citizen's affinity for government's platforms (IVP)	FA → IVP (Platform type i.e. PC)
F14	H5-3	Social media use by governments would have a more positive effect than websites on the influence of collaborative content creation (CC) on citizen's affinity for government's platforms (IVP)	CC → IVP (Platform type i.e. PC)
F15	H5-4	Social media use by governments would have a more positive effect than websites on the influence of interactivity and deliberation (IDelib) on citizen's affinity for government's platforms (IVP)	IDelib → IVP (Platform type i.e. PC)
F16	H6	Optimal Political awareness would have more positive effect than poor political awareness on the influence of citizens' affinity for government's platforms (IVP) on content engagement (CE)	IVP → CE (Political Awareness i.e. PA)

Figure 4.1: Conceptual Model of the Findings and Hypothesis (C-CE Model)



## 5.1 Introduction

This chapter presents the quantitative analysis phase of this study. The Chapter consists of four parts. The first part of this chapter presents the generation of items and the development of the questionnaire. The second part of this chapter presents data cleaning and preparation process, and the descriptive statistics of collated data as well as the respondents' profile. The third part presents the exploratory factor analysis (EFA) and reliability tests of the hypothesised C-CE model. The fourth part of this chapter presents the data analysis results of the quantitative phase of this study through structural equation modelling (SEM) method.

## 5.2 Part One: Scale Development and Sampling

This part presents the process through which the quantitative questionnaire was developed. It covers item generation from the qualitative data, the adequacy assessment, and the questionnaire development. It also presents the sampling process and pilot study results.

With the qualitative data analysis done, findings presented, and a thematic model developed, the next step is to devise a scale for measuring citizens' engagement with government's online contents. This scale was developed because there was no adequate or appropriate existing scale for this study. This study adapted Hinkin, Tracey, and Enz (1997)'s systematic seven-step process of scale development. The process for this study includes item generation, content adequacy assessment, pilot survey, questionnaire administration, exploratory factor analysis (EFA), and structural equation modelling (SEM) through confirmatory factor analysis (CFA).

### 5.2.1. Item generation

This is the first step of the scale development and involves the generation of items that would be used to assess the construct under examination (Hinkin et al., 1997). StatSoft (2013) described this as a creative process where the researcher develops as many items as is possible to operationalise a construct. Item generation can be done either deductively or inductively. The deductive approach is based on theoretical definitions of the construct under investigation as ascertained from the literature. The inductive approach is best when an unfamiliar phenomenon is being investigated and entails the sampling of participant opinions, analysis of the responses, categorization based on keywords/themes, and finally the identification of themes. This study adopted both inductive and deductive approaches in item identification. From the qualitative data and the literature, 47 items were developed for the 11 constructs identified in Chapter 4.

Sentences and/or phrases that best highlight each construct were identified and selected from the qualitative data, and where ever possible, definitions or scales related to the constructs were adopted from the literature. The constructs, items and sources are as presented in *Table 5.1* -

*Table 5.11.* Also, see Appendix D for a more detailed outline.

*Table 5.1: Items for CE*

<b>Content Engagement (CE)</b>			
<b>Definition</b>	<b>Items</b>		<b>Sources</b>
Gauging how citizens engage with government's contents on the internet	<b>CE1</b>	I usually read government's online contents completely (from top-to-bottom)	Interview Data  (Bonsón & Ratkai, 2013)
	<b>CE2</b>	I often comment on government's online contents that I read	
	<b>CE3</b>	I usually like/favourite government's contents which I have read	
	<b>CE4</b>	I usually share government's contents that I have read	

*Table 5.2: Items for IN*

<b>Information Need (IN)</b>			
<b>Definition</b>	<b>Items</b>		<b>Sources</b>
The type of information or topics that citizens expect from the government on the internet	<b>IN1</b>	I am interested in government information concerning the economy	Interview Data  (Davies, 2010)
	<b>IN2</b>	I am interested in government information that concerns government policies.	
	<b>IN3</b>	I am interested in information that focuses on trending socio-political issues in the country.	
	<b>IN4</b>	I am interested in information that focuses on government's activities/projects.	
	<b>IN5</b>	I am interested in government information that focuses on government's financial income and expenditure.	
	<b>IN6</b>	I am interested in government information that is of direct/personal benefit to me (jobs,	

Table 5.2: Items for IN

Information Need (IN)			
Definition	Items		Sources
		education, healthcare, welfare packages, etcetera)	
	IN7	I'm interested in government's information that would help me judge their performance.	

Table 5.3: Items for VAC

Visual Attributes (VAC)			
Definition	Items		Sources
Gauging the visual attributes (visible features) of governments' online contents/articles	VAC1	In my opinion, government's online contents are usually long	Interview Data  (Davies, 2010)
	VAC2	In my opinion, government's online contents usually have relevant pictures	
	VAC3	In my opinion, government's contents usually have relevant videos	

Table 5.4: Items for PCQ

Perceived Content Quality (PCQ)			
Definition	Items		Sources
Gauging the quality of government's contents on the internet	PCQ1	Government online contents are usually informative	Interview Data  (Chen, Clifford, & Wells, 2002; Iivari & Koskela, 1987; Peng, Fan, & Hsu, 2004)
	PCQ2	Government's online contents are often written in interesting/captivating manner	
	PCQ3	In my opinion, government's online contents are usually accurate	
	PCQ4	I believe that government's online contents serve the selfish purpose of the government	
	PCQ5	Government online contents are usually relevant to me	
	PCQ6	Government's online contents are usually up-to-date	
	PCQ7	Government's contents are usually written in simple terms	

Table 5.5: Items for PWC

<b>Perception about the Writers' Credibility (PWC)</b>			
<b>Definition</b>	<b>Items</b>		<b>Sources</b>
Gauging citizens' perception of content writer's credibility	<b>PWC1</b>	I believe that the writers of government's contents are usually influential in society	Interview Data  (Kang, 2010)
	<b>PWC2</b>	In my opinion, writers of government's contents are usually knowledgeable	
	<b>PWC3</b>	I believe that writers of government's contents are usually reliable	
	<b>PWC4</b>	I believe that writers of government's contents are usually transparent	

Table 5.6: Items for IVP

<b>Affinity for Governments' Platforms (IVP)</b>			
<b>Definition</b>	<b>Items</b>		<b>Sources</b>
Gauging citizens' reasons for visiting government's online platforms	<b>IVP1</b>	I visit government's online platform as an important source of information	Interview  (Carter & Bélanger, 2005; Gardner & Amoroso, 2004; Peng et al., 2004)
	<b>IVP2</b>	I visit government's online platform to express my opinions	
	<b>IVP3</b>	I visit government's online platform to interact with other citizens	
	<b>IVP4</b>	I visit government's platforms to interact with government officials	

Table 5.7: Items for TGA

<b>Trust in Government and Agency (TGA)</b>			
<b>Definition</b>	<b>Items</b>		<b>Sources</b>
Gauging citizens' trust in the government and agency	<b>TGA1</b>	I trust government to keep my best interest in mind	Interview Data  (Carter & Bélanger, 2005; Corey & Garand, 2002)
	<b>TGA2</b>	I think I can trust information from the government	
	<b>TGA3</b>	In my opinion heads of government agencies can be trustworthy	
	<b>TGA4</b>	The National Orientation Agency (NAO) is a trustworthy agency	

Table 5.8: Items for FA

<b>Accessibility (FA)</b>			
<b>Definition</b>	<b>Items</b>		<b>Sources</b>
Gauging citizens' perceived level of access to governments' platforms	<b>FA1</b>	I have free access to government's platforms on the internet	Interview Data  (Habermas, 1989; Hauser, 1998; Pusey, 1987b)
	<b>FA2</b>	I do not have to register on government's platforms to gain access	
	<b>FA3</b>	I have unrestricted access to government's platform on the internet	

Table 5.9: Items for CC

<b>Collaborative Content Creation (CC)</b>			
<b>Definition</b>	<b>Items</b>		<b>Sources</b>
Gauging citizens' ability to create and post contents on governments' online platforms	<b>CC1</b>	Everyone has equal opportunity to post contents on governments' platforms	Interview Data  (Habermas, 1989; Hauser, 1998; Pusey, 1987b)
	<b>CC2</b>	I see contents written by other citizens on governments' platforms	
	<b>CC3</b>	I can initiate a topic for deliberation on governments' platforms	

Table 5.10: Items for IDelib

<b>Interactivity and Deliberation (IDelib)</b>			
<b>Definition</b>	<b>Items</b>		<b>Sources</b>
Gauging citizen's ability to deliberate and interact with each other and government	<b>IDelib1</b>	Citizens discuss critical public policies on government's platforms	Interview Data  (Habermas, 1989; Hauser, 1998; Pusey, 1987b)
	<b>IDelib2</b>	I believe I am free to challenge the opinions of other citizens on government's platforms	
	<b>IDelib3</b>	I believe I am free to challenge the opinions of government officials on government's platforms.	
	<b>IDelib4</b>	I can interact with government officials	

		on government's platforms	
	<b>IDelib5</b>	I can interact with other citizens on government's platform	

Table 5.11: Items for HF

<b>Hedonic features (HF)</b>			
<b>Definition</b>	<b>Items</b>		<b>Sources</b>
Gauging the attractive features and activities on government's platforms that stimulate citizens to visit	<b>HF1</b>	I can sign-up to get notification when new contents are posted on government's platforms	Interview Data  (Andrew et al., 2007; Fogg & Iizawa, 2008; Weiksner et al., 2008)
	<b>HF2</b>	Government's online platforms have interesting gamified activities	
	<b>HF3</b>	There are entertaining activities on government's platforms	

### 5.2.2 Content Adequacy Assessment: Scale and Content Validity

This is an important stage in scale development, which allows researchers to pre-test generated items and ensure that they are adequate for the measurement intended measurement (Hinkin et al., 1997). The literature indicates that content adequacy assessments are mainly done by either sorting or rating the items. Furthermore, these sorting and rating can either be by: (1) face validity, which entails that respondents subjectively sort items into categorical definitions that fit best or rate them according to how well they operationalise a categorical definition (Baldus, Voorhees, & Calantone, 2015; Germain, 2006). (2) content validity, which is the statistical approach to the sorting and/or rating of measurement items as it concerns their relevance to the construct being measured (Anderson & Gerbing, 1991; Hinkin & Tracey, 1999; Schriesheim, Powers, Scandura, Gardiner, & Lankau, 1993). In the literature on scale construction, criterion and construct validity are also usually mentioned (Hinkin et al., 1997; Rubio, Berg-Weger, Tebb, Lee, & Rauch, 2003), however, they focus more on the construct and the measurement as a whole and not the operationalising items.

Face validity is criticised for its reliance on the qualitative face value of items. Content validity, on the other hand, allows for a more rigorous process (Rubio et al., 2003). However, Hinkin et al. (1997) point out that none of the techniques would guarantee scales with validated contents,

but they will provide evidence that the items reasonably operationalise the construct under examination, and will also reduce the need for subsequent modification of the scale. This study adopts the content validity technique.

A questionnaire was developed to check the content validity of the 47 items for each of the 11 constructs (Hinkin & Tracey, 1999; Hinkin et al., 1997). Google Forms, an online survey software developed by Google, was chosen for data collection because it is one of only two online survey tools recognised by the Northumbria University, the other being Bristol Online Survey (BOS). The questionnaire consists of 13 sections. The first section contained explicit instructions and an example of what the respondents had to do. The second section obtained the respondents' details apart from their names. Each of the remaining 11 sections contained one of the 11 construct definitions, followed by the 47 items. The definition of each construct was printed on the top of each section/page of the questionnaire followed by a randomised list of the items. The respondents were asked to rate each item according to how it fits the definition at the top of the page/section. Response choice ranged from 1 (strongly unfit) to 5 (strongly fit). The question-shuffle feature of the Survey software was enabled; this ensured that the questions were randomised so as to control response bias that may be due to order-effects (Hinkin & Tracey, 1999). In total, the questionnaire had 517 items i.e. 47 items x 11 definitions.

Some researchers have advised that for content validity check, the sample should be a panel of experts who know about the construct being measured (Davis, 1992; Rubio et al., 2003). They argue that selecting experts in an area that deals with the construct under investigation would help in determining if the scale is well constructed and suitable for purpose. However, the sample for the content validity in this study consists of postgraduate students and lecturers who are not e-public participation/engagement experts. This is in agreement with the opinion of Hinkin and Tracey (1999) and Schriesheim et al. (1993) who argue that the sample should consist of neutral individuals (without pertinent bias) who have sufficient intellectual ability to rate the symmetry between items and definitions of various theoretical constructs (Hinkin & Tracey, 1999; Schriesheim et al., 1993).

Due to the size of the content validity survey (517 items and 11 definitions), and the risk of response bias by boredom and fatigue, it was important for participants to stay motivated. To facilitate motivation, the Researcher offered to organise a seminar on scale items development and content validity for the Ph.D. students in the Faculty of Business Administration, Imo State University, Nigeria. 13 students took part in the seminar after which they were asked to voluntarily complete the survey as a formative test. They were asked to do this at their own convenience but within three days. Two lecturers also participated. 13 (of 15) content validity

surveys were returned for a response rate of 86%. Three returned surveys were not usable due to missing data and the remaining 10 were valid for analysis. Of the 10 participants, four were female. The participants had an average age of 34 years and an average of seven years' work experience.

The sample size for the content validity of this study was 10 (eight Ph.D. students and two University Lecturers). Although there are different views on the optimal sample size for content validity studies (Hinkin & Tracey, 1999; Rubio et al., 2003; Schmitt, Klimoski, Ferris, & Rowland, 1991), this study followed Gable and Wolf (2012)'s argument that an adequate sample size for content validity should be between two and 20. The use of a sample size of 10 in this study was also supported by Lynn (1986) who advised that there should be a minimum of three participants in a content validity study, and having more than 10 participants would be unnecessary.

The data was analysed for validity using the Content Validity Index for Items (I-CVI), the Average Content Validity Index for Scales (S-CVI/Ave) and the Universal Agreement Content Validity Index for Scales (S-CVI/UA). As the name implies, the I-CVI checks for content validity of each item and is computed as the number of participants giving an item a relevant rating of either 4 or 5 (on a 5-point scale), divided by the total number of experts (Polit & Beck, 2006). Lynn (1986) recommends a minimum I-CVI of 0.78 where there are six or more participants. On the other hand, the S-CVI checks for content validity at the scale level, but for two participants only and is the proportion of items which both participants rated as relevant or highly relevant (Polit & Beck, 2006; Polit, Beck, & Owen, 2007; Waltz & Bausell, 1981). Since the content validity survey of this study had 10 participants, the S-CVI can be ascertained by computing the average I-CVI across the items (S-CVI/Ave). Polit and Beck (2006) suggests a minimum S-CVI/Ave of 0.90 although a lower limit of 0.80 is commonly used by scale developers (Davis, 1992; Polit et al., 2007; Squires, Estabrooks, Newburn-Cook, & Gierl, 2011). Alternatively, the S-CVI can be calculated by checking the proportion of the items that received a rating of 4 or 5 by all the participants –this is called universal agreement (S-CVI/UA). When S-CVI/UA is used, the value/likelihood to achieve total agreement tends to decrease with an increasing number of participants regardless of the I-CVI value. As a result, there are no agreed acceptable values for S-CVI/UA, but it is good practice to report it.

It is pertinent to point out that there are other ways of analysing content validity surveys. Tojib and Sugianto (2006b) discussed five: Content Validity Ratio (CVR), Index of Objective Congruence, Content Validity Index (CVI), Weighted Mean Score and Inter-Observer Agreement. Though the weighted mean score is the most used approach across disciplines

(Hinkin et al., 1997; Tojib & Sugianto, 2006a), like the CVI, it was developed in the nursing discipline by Fehring (1987). The CVI was adopted because it not only considers each item for validity (I-CVI); it also considers the scale as a whole (S-CVI/Ave), both of which must reach pre-determined validity scores. The CVI is, therefore, a more stringent validity method than the weighted means score method, which validates any item that returns a score of 0.05 and requires subjectivity in selecting the items to use.

As is shown in Table 5.12, 44 of the 47 items scored over 0.78 in I-CVI; the items that did not reach the benchmark were removed, and they include CE3, PWC1, and PCQ4. An additional item (IN5) was removed for theoretical parsimony (Hinkin & Tracey, 1999). A maximum of six items per construct were allowed in line with common practice (Burton-Jones & Hubona, 2006; Carter & Bélanger, 2005; Castañeda et al., 2007; Hinkin et al., 1997; Lin & Lu, 2000). However, all seven items for the IN construct scored 1.0 in I-CVI. To maintain parsimony and reduce the IN items from seven to six, the total score each item got from the respondents were compared. IN5 scored the least at 46 and was, therefore, eliminated (Table 5.13). In total, 43 items were retained after content validation. The 11 scales for the 11 constructs scored over .80 in S-CVI/Ave (*Table 5.14*).

The reliability of the scales was assessed using the Intraclass Correlation Coefficient (ICC). The ICC describes the strength of resemblance between units in the same group. It is the assessment of consistency between quantitative measurements made by different individuals who observed/measured the same behaviour or phenomenon (Squires et al., 2011). Each of the 11 constructs was analysed for reliability. According to Raat, Botterweck, Landgraf, Hoogeveen, and Essink-Bot (2005) an acceptable ICC should be above 0.70, it is optimal above 0.80 and excellent above 0.90. All the scales for the 11 constructs were above the acceptable level of 0.70 (*Table 5.15*).

Table 5.12: I-CVI Scores

CE		IDelib		HF		FA		CC		PWC		IVP		TGA		IN		VAC		PCQ	
I-CVI		I-CVI		I-CVI		I-CVI		I-CVI		I-CVI		I-CVI		I-CVI		I-CVI		I-CVI		I-CVI	
CE1	1.00	IDelib1	1.00	HF1	0.80	FA1	1.00	CC1	1.0	PWC1	0.70	IVP1	0.90	TGA1	1.00	IN1	1.00	VAC1	1.00	PCQ1	0.90
CE2	0.90	IDelib2	1.00	HF2	1.00	FA2	0.80	CC2	0.9	PWC2	0.90	IVP2	1.00	TGA2	1.00	IN2	1.00	VAC2	1.00	PCQ2	0.90
CE3	0.70	IDelib3	0.90	HF3	0.90	FA3	1.00	CC3	1.0	PWC3	1.00	IVP3	1.00	TGA3	1.00	IN3	1.00	VAC3	1.00	PCQ3	1.00
CE4	0.80	IDelib4	0.90							PWC4	1.00	IVP4	1.00	TGA4	1.00	IN4	1.00			PCQ4	0.30
		IDelib5	0.80													IN5	1.00			PCQ5	1.00
																IN6	1.00			PCQ6	0.90
															IN7	1.00			PCQ7	1.00	

Keys Gold Eliminated for I-CVI was less than 0.78  
Orange Eliminated to maintain parsimony

Table 5.13: I-CVI for IN

Items	Rater 1	Rater 2	Rater 3	Rater 4	Rater 5	Rater 6	Rater 7	Rater 8	Rater 9	Rater 10	Total Scores	Number of agreements	I-CVI
IN1	5	5	5	5	5	5	5	5	4	4	48	10	1.0000
IN2	5	5	5	5	5	5	5	5	5	4	49	10	1.0000
IN3	5	5	5	5	5	5	5	5	5	4	49	10	1.0000
IN4	5	5	5	5	5	5	5	5	5	4	49	10	1.0000
IN5	5	5	5	4	5	5	4	4	5	4	46	10	1.0000
IN6	5	5	5	5	5	4	5	5	5	4	48	10	1.0000
IN7	5	5	5	5	5	5	5	5	5	4	49	10	1.0000

Keys Orange Eliminated to maintain parsimony using total score as benchmark

Table 5.14: S-CVI/AVE Scores

<b>Constructs</b>		<b>S-CVI/AVE</b>	<b>SCVI-UA</b>
<b>Title</b>	<b>Abbreviation</b>		
<b>Content Engagement</b>	CE	0.85	0.25
<b>Interactivity and Deliberation</b>	IDelib	0.92	0.40
<b>Hedonic Features</b>	HF	0.90	0.33
<b>Accessibility</b>	FA	0.95	0.75
<b>Collaborative Content Creation</b>	CC	0.97	0.66
<b>Perception about Writer's Credibility</b>	PWC	0.90	0.50
<b>Affinity for Government's Platforms</b>	IVP	0.98	0.75
<b>Trust in Government and Agency</b>	TGA	1.0	1.0
<b>Information Need</b>	IN	1.0	1.0
<b>Visual Attributes of the Contents</b>	VAC	1.0	1.0
<b>Perceived Content Quality</b>	PCQ	0.86	0.42

Table 5.15: ICC Scores

	<b>CE</b>	<b>IDelib</b>	<b>HF</b>	<b>FA</b>	<b>CC</b>	<b>PWC</b>	<b>IVP</b>	<b>TGA</b>	<b>IN</b>	<b>VAC</b>	<b>PCQ</b>
<b>Cronbach's Alpha</b>	.945	.964	.922	.965	.974	.972	.906	.965	.982	.969	.969
<b>Intraclass Correlation (Average measures)</b>	.940	.963	.908	.962	.973	.971	.891	.961	.981	.967	.966
<b>Lower Bound 95% Confidence Interval</b>	.911	.945	.861	.944	.960	.958	.836	.942	.971	.952	.949
<b>Higher Bound 95% Confidence Interval</b>	.963	.977	.943	.976	.983	.982	.932	.976	.988	.980	.979

### 5.2.3 Questionnaire Development

Having validated the items, the next phase would be developing an attitudinal scale from these items. Attitudinal Scales are used to collect quantitative data about the opinions, attitude and beliefs of a population (Ross, 2005). A seven-point Likert scale was developed using the 43 retained items. The seven-point scale was adopted because five- or seven-point Likert scales create variance that helps examine relationships among items and scales. They also create adequate internal consistency reliability estimates (Hinkin et al., 1997). The Questionnaire had 43 Likert items for 11 constructs, two sets of multiple-choice (multi-answer) questions which investigated citizens' choice of information from the government, and their choice of online platforms, and one set of binary-type question which checked citizens' level of political awareness (See Appendix E).

### 5.2.4 Sampling, Sample Size and Data Collection

Hinkin et al. (1997) observed that in the literature, recommendations for item-to-response ratio suggest that there should be about five to eight participants per item. However, Hinkin et al. (1997) advised the use of a conservative approach because an increase in sample size is likely to increase the chances of attaining statistical significance and distorting the practical meaning of the results. A minimum of 215 respondents were projected in the main survey, i.e. five participants per item for the 43 items.

While the qualitative phase of this research collated data from Nigerians between the ages of 18 and 49 and who have gained University degrees; this quantitative phase was more encompassing, and the participants included Nigerians who are above 18 years whether they had gained university degrees or not. This ensures that this study could reach diverse Nigerians and therefore sample diverse opinions as to what factors that influence citizens' engagement with governments' online contents. Furthermore, the qualitative phase was aimed at gathering in-depth information on factors that influence citizens' engagement with governments' online contents and there was the need to speak with people who are knowledgeable enough, who can express their thoughts clearly, and who can provide the required information, hence the need to recruit participants who had University degrees. On the other hand, the quantitative phase was aimed at testing the information gathered during the qualitative phase across different demographics, hence the need to recruit both University graduates and those who are not.

Participants were recruited both offline (paper-based) and online (Google Forms) using the snowball sampling method. The paper-based version was emailed to contacts in Nigeria, who printed, distributed, collated and couriered the completed questionnaires back to the Researcher.

### 5.2.5 Pilot Study

Two rounds of pilot studies were conducted to test the scale for reliability and validity. An adequate sample size for a pilot study is debated in the literature. Some researchers suggest that it should be at least 10% of the sample projected for the main study (Connelly, 2008; Treece & Treece Jr, 1977), others suggested 12 as an adequate sample size (Julious, 2005), and some said it should be a minimum of 10 and maximum of 30 (Hill, 1998; Isaac & Michael, 1995). Using the ‘10% rule’ as a guideline, this study arrived at an adequate sample size of approximately 22 participants (10% of the projected 215 respondents for the main survey). For the first round of the Pilot study, questionnaires were developed using Google Forms and were distributed on different Facebook groups. After four days, 25 questionnaires were completed.

The data collected from the first round of pilot study was tested for reliability using SPSS. Every construct returned Cronbach’s Alpha value  $\geq 0.70$  (Loewenthal, 2001; Saunders, Aasland, Babor, De la Fuente, & Grant, 1993) apart from the VAC construct which returned a value of -0.030. However, the Cronbach’s alpha if item (VAC1) deleted was 0.769 as suggested by SPSS (Table 5.16).

*Table 5.16: Reliability Test*

	CE	IDelib	HF	FA	CC	PWC	IVP	TGA	IN	VAC	PCQ
<b>Cronbach’s Alpha (With all original items)</b>	.76	.88	.70	.75	.84	.76	.75	.84	.81	-.03	.79
<b>Cronbach’s Alpha If Item Deleted (VAC1 as suggested by SPSS)</b>										.76	

Following the pilot study, some issues were raised by respondents which resulted in both minor and major changes to the questionnaire.

The minor changes included:

1. The addition of an explicit definition of the terms “content” and “government’s platforms.”

2. The shortening of item words wherever possible, for example, “I believe that writers of government contents are usually reliable” was changed to “writers of government contents are usually reliable.”
3. The item (VAC1) which affected the Cronbach’s Alpha of the VAC construct was reworded from “in my opinion, government’s online contents are usually too long” to “government’s contents are usually of an appropriate length (not too long or too short)”

The major changes included:

1. The Likert items measuring citizens’ affinity for government’s platforms (IVP) were changed following advice from the research supervisor. The purpose was for the items to match items that have been used to operationalise intent to visit online platforms in the literature. This reduced IVP Likert items from four to three.
2. The Likert items measuring citizens’ information need (IN) were also changed. This was because the initial version generated data specifying particular topics the citizens want from the government (which has already been ascertained during the first phase of the study). The new version contains Likert statements which check if government platforms contain the needed information. This reduced IN Likert items from six to three.

With the changes effected, the total number of Likert items reduced from 43 to 39. Constructs affected by the major changes (IVP and IN) were put through a face validation process (Baldus et al., 2015; Germain, 2006; Nevo, 1985) by nine Ph.D. students. The students were given the definitions of the two constructs and asked to sort a list of six items into the matching definitions. All the items were matched to their intended constructs. At the end of this process, there were 11 constructs with 39 Likert items, three multiple-choice (multi-answer) questions and three multiple-choice (single-answer) questions (*Table 5.17*).

*Table 5.17: Question Types*

<b>Constructs</b>	<b>Likert</b>	<b>Multiple Choice (Multiple Response)</b>	<b>Multiple choice (Dichotomous/Binary)</b>
<b>CE</b>	3 (CE1, CE2, CE3)	-	-
<b>IDelib</b>	5 (IDelib1, IDelib2, IDelib3, IDelib4, IDelib5)	-	-
<b>HF</b>	3 (HF1, HF2, HF3)	-	-
<b>FA</b>	3 (FA1, FA2, FA3)	-	-
<b>CC</b>	3 (CC1, CC2, CC3)	-	-

Table 5.17: Question Types

Constructs	Likert	Multiple Choice (Multiple Response)	Multiple choice (Dichotomous/Binary)
PWC	3 (PWC1, PWC2, PWC3)	-	-
IVP	3 (IVP1, IVP2, IVP3)	-	-
TGA	4 (TGA1, TGA2, TGA3, TGA4)	-	-
IN	3 (IN1, IN2, IN3)	1 (IN4): This checks type of information citizens want from their government	-
VAC	3 (VAC1, VAC2, VAC3)	-	-
PCQ	6 (PCQ1, PCQ2, PCQ3, PCQ4, PCQ5, PCQ6)	-	-
Political Awareness (PA)	-	-	3 (PA1, PA2, PA3): This checks and rates citizens' level of Political awareness.
Type of Platform (PC)	-	2 (PC1, PC2).  PC1 checks the type of platform that citizens want the government to use.  PC2 checks the type of platform that the government predominantly uses	-

Using the same method as in the first pilot study, a second round of pilot study was conducted with a different set of respondents (15 persons). The reliability of all the instruments was re-assessed using the Cronbach's alpha reliability coefficient, they were above the conventional score of .70 (Table 5.18).

Table 5.18: Second Round of Reliability Test

	CE	Idelib	HF	FA	CC	PWC	IVP	TGA	IN	VAC	PCQ
<b>Cronbach's Alpha (With all original items)</b>	.76	.89	.81	.75	.81	.73	.82	.74	.81	.73	.79

### 5.3 Part Two: Data Preparation and Descriptive Statistics

Within four weeks, 276 questionnaires were returned (106 were online (38%), and 170 were on paper (62%)). The paper-based data was manually input into the spreadsheet automatically generated by Google Forms for the online data; this resulted in a single spreadsheet containing all the data collected both offline and online.

To prepare the data for analysis, all nominal data were translated into numerical forms. Options to the multiple response questions (IN and PC as indicated in *Table 5.17*) were treated as individual variables and translated into binary forms. Therefore, answers to the IN4 question resulted to seven variables, and answers to PC1 and PC2 resulted to five variables apiece. SPSS was later used to combine these pseudo-variables into their original variables.

The Data was screened to identify cases with missing data and/or unengaged responses. The variables were also screened for missing data. Using Microsoft Excel, each case was screened for blank columns (missing data). Seven Cases were removed because they had 10% or more missing data (Bennett, 2001; Dong & Peng, 2013); this resulted in the removal of 14 cases. The remaining 262 cases were further screened for unengaged responses and two cases with a standard deviation less than 0.5 were removed, thus resulting to a total of 260 cases.

The variables were then screened for missing data and 25 variables were identified as having at least one missing data (Appendix F). In reality, however, there were 11 variables with missing data because the PC2x, IN4x and PC1x variables were developed from three different variables for easier analysis. There are two main approaches to handling missing data, these are the conventional and advanced approaches (Soley-Bori, 2013). The conventional approach includes listwise deletion, which removes all the cases with missing data, and the imputation method, which replaces the missing data with the mean of the non-missing values. The listwise deletion method could exclude a large portion of the original sample, while the imputation method could result to “biased estimates of variances and covariance and should be avoided” (Soley-Bori, 2013, p. 7). The advanced approaches include maximum likelihood and multiple imputation. The maximum likelihood generates variance-covariance matrix for variables based on all available data points. However, this requires special software packages and advanced analytical skills. Multiple imputation, on the other hand, runs simulations on the missing data relative to the available data in an attempt to replace the missing data with data that is most likely to be similar to the available data. It looks at patterns in the available data and makes a probability judgement as to what the missing data would be (Carpenter & Kenward, 2012; Rubin, 2004). Multiple imputation replaces each missing item with two or more values which represent a

distribution of possibilities (Allison, 2002; Soley-Bori, 2013). Multiple imputation shares same optimal properties with the Maximum Likelihood method and also removes some of its limitations as it can be used with any conventional software package and provides “consistent, asymptotically efficient and asymptotically normal estimates”(Soley-Bori, 2013, p. 8).

The Multiple Imputation function of SPSS was used to replace the missing data with the aim of maintaining the sample size. Five iterations of this imputation was conducted, and the missing data were replaced. The implication of this is that for every analysis done on the data, SPSS would provide six different results: one for the original data, and five for the five iterations of the imputation process. Depending on the nature of analysis, there may also be an additional result which is the pooled result of the five iterations as generated by SPSS. However, because there are certain analysis for which pooled results cannot be generated, this study follows Wayman (2003, p. 5)’s advice by running the statistical analysis on each of the five multiple imputation datasets, and averaging the individual results to produce a single set of result (pooled result). This was also supported by (Sinharay, Stern, & Russell, 2001). In this chapter, where ever possible, only pooled results from the multiple imputation will be tabulated and presented. Detailed tables with results from the original data and five of the iterations will be presented in the Appendices.

### 5.3.1 Respondents’ Profile

Of the 260 valid responses, 58% were male, and 51% were in the age range of 29-35. 60% of the population were single, and a majority of them were university graduates (56%), with 28% having completed postgraduate degrees. Slightly over a quarter of the respondents (28%) earn between 50,000 Naira to 99,000 Naira/£126.76 - £253.51 monthly; this is closely followed by those who earn between 100,000 Naira to 199,999 Naira/£253.51 – £507.02 (26%). A majority of the respondents were civil servants (23%), they are closely followed by professionals (20%). The pooled data of respondents’ profile is as shown in *Table 5.19*. Appendix J shows this data across the original data and the five iterations.

*Table 5.19: Respondents' Profile (Pooled Iteration)*

<b>Details</b>		<b>Number of Cases and Percentages</b>
<b>Gender</b>	<i>Male</i>	150 (58%)
	<i>Female</i>	110 (42%)
<b>Age</b>	<i>18-28</i>	86 (33%)
	<i>29-35</i>	131 (51%)
	<i>36-42</i>	27 (10%)
	<i>42 - Above</i>	16 (6%)
	<i>Single</i>	157 (60%)

Table 5.19: Respondents' Profile (Pooled Iteration)

Details		Number of Cases and Percentages
<b>Marital Status</b>	<i>Married</i>	103 (40%)
<b>Education</b>	<i>SSCE</i>	20 (8%)
	<i>Diploma</i>	20 (8%)
	<i>Bachelors</i>	147 (56%)
	<i>Postgraduate</i>	73 (28%)
<b>Monthly Income</b>	<i>Less than N20,000 (Less than £50.70)</i>	32 (12%)
	<i>N20,000 – N49,999 (£50.70 - £126.75)</i>	40 (15%)
	<i>N50,000 – N99,999 (£126.76 - £253.51)</i>	74 (28%)
	<i>N100,000 – N199,999 (£253.51 – £507.02)</i>	67 (26%)
	<i>N200,000 – N299,999 (£507.03 - £760.54)</i>	30 (12%)
	<i>N300,000 and Above (£760.55 and above)</i>	17 (7%)
<b>Occupation</b>	<i>Academics/Educators</i>	25 (10%)
	<i>Civil Servants</i>	61 (23%)
	<i>Students</i>	29 (11%)
	<i>Professionals (Doctors, Bankers, Lawyers, Pharmacists, etc.)</i>	52 (20%)
	<i>National Youth Service Corp Members</i>	16 (6%)
	<i>Self-employed</i>	24 (9%)
	<i>Unemployed</i>	10 (4%)
	<i>IT Professionals/ Engineers</i>	21 (8%)
	<i>Clerical/Administrative Employees</i>	11 (4%)
	<i>Paramilitary and Security Personnel</i>	4 (2%)
	<i>Others</i>	7 (3%)

### 5.3.2 Descriptive Statistics

In Table 5.20 and Table 5.21 are the descriptive statistics for both endogenous and exogenous constructs used in this study, as well as the dichotomous and multiple-response data. In Table 5.20, only ID5 had missing data and required multiple imputation, therefore the pooled data is presented. Details of the data across the original data and five multiple imputation iterations are as presented in Appendix K. Similarly, Table 5.21 contains the pooled iteration of dichotomous and multiple-response data. It is presented in more detail with the original data and five multiple imputation iterations in Appendix L.

Table 5.20: Descriptive Statistics of Likert Variables

Variables	Original Data	
	Mean	S.D
<b>CE1</b>	4.16	1.48
<b>CE2</b>	3.10	1.62
<b>CE3</b>	3.29	1.72
<b>ID1</b>	4.10	1.82

Table 5.20: Descriptive Statistics of Likert Variables

Variables	Original Data	
	Mean	S.D
ID2	3.52	1.80
ID3	3.99	1.75
ID4	2.99	1.78
ID5 (Pooled Data)	4.30	1.79
HF1	3.38	1.76
HF2	2.55	1.56
HF3	3.00	1.74
FA1	4.17	1.78
FA2	4.16	1.75
FA3	4.02	1.76
CC1	3.98	1.77
CC2	4.53	1.70
CC3	3.78	1.77
PWC1	3.87	1.61
PWC2	3.10	1.45
PWC3	4.04	1.49
IVP1	4.19	1.43
IVP2	4.37	1.52
IVP3	4.12	1.42
TGA1	2.99	1.68
TGA2	3.00	1.54
TGA3	2.70	1.40
TGA4	3.44	1.38
IN1	3.96	1.60
IN2	3.67	1.69
IN3	3.55	1.65
VAC1	3.78	1.311
VAC2	3.76	1.39
VAC3	3.37	1.36
PCQ1	4.20	1.46
PCQ2	4.02	1.47
PCQ3	3.28	1.48
PCQ4	3.85	1.51
PCQ5	3.48	1.55
PCQ6	4.15	1.58

Table 5.21: Descriptive Statistics of Dichotomous and Multi-Response Variables

Variables	Pooled Iterations	
	No	Yes
IN4Trend	123 (47%)	137 (53%)
IN4GovtPol	107 (41%)	153 (59%)
IN4GovtExp	95 (37%)	165 (63%)
IN4GovtProj	98 (38%)	162 (62%)
IN4Econ	94 (36%)	166 (64 %)

*Table 5.21: Descriptive Statistics of Dichotomous and Multi-Response Variables*

Variables	Pooled Iterations	
	No	Yes
<b>IN4PersUSE</b>	82 (31%)	178 (69%)
<b>IN4Others</b>	241(93%)	19 (7%)
<b>PC1Fbook</b>	68 (26 %)	192 (74%)
<b>PC1Twit</b>	169 (65%)	91 (35 %)
<b>PC1Blog</b>	168 (63%)	92 (35%)
<b>PC1Web</b>	92 (36%)	168 (65%)
<b>PC1Others</b>	235 (91%)	25 (9 %)
<b>PC2Fbook</b>	172 (66%)	88 (34%)
<b>PC2Twit</b>	172 (66%)	88 (34%)
<b>PC2Blog</b>	205 (79%)	55 (21%)
<b>PC2Web</b>	54 (21%)	206 (79%)
<b>PC2Others</b>	193 (74%)	67 (24%)
<b>PA1</b>	107 (41%)	153 (59%)
<b>PA2</b>	179 (69%)	81 (31%)
<b>PA3</b>	185 (71%)	75 (29%)

### 5.3.3 Data Preparation for Structural Equation Modelling (SEM)

To prepare the data for SEM, it was analysed for the assumption of independent errors by computing the standardised residuals. With CE as the dependent variable and TGA, PWC, VAC, IN, IVP and PCQ as independent variables, Durbin-Watson's statistic was 1.95 across the five multiple imputation iterations as indicated in Table 5.22. This value is very close to the recommended value of 2.0 and much above the minimum threshold value of 1.0, thus indicating that the residuals are uncorrelated (Durbin & Watson, 1950). Scatterplots were also visually inspected for outliers across the original data and five iterations. The standardised residual points were all between +3 and -3 on the Y axis (regression standardised residual) and X axis, thus indicating that there were no outliers (PSU, 2016). Because they are largely the same, scatter plots for the original data, and two (first, and the fifth) of the five iterations are shown in Appendix G.

Table 5.22: Durbin-Watson's Statistics for CE

Imputation Number	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.457 <sup>a</sup>	.209	.196	1.16810	1.951
2	.457 <sup>a</sup>	.209	.196	1.16810	1.951
3	.457 <sup>a</sup>	.209	.196	1.16810	1.951
4	.457 <sup>a</sup>	.209	.196	1.16810	1.951
5	.457 <sup>a</sup>	.209	.196	1.16810	1.951
<b>Pooled Result</b>	.457 <sup>a</sup>	.209	.196	1.16810	1.951

a. Predictors: (Constant), IVP, VAC, TGA, INPCQ

b. Dependent Variable: CE

Standardised residuals were also computed with IVP as the dependent variable and HF, FA, PA, TGA, CC and IDelib as independent variables. This time, the Durbin-Watson statistic was 2.1 which was still indicative of residuals being uncorrelated as indicated in Table 5.23. However, from the scatterplot, five outliers were identified and removed (Appendix H). With the outliers removed, Durbin-Watson statistic remained stable at 2.1, the scatter-point points fell within +3 and -3 on both axes as is shown in Appendix I.

Table 5.23: Durbin-Watson's Statistics for IVP

Imputation Number	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.627 <sup>a</sup>	.393	.381	.98589	2.131
2	.627 <sup>a</sup>	.393	.381	.98611	2.132
3	.627 <sup>a</sup>	.393	.381	.98598	2.132
4	.627 <sup>a</sup>	.393	.381	.98594	2.132
5	.627 <sup>a</sup>	.393	.381	.98567	2.132
<b>Pooled Result</b>	.627 <sup>a</sup>	.393	.381	.98592	2.132

a. Predictors: (Constant), FA, HF, IDelib, TGA, CC

b. Dependent Variable: IVP

In summary, to have the data fit for SEM, five cases (outliers) were removed from the data sample. This resulted in a total sample size of 255 after data preparation.

## 5.4 Part Three: Factor Analysis and Reliability Test

This part of the chapter presents the factor analysis and reliability test of the quantitative data. This is important as the scale used in this study was developed from qualitative data and there is need to identify the underlying relationships between the measured variables and to refine the hypothesised model if necessary (Thompson, 2004; Williams, Onsmann, & Brown, 2010). Cronbach's alpha was also used to check the scale for reliability (Santos, 1999).

### 5.4.1 Exploratory Factor Analysis

Exploratory factor analysis (EFA) is a data reduction technique which takes a large set of variable and looks for a way by which the data can be reduced or summarised using a smaller set of variables or components (Thompson, 2004). It does this by looking for clumps or groups that have very strong inter-correlations within a set of variables. Factor analysis can help in the reduction of a large number of related variables to a more manageable and efficient number of variables that measure a construct (Loehlin, 1998). EFAs are essential in scale development and should be conducted before a confirmatory factor analysis (CFA) (Fabrigar, Wegener, MacCallum, & Strahan, 1999; Hinkin et al., 1997). In this study, EFA was conducted with guidelines from Williams et al. (2010) which involved the following steps:

**Checking for the suitability of the dataset for factor analysis:** The suitability of a dataset for factor analysis is determined by the data type, sample size and strength of the relationship or inter-correlation among the variables or items within the measurement tool (Osborne & Costello, 2009; Williams et al., 2010). Of the 45 items in this study, only 39 were selected for factor analysis and these were all Likert items (See *Table 5.17*). The unselected six items were nominal data in binary/dichotomous forms and were not appropriate for factor analysis (Bartholomew, Steele, Galbraith, & Moustaki, 2008; Knol & Berger, 1991). Although some researchers routinely treat binary data as continuous, it is prone to the “appearance of 'difficulty' factors, i.e. factors based on items with similar distributions rather than similar content or skill similarities” (IBM, 2014). These 39 items Likert items/variables were spread across 11 constructs. The number of cases used in this study (255) was also adequate, i.e., greater than 195 which is the minimum expected sample size for 39 items at the ratio of 5 respondents to 1 item (Hinkin et al., 1997; Lynn, 1986). Furthermore, preliminary analysis indicated that the 39 items were suitable for factor analysis. As observed from the analysis, with a Pearson's  $r$  correlation value greater or equal to 0.3, all 39 items in the pooled result and the five multiple imputation iterations correlated with at least one other item. The Kaiser-Meyer-Olin (KMO) measure of sampling adequacy was 0.878 in the pooled result which is well above the recommended value of 0.5

(Tabachnick & Fidell, 2007; Williams et al., 2010). The Bartlett's Test of Sphericity was also statistically significant at  $p < 0.001$  as shown in *Table 5.24*.

*Table 5.24: Initial KMO and Bartlett's Test of Sphericity*

Indices		Recommended values	Pooled Result
KMO		$P \geq 0.5$	0.878
Bartlett's Test of Sphericity	Value	-	5226.129
	Sig. (p)	$p \leq 0.05$	$p < 0.001$

**Factor Extraction:** This involves determining from a set of items, the smallest number of items that best represents the interrelationships amongst the given set of items. This study used the principal component analysis method, which is the most popular extraction method (Osborne & Costello, 2009). Based on the Kaiser criterion, 10 factors were identified as having Eigenvalue greater than 1.0. These 10 factors cumulatively explained an average of 67.8% of the variance across the five multiple imputation iterations. The communalities in the pooled result of the multiple imputation iterations were mostly above the recommended 0.5 threshold thus indicating that a substantive amount of variance in each variable is accounted for (Field, 2005). The only exception is PWC2 which had a communality value of 0.439 and, therefore, was eliminated from subsequent analysis as indicated in *Table 5.25* (see Appendix M for a complete table).

*Table 5.25: Communalities*

Variables	Extraction	
	Initial	Pooled Results
CE1	1.000	0.691
CE2	1.000	0.7158
CE3	1.000	0.666
IDelib1	1.000	0.672
IDelib2	1.000	0.7452
IDelib3	1.000	0.7146
IDelib4	1.000	0.5988
IDelib5	1.000	0.7436
HF1	1.000	0.5162
HF2	1.000	0.7752
HF3	1.000	0.7378
FA1	1.000	0.7166
FA2	1.000	0.726
FA3	1.000	0.7318
CC1	1.000	0.681

Table 5.25: Communalities

Variables	Extraction	
	Initial	Pooled Results
CC2	1.000	0.731
CC3	1.000	0.656
PWC1	1.000	0.7092
PWC2	1.000	0.439
PWC3	1.000	0.691
IVP1	1.000	0.6988
IVP2	1.000	0.7718
IVP3	1.000	0.7534
TGA1	1.000	0.694
TGA2	1.000	0.8132
TGA3	1.000	0.77
TGA4	1.000	0.6058
IN1	1.000	0.6288
IN2	1.000	0.645
IN3	1.000	0.6388
VAC1	1.000	0.6136
VAC2	1.000	0.79
VAC3	1.000	0.80
PCQ1	1.000	0.636
PCQ2	1.000	0.614
PCQ3	1.000	0.609
PCQ4	1.000	0.6158
PCQ5	1.000	0.542
PCQ6	1.000	0.5644

Keys  Removed due to low communality

**Factor Rotation:** This helps clarify, simplify and interpret the results of factor extraction by presenting a pattern of loadings which highlights the variables that clump together; it can be done either by an orthogonal or oblique approach (Williams et al., 2010). The Orthogonal approach assumes that factors are uncorrelated and therefore produce outputs that are easier to interpret. The oblique approach, on the other hand, allows items to correlate but does not force them, however, the interpretation of the output is slightly more complex than the orthogonal (Osborne, 2015). This study adopted the oblique rotation approach which allows for both correlated and uncorrelated factors. This analysis was run for the five multiple imputation iterations, and the values were very similar as shown in Appendix N. With a correlation coefficient cut-off score of 0.40 –which Hair, Black, Babin, Anderson, and Tatham (2006b) described as important - 36 variables/items cleanly loaded on 10 factors in the five multiple imputation iterations; two variables consistently failed to load (PCQ3 and HF1). To increase the parsimony of the factors (Hair et al., 2006b; Kieffer, 1999), the threshold score was increased to

0.5 – which Hair et al. (2006b) suggested as being significant. This increment resulted in the removal of three additional variables (PCQ4, ID4, and PCQ6) from the five imputation iterations resulting in a total of 33 loaded items across 10 factors/constructs.

The pattern matrix values across the five iterations were then pooled together to get an overarching pattern matrix with ten factors and 33 variable/items as shown in *Table 5.6*. The first factor had the most variables and was a merger of all the information needs items (IN1, IN2, IN3) with three out of the six perceived content quality items (PCQ1, PCQ2, and PCQ5). This factor appears to represent citizens’ desire for quality information that meets their information needs. The second Factor contained four of the five interaction and deliberation items (IDelib1, IDelib2, IDelib3, IDelib5). The third factor contained all the accessibility factors (FA1, FA2, FA3). The fourth factor contained two of the three hedonic features items (HF2, HF3). The fifth factor contained all the trust in government factors (TGA1, TGA2, TGA3, TGA4). The sixth factor had all the collaborative content creation items (CC1, CC2, CC3). The seventh factor had two of the three perceived writer’s credibility items (PWC1, PWC3). The eighth factor contained all the content engagement items (CE1, CE2, CE3). The ninth factor contained all the affinity for government’s platforms items (IVP1, IVP2, IVP3). The tenth factor had all the visual attributes of content items (VAC1, VAC2, VAC3).

Variables	Factors									
	1	2	3	4	5	6	7	8	9	10
	Number of Variables Per Factor									
	6	4	3	2	4	3	2	3	3	3
IN3	.72									
IN2	.62									
PCQ1	.57									
IN1	.57									
PCQ2	.54									
PCQ5	.54									
PCQ4	.48									
PCQ3										
IDelib2		.84								
IDelib3		.81								
IDdelib1		.78								
IDdelib5		.76								
IDdelib4		.47								
FA2			.84							
FA1			.80							
FA3			.75							
HF2				.87						
HF3				.76						
TGA2					-.82					
TGA4					-.72					
TGA3					-.72					

Variables	Factors									
	1	2	3	4	5	6	7	8	9	10
	Number of Variables Per Factor									
	6	4	3	2	4	3	2	3	3	3
TGA1					-.64					
CC1						-.80				
CC2						-.72				
CC3						-.72				
HF1										
PWC1							.82			
PWC3							.65			
CE1								.79		
CE2								.66		
CE3								.61		
IVP3									.78	
IVP2									.74	
IVP1									.69	
VAC3										.88
VAC2										.83
VAC1										.55
PCQ6										.45

Keys Grey Failed to load  
Orange Removed due to low correlation coefficient score

#### 5.4.2 Reliability Test

Each of the factors/scales was also checked for reliability/internal consistency using the Cronbach's alpha. All exceeded the recommended threshold value of 0.70 (Loewenthal, 2001) apart from PWC which had a Cronbach's alpha value of 0.56 and had only two items (PWC1 and PWC3), hence, removing an item to improve the score was not a valid option. Therefore, the factor was removed entirely resulting in a total of 9 factors and 31 items. This is as indicated in *Table 5.26*.

*Table 5.26: Cronbach's Alpha*

Construct	Cronbach's Alpha ( $\alpha$ )	Number of Items
CE	0.74	3
INPCQ	0.84	6
VAC	0.80	3
TGA	0.85	4
IVP	0.83	3
FA	0.77	3
CC	0.76	3
IDelib	0.86	4
HF	0.75	2

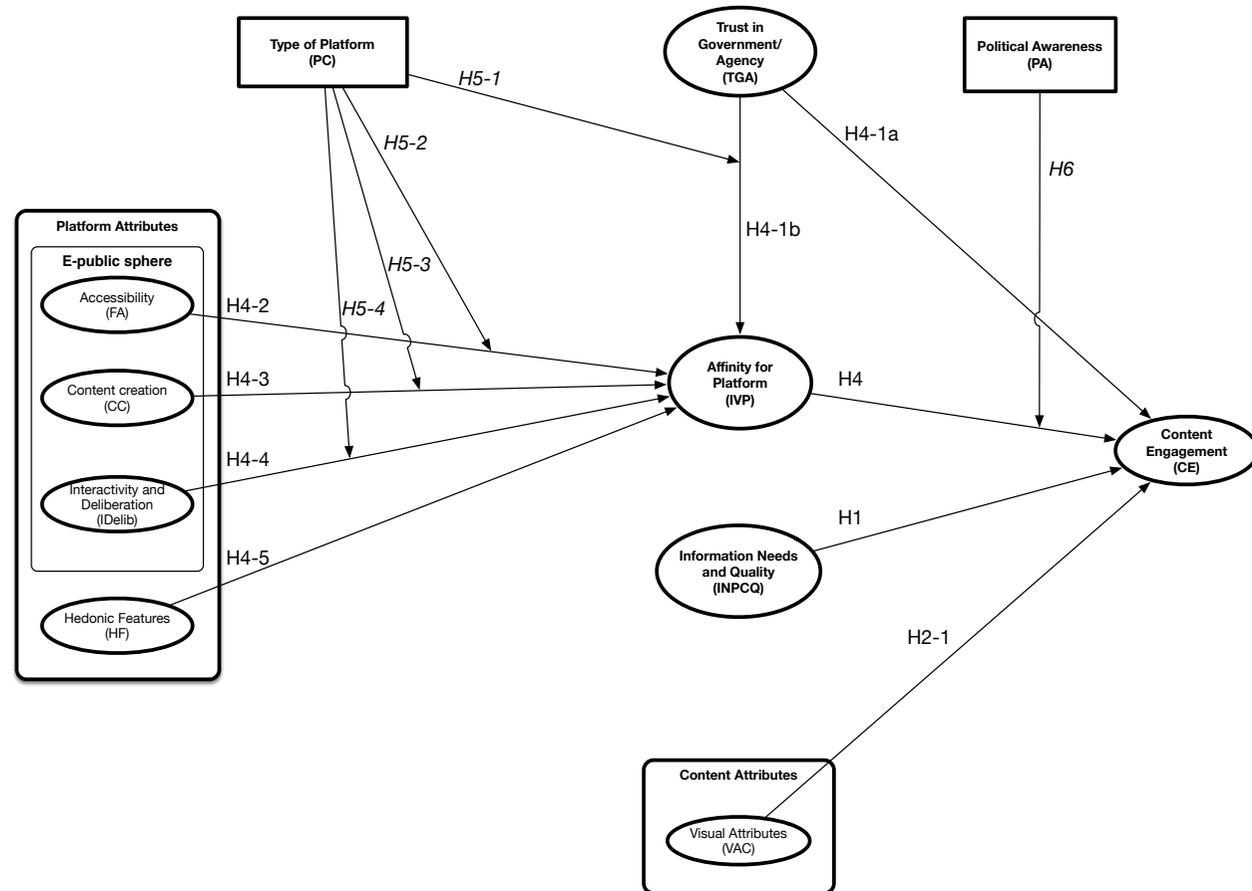
Table 5.26: Cronbach's Alpha

Construct	Cronbach's Alpha ( $\alpha$ )	Number of Items
PWC	0.56	2

Keys   Orange Removed due to low Cronbach's alpha

In summary, the factor analysis and reliability analysis reduced the hypothesised C-CE model by two constructs/factors and six variables. To a great extent the pattern matrix significantly agreed with the hypothesised model pre-factor analysis because all the variables clumped together as was designed; the only difference being the merger of the IN and PCQ items. The refined C-CE model is as shown in Figure 5.1

Figure 5.1: Refined Conceptual Model/Hypothesis



## 5.5 Part Four: Analysis of the Citizen-Content Engagement (C-CE) Model Using SEM

The IBM SPSS AMOS Version 22 and IBM SPSS Statistics Version 22 applications were used to analyse the hypothesised C-CE model following a Structural equation modelling (SEM) approach. SEM refers to a diverse set of statistical methods that link networks of constructs to collected data (Kaplan, 2009). It has two components or approaches: the measurement model and the structural model (Anderson & Gerbing, 1988). The measurement model specifies the relationship between latent variables and their indicators and is typically done using exploratory or confirmatory factor analysis (Kline, 2010). The structural model, on the other hand, specifies the relationship and dependencies between endogenous and exogenous variables and is typically done using path analysis (Kline, 2010).

To assess the measurement model in this study, a confirmatory factor analysis was first conducted. The confirmatory factor analysis (CFA) is a procedure that is used to test for unidimensionality, validity and reliability of latent constructs (Atkinson et al., 2011; Fischer, 2012; Fornell & Larcker, 1981; Hair, Black, Babin, Anderson, & Tatham, 2006a; Prudon, 2014). There are different approaches to CFA but this study adapts the steps suggested by (Awang, 2016) to include (1) assessment of measurement model fit (2) test for unidimensionality (3) test for reliability (4) test for validity (5) assessment of structural model fit (6) evaluation of hypothesised model.

### 5.5.1 Measure of Fit for the Measurement Model

Fit analysis/measurement helps assess how well the observed data matches the value expected by theory (Hooper, Coughlan, & Mullen, 2008; Prudon, 2014). There are three classes of indices that assess model fit. These include: (1) *The absolute fit indices* which include Chi-square ( $\chi^2$ ), Goodness of fit index (GFI), Adjusted Goodness of Fit Index (AGFI), Root Mean Square Residual (RMSR), and Standardised Root Mean Square Residual (SRMR). (2) *The relative fit indices* which include Incremental Fit Index (IFI), Tucker-Lewis Index (TLI), and the Normed-Fit Index (NFI). (3) *The noncentrality-based fit indices* which include Root Mean Square of Error Approximation (RMSEA), and Comparative Fit Index (CFI) (Muruyama 1998; Tanaka 1993) cited in (Li, 2006, p. 97).

The Chi-square value is essential in the calculation of these three classes of fit indices. The relative fit indices are calculated by comparing the model's Chi-square value against the null model which says that all the observed variables are uncorrelated and are a very poor fit. On the other hand, the noncentrality-based indices are functions of chi-square, the degree of freedom (df), and the sample size (N). Theoretically and desirably, a good model should have a  $\chi^2$  p-

value greater than 0.05. This means there should be no significant difference between the tested model and the saturated/perfect model expected by theory. However,  $\chi^2$  is susceptible to the influence of sample and model size, which in turn affects the significance of the difference between the tested and saturated models (Kenny, 2015). Therefore, the Chi-square is no longer a reliable basis for the acceptance or rejection of model fit (Schermelleh-Engel, Moosbrugger, & Müller, 2003; Vandenberg, 2006). As a result of this, reporting a combination of fit results across the three classes of fit indices has become acceptable (Cheung & Rensvold, 2002; Jackson, Gillaspay Jr, & Purc-Stephenson, 2009). This study chose the SRMR as an indicator for absolute fit, the TLI and NFI as indicators of relative fit, and the RMSEA and CFI as indicators of noncentrality-based fit. However, these indices are still not perfect (Steiger, 2007).

Going by the values of the indices in the pooled results, it can be said that the measurement model has a good fit. As shown in *Table 5.27*, the NFI is above the recommended 0.80 threshold, the CFI and TLI are above the recommended value of 0.90, RMSEA is below the recommended value of 0.10, and SRMR is below the recommended value of 0.11 (Bentler & Bonett, 1980; Hooper et al., 2008).

*Table 5.27: Fit Indices for the Measurement Model*

<b>Indices</b>	<b>Recommended values</b>	<b>First Iteration</b>	<b>Second Iteration</b>	<b>Third Iteration</b>	<b>Fourth Iteration</b>	<b>Fifth Iteration</b>	<b>Pooled Results</b>
<b>NFI</b>	$\geq 0.80$	0.93	0.93	0.93	0.93	0.93	0.93
<b>CFI</b>	$\geq 0.90$	0.97	0.98	0.98	0.98	0.98	0.98
<b>TLI</b>	$\geq 0.90$	0.94	0.94	0.94	0.94	0.94	0.94
<b>RMSEA</b>	$\leq 0.10$	0.041	0.039	0.040	0.040	0.04	0.04
<b>SRMR</b>	$\leq 0.11$	0.02	0.02	0.02	0.02	0.02	0.02

### 5.5.2 Unidimensionality

Unidimensionality of a scale refers to the scale's ability to measure a given construct or attribute and nothing else. It is achieved when items/indicators in a construct have acceptable factor loadings (Awang, 2016). Doll, Raghunathan, Lim, and Gupta (1995) point out that although factor loading above 0.70 are considered good measures of their latent constructs, there is no universally acceptable cut-off value. Conversely, Hair et al. (2006a) suggest that factor loadings with values at 0.50 or higher are acceptable. However, Hutcheson and Sofroniou (1999) argue that values between 0.5 and 0.7 are mediocre, though acceptable for new measures and exploratory studies. Because this is an exploratory study and the measures are not well established, this study used 0.5 as the factor loading threshold. As a result, four items were

eliminated. As indicated in *Table 5.28*, the factor loadings for all the items in the construct were above 0.50 and it can be said that the measurement model has achieved unidimensionality.

*Table 5.28: Factor Loadings*

<b>Items</b>	<b>Factor Loadings</b>
IN3	0.70
IN2	0.62
IN1	0.59
PCQ1	0.56
PCQ2	0.48
PCQ5	0.41
IDelib3	0.79
IDelib2	0.76
IDelib5	0.70
IDelib1	0.67
HF2	-0.78
HF3	-0.70
VAC3	0.87
VAC2	0.79
VAC1	0.45
FA2	0.77
FA1	0.70
FA3	0.66
TGA2	-0.88
TGA3	-0.70
TGA4	-0.66
TGA1	-0.61
CE2	-0.83
CE3	-0.65
CE1	-0.44
IVP3	0.76
IVP2	0.73
IVP1	0.64
CC1	0.77
CC2	0.70
CC3	0.67

Keys Orange Removed due to factor loading < 0.50

### 5.5.3 Reliability Analysis

A reliability test was conducted and Cronbach's alpha exceeded the recommended value of 0.7 (Loewenthal, 2001). However, a common approach to reliability test in CFA is the composite reliability (CR) which measures the overall reliability of a collection of heterogeneous but similar items (Fischer, 2012) and is calculated as (square of the summation of factor loadings) / (square of the summation of factor loadings + the summation of the error variances). It is considered acceptable above the value of 0.7 (Fornell & Larcker, 1981). The composite reliability for the model demonstrates acceptable values that are over 0.7 as indicated in *Table 5.29*.

*Table 5.29: Reliability*

<b>Construct</b>	<b>Number of Items</b>	<b>Cronbach's Alpha</b>	<b>Composite Reliability</b>
<b>INPCQ</b>	4	0.80	0.71
<b>IDelib</b>	4	0.86	0.82
<b>HF</b>	2	0.75	0.71
<b>VAC</b>	2	0.83	0.82
<b>FA</b>	3	0.75	0.75
<b>TGA</b>	4	0.84	0.81
<b>CE</b>	2	0.74	0.71
<b>IVP</b>	3	0.81	0.75
<b>CC</b>	3	0.76	0.76

### 5.5.4 Construct Validity Analysis

In CFA, validity is typically ascertained by convergent and divergent/discriminant validity tests (Fischer, 2012). While convergent validity checks if measures that should be related are, indeed, related, discriminant validity checks if measures that should be unrelated are, indeed, unrelated.

The convergent validity is ascertained by considering the average variance extracted (AVE). The AVE measures the variance of the items in a construct relative to the total amount of variance, the variance of the indicators inclusive. In order to pass a convergent validity criterion, constructs must have AVE values of 0.50 and above (Fischer, 2012; Fornell & Larcker, 1981). As indicated in *Table 5.30*, the AVE values were all  $\geq 0.50$  apart from the INPCQ construct which had a value of 0.38. This means that on the average, the INPCQ construct has items that contain less than 50% explained or common variance (Fornell & Larcker, 1981), and, therefore, has more error than variance explained. Measurement error have been observed to be as a result of items measuring other factors besides the hypothesised construct (Kline, 2005; Schumacker & Lomax, 2004). This may be the reason for the poor AVE because INPCQ was formed by

factor rotation during the exploratory factor analysis when items from two different constructs (IN and PCQ) loaded under one factor.

In the literature, convergent validity is also said to be proven if the latent variable is reliable (Ping, 2009), or if the factor loadings are  $\geq 0.50$  (Johari, Yahya, & Omar, 2011; Said, Badru, & Shahid, 2011). Going by reliability and factor loading, it can be said that the measurement model in this study has achieved convergent validity. However, presenting these as proof of convergent validity is not as popular/acceptable as the AVE, hence, the claim of validity is made with some caution. Ultimately, the INVPQ construct was retained, as is, in the model. This is because the model and measures are new, and the study is exploratory (Ping, 2009).

*Table 5.30: Average Variance Extracted*

<b>Construct</b>	<b>AVE</b>
<b>INPCQ</b>	0.38
<b>IDelib</b>	0.54
<b>HF</b>	0.55
<b>VAC</b>	0.68
<b>FA</b>	0.50
<b>TGA</b>	0.52
<b>CE</b>	0.56
<b>IVP</b>	0.50
<b>CC</b>	0.51

The discriminant validity is ascertained by comparing the shared variance among constructs with the AVE, where the shared variance is calculated by squaring the correlation coefficients. If the AVE for latent variables in a model are greater than the shared variance between the latent variables, the discriminant validity is confirmed (Fornell & Larcker, 1981). As shown in *Table 5.31*, the AVE for the latent variables were consistently greater than the shared variance between them. This suggests that the measures are distinct and free from redundant items.



Table 5.32: Fit Indices of the Structural Model

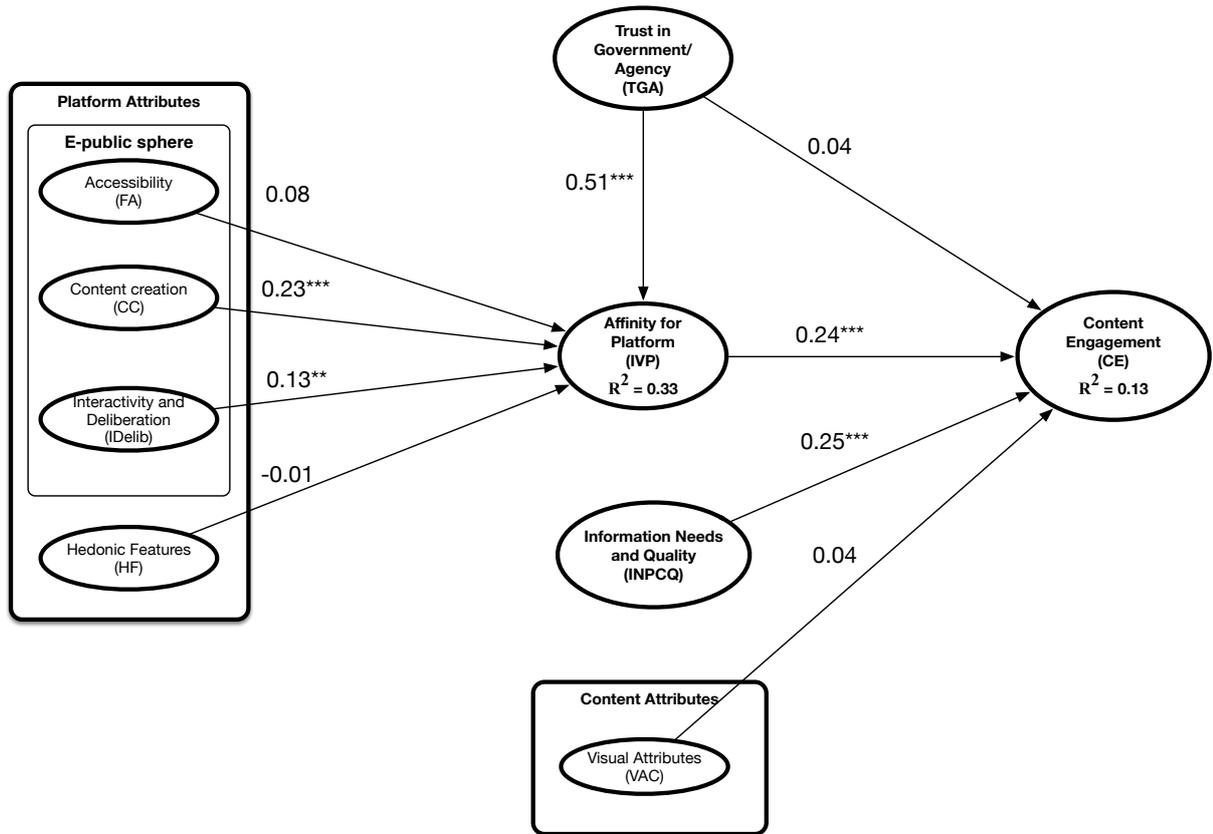
Indices	Recommended values	First Iteration	Second Iteration	Third Iteration	Fourth Iteration	Fifth Iteration	Pooled Results
<b>SRMR</b>	$\leq 0.11$	0.11	0.11	0.11	0.11	0.11	0.11
<b>IFI</b>	$\geq 0.90$	0.93	0.93	0.93	0.93	0.93	0.93

### 5.5.6 Evaluating the hypothesised model

The multiple imputation dataset was split into five for each of the five iterations in preparation for the analysis of the overall explanatory power of the hypothesised C-CE model. With the IBM SPSS AMOS 22 application, the predictive power of the exogenous variables for the hypothesised model was examined for each of the five datasets using standardised squared multiple correlations ( $R^2$ ), standardised path coefficients ( $\beta$ ), and the significance of the coefficients ( $p$ ). The individual results were pooled and the mean presented as the overarching result (Sinharay et al., 2001; Wayman, 2003). The results of the analysis across the five data sets were very similar as they returned approximately the same  $R^2$ ,  $\beta$ , and  $p$  values as shown in Appendix O.

The average  $R^2$ ,  $\beta$ , and  $p$  values were obtained and are shown in Figure 5.2 and Table 5.33. CE and IVP (the two endogenous variables) had an  $R^2$  value of 0.13 and 0.33 respectively. This indicates that the factors in the C-CE model predict 13% of the total variability in citizens' engagement with government's online contents (CE) and 33% of their affinity for government's online platforms (IVP). Out of the nine hypotheses, five were significant: H1, H4, H4-1B, and H4-3 were statistically significant at  $p < 0.001$ , while H4-4 was significant at  $p = 0.01$ . H2-1, H4-1A, H4-2, and H4-5 were, however, not significant.

Figure 5.2: Data analysis Results



\*\*\* Significant at 0.001 level

\*\* Significant at 0.01 level

Table 5.33: Pooled Data Analysis Result

Hypotheses		$\beta$	P
H4-2	IVP $\leftarrow$ FA	0.08	0.13
H4-3	IVP $\leftarrow$ CC	0.23	***
H4-4	IVP $\leftarrow$ IDelib	0.13	0.01
H4-5	IVP $\leftarrow$ HF	-0.012	0.81
H4-1B	IVP $\leftarrow$ TGA	0.51	***
H2-1	CE $\leftarrow$ VAC	0.04	0.51
H1	CE $\leftarrow$ INPCQ	0.25	***
H4	CE $\leftarrow$ IVP	0.24	***
H4-1A	CE $\leftarrow$ TGA	0.04	0.53

Notes: \*\*\* p-value < 0.001

The direct, indirect, and total effect of the factors on content engagement (CE) was also analysed and presented in *Table 5.34*. The result shows that the quality and ability of the content to meet citizens' information needs (INPCQ) has the largest effect on citizens' engagement with the content; this is closely followed by citizens' affinity for government's platforms. Trust in government/agency (TGA) had the next highest effect on CE, most of which was accounted for by its indirect effect shaped through affinity for governments platform (IVP).

*Table 5.34: Effects of the variables on CE*

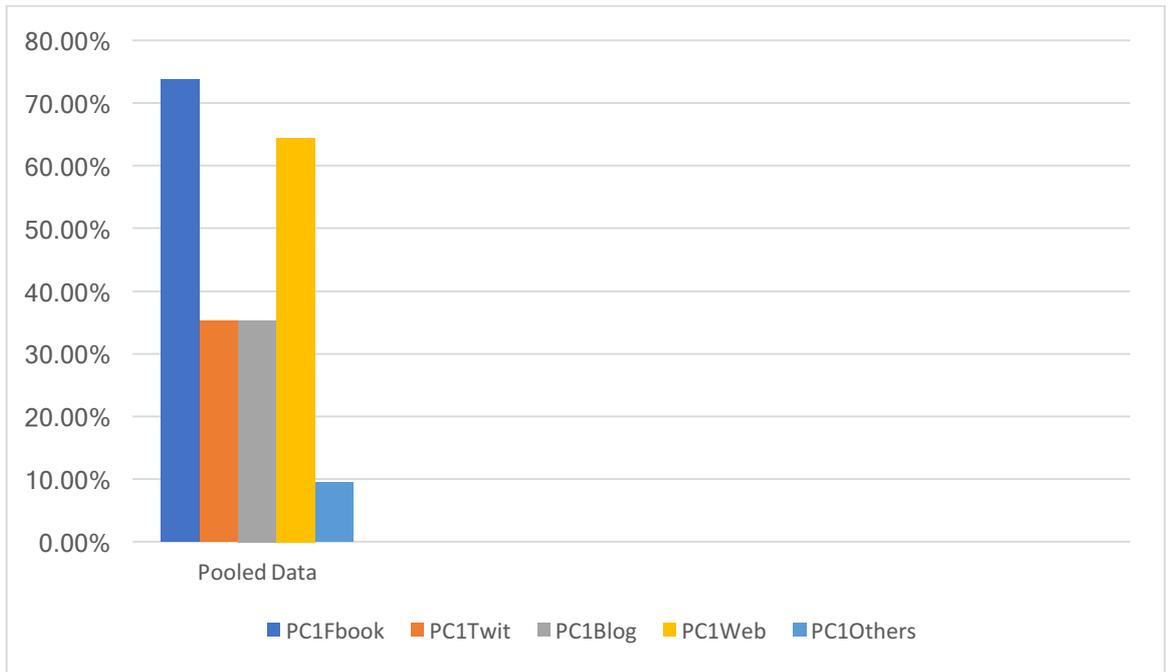
Variables	Effect size ( $\beta$ )		
	Direct Effect	Indirect Effect	Total Effect
<b>INPCQ</b>	.25	-	.25
<b>IVP</b>	.24	-	.24
<b>TGA</b>	.04	.12	.16
<b>CC</b>	-	.05	.05
<b>VAC</b>	.04	-	.04
<b>IDelib</b>	-	.03	.03
<b>FA</b>	-	.02	.02
<b>HF</b>	-	-.003	-.003

#### *5.5.6.1 Impact of the Type of Platforms Governments Use*

Multiple-response data was used to investigate the influence of government's choice of online platforms on citizen's affinity for governments' platforms and to engage with government's online contents. Respondents were asked to identify from a list, the type(s) of platforms they would prefer their government to use in communicating with and providing information for them (PC1), and the type(s) currently in use (PC2). The options were "Facebook", "Twitter", "Blog", "Websites", and "Others". To facilitate analysis of the data using SPSS, each option was treated as a separate variable (PC1Fbook, PC1Twit, PC1Blog, PC1Web, PC1Others, PC2Fbook, PC2Twit, PC2Blog, PC2Web, PC2Others) and the data was presented in a binary categorical form where '0' meant that the option was not selected and '1' meant that it was.

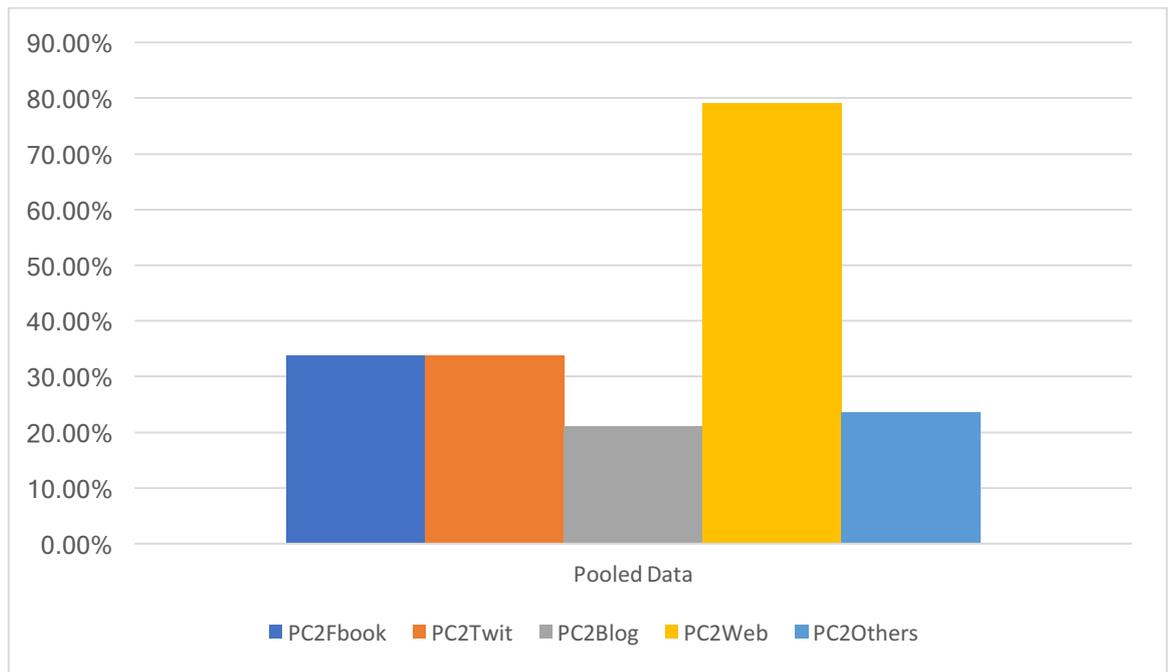
As indicated in Figure 5.3, for PC1, Facebook was identified as the most preferred platform for citizens (73.7%), this was followed closely by website (64.5%). The respondents had an almost equal preference for Twitter (35.2%) and Blogs (35.3%). Other identified platforms include messengers, questions and answer sites, Instagram, YouTube, and Email (9.4%).

Figure 5.3: Citizens' Choice of Platforms



As indicated in Figure 5.4, for PC2, websites were identified as being the most used by the government (79.1%), followed by Facebook and Twitter (33.8%), and blogs (21.1%). Other media identified by respondents were offline and included national dailies, television, and radio (21.1%). It is pertinent to state that the individual percentages do not sum up to 100 because the question that generated this data was a multiple response type where respondents were allowed to select one or more options.

Figure 5.4: Type of Platform Used by the Government

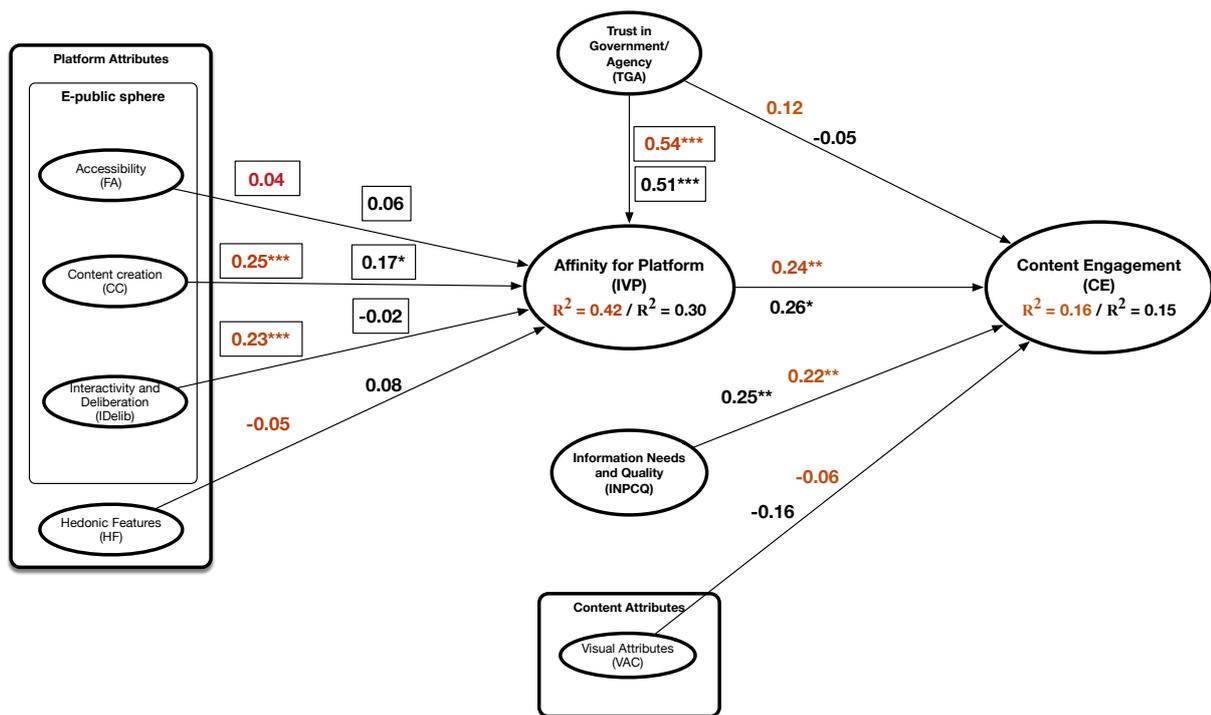


Based on the PC2 variable, the hypothesised C-CE model was re-analysed using the multigroup moderation analysis approach to check for moderating effects of platform type on trust in government and agency (TGA), platform accessibility (FA), Collaborative content creation on platform (CC), interaction and deliberation (IDelib), and hedonic/persuasive features as determinants of citizens' affinity for government's platforms (IVP). The intent was to test the hypotheses that social media use by the government would have more positive effect than websites on the influence of TGA (H5-1), FA (H5-2), CC (H5-3), and IDelib (H5-4) on IVP.

To facilitate the analysis, PC2Fbook and PC2Twitter variables were merged into a new variable representing social media use, while the PC2Blog and PC2Web variables were merged into a new variable representing mainstream website/blog use. PC2Others was not considered as its data referred to offline media which were not within the context of this study. The two new variables were further merged and dummy coded into a new variable representing government's platform types (PlatformUse). The PlatformUse variable had two groups of moderating values which include SM and WEB. SM was coded as "1" and represents government's use of both social media alone or together with mainstream websites/blogs; WEB was coded as "0" and represents government uses mainstream websites/blogs alone.

Using standardised  $R^2$  values, standardised path coefficients, and significance, the result of this multigroup moderation analysis is presented in Figure 5.5 and Table 5.35 for the effect of the moderation on the entire C-CE model but with a particular interest in the relationship between IVP. In Figure 5.5, the path coefficients are written in red for the SM group, and in black for the WEB group. The results show that only hypotheses H5-1, H5-3, and H5-4 had empirical support for the expectation that social media would have more positive effect than websites on the influence of TGA, FA, CC, and IDelib on IVP. To check the significance of the difference between the coefficients, a Stats Tool Package by Gaskin (2012) was used to calculate the path differences between the two groups. Based on the critical ratios approach, this tool calculates the significance of the difference in the estimate of parameters between groups by comparing the z-score of these differences as well as the estimated regression weights of the groups (Kruse, Williams, & Seng, 2014). The comparison shows that only the difference in H5-4 was significant.

Figure 5.5: Platform Moderation Effects



**Red:** Social Media group

**Black:** Website group

**$\beta$  in boxes:** Main focus/hypothesis

\*\*\* Significant at  $p < 0.001$

\*\* Significant at  $p < 0.01$

\* Significant at  $p < 0.05$

Table 5.35: Platform Moderation Effects

Hypotheses		Social Media			Websites/blogs			Significance of Difference	
		$\beta$	P	B	$\beta$	P	B	Diff in B	Z-Score
H5-4	IVP $\leftarrow$ IDelib	.23	***	0.178	-.02	.782	-0.018	-.196	-2.451**
H5-1	IVP $\leftarrow$ TGA	.54	***	0.550	.51	***	0.443	-.107	-1.121
H5-3	IVP $\leftarrow$ CC	.25	***	0.204	.17	.035	0.138	-.066	-0.795
H5-2	IVP $\leftarrow$ FA	.04	.545	0.031	.06	.486	0.045	.014	0.171

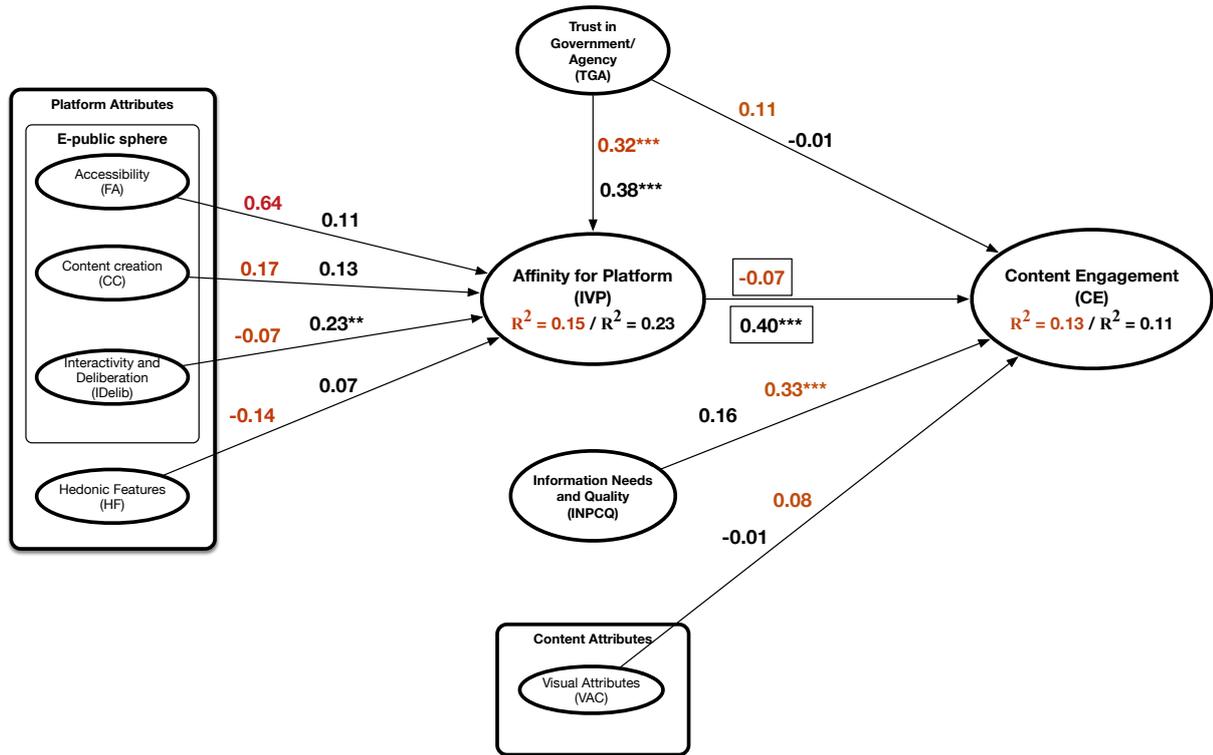
Notes: \*\*\* p-value < 0.01; \*\* p-value < 0.05; \* p-value < 0.10

### 5.5.6.2 Impact of Political Awareness

Three questions were used to test the citizens' level of political awareness, each question had a score of 1. These made up the PA variable (PA1, PA2, PA3). To prepare the variable for multigroup moderation analysis, the mean score for PA was obtained (1.2) and the data transformed into binary. Scores less than 1.2 were coded as 0, and those equal or above were coded as 1; where "0" represented poor awareness and "1" represented adequate awareness. 62% of the respondents indicated they had poor political awareness level, while 38% were optimally aware. The hypothesised C-CE model was re-analysed using the multigroup moderation analysis approach to check for moderating effects on the model as shaped through hypothesis H6. The intent was to evaluate the moderating effect of political awareness on citizens' affinity for government's platforms (IVP) as a determinant of their engagement with government's contents (CE), and to test the hypothesis that optimal level of political awareness would have more positive effect than poor awareness level on the influence of IVP on CE (H6).

Using standardised  $R^2$  values, standardised path coefficients, and significance, the result of this multigroup moderation analysis is presented in Figure 5.6 and Table 5.36 for the effect of the moderation on the entire C-CE model but with a particular interest in the relationship between IVP and CE. In Figure 5.6, the path coefficients are written in red for the optimal political awareness level group, and in black for the poor political awareness level group. The results show that there was an awareness moderation effect on the relationship between IVP and CE because with awareness at optimum,  $\beta$  value was -0.072, and 0.30 with poor awareness. However, there was no empirical support for hypothesis H6, as optimal awareness had a negative effect on the influence of IVP on CE, contrary to expectation. The difference in  $\beta$  value between optimal and poor levels of awareness was also checked for significance using the critical ratio approach, and it was significant at  $p < 0.01$ .

Figure 5.6: Political Awareness Moderation Effects



**Red:** Optimal political awareness group

**Black:** Poor political awareness group

**β in boxes:** Main focus/hypothesis

\*\*\* Significant at 0.001 level

\*\* Significant at 0.01 level

Table 5.36: Political Awareness Moderation Effects

Hypotheses		Aware			Not Aware			Significance of Difference	
		β	P	B	β	P	B	Diff in B	Z-score
H6	CE ← IVP	-0.072	.453	-0.121	.298	***	0.406	.527	2.664***

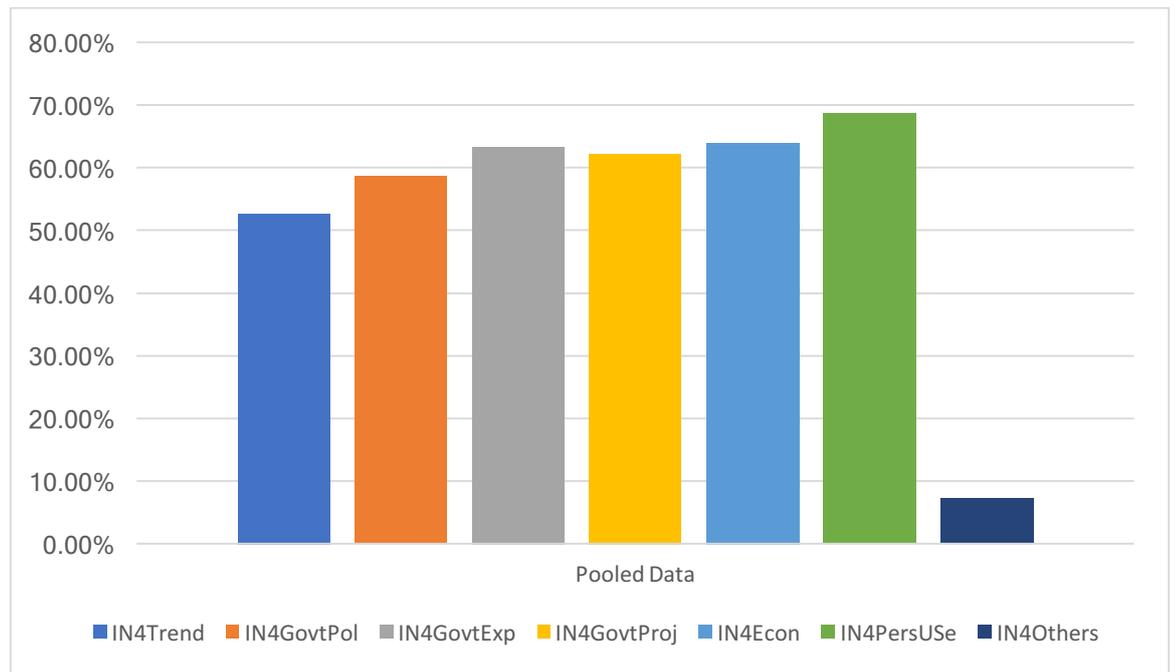
Notes: \*\*\* p-value < 0.01; \*\* p-value < 0.05; \* p-value < 0.10

### *5.5.6.3 Other Analysis*

#### **Types of information citizens want from the government**

Multiple-response data was used to investigate citizens' choice of information from the government. Respondents were asked to identify from a list, the type(s) of information they would want from their government on the internet (IN4). The options were from the qualitative data and include: information on trending socio-political events, information on government policies, information on government's income and expenditure, information on government's projects and activities, information on the economy, information for personal use, and others which include information on international/diplomatic relations, information on opportunities for citizens to play some role in policy development, information on direct contact details of government officials. To facilitate analysis of the data using SPSS, each option was treated as a separate variable (IN4Trend, IN4GovtPol, IN4GovtExp, IN4GovtProj, IN4Econ, IN4PersUse, IN4Others) and the data was presented in a binary categorical form where '0' meant that the option was not selected and '1' meant that it was. Using the pooled data as a sphere of reference, IN4PersUse is the most needed type of information at about 68.6%, with the least being IN4Others at 7.2% (Figure 5.7). As IN4GovtPol, IN4GovtExp, IN4GovtProj and IN4Econ are all part of information for political participation (Johannessen, Flak and Saebo, 2012), their individual percentages were averaged to get 62.05%. It is pertinent to state that the individual percentages do not sum up to 100 because the question that generated this data was a multiple response type where respondents were allowed to select one or more options. The result of this analysis can only be taken at face value as a test of significance between the options was impossible given that the data was from a multiple response question type.

Figure 5.7: Types of Information Citizens Want from the Government



## 5.6 Conclusion

This chapter presented the development of hypothesis and questionnaires for the quantitative phase of this study, from the qualitative phase. It also presented the justification of sampling and sample size and the data collection process.

As it concerns the analysis, in summary, eight of the 14 proposed hypotheses were accepted: citizens' engagement with governments' online contents (CE) is significantly influenced by the contents' quality and ability to meet citizens' information needs (INPCQ), and their affinity for governments' online platforms (IVP); citizens' affinity for governments' online platforms (IVP) was significantly influenced by their trust in government/agency (TGA), the platforms' ability to allow collaborative content creation (CC), and interactivity and deliberation (IDelib); social media use by governments was found to have more positive effects than websites on the influence of trust in government/agency (TGA), collaborative content creation (CC), and interactivity and deliberation (IDelib). The next chapter will discuss and interpret the result in its entirety.

## Chapter 6 : Discussion

### 6.1 Introduction

This chapter discusses the data analysis results as it concerns factors that influence citizens' engagement with government's online contents (CE), and the effect of political awareness and the platform type being used by governments on the research model. A summary of the findings is first presented, followed by individual sections addressing each hypothesis. Subsequently, practical implications for theory and practice are presented. The limitations of the study and recommendation for future studies are also presented.

### 6.2 Citizens' Engagement with Government's Online Platforms.

Although governments around the world have increasingly used ICT -especially over the internet- to provide services for, transact, inform, communicate, and interact with citizens (Astrom et al., 2012; Belanger & Carter, 2006), there is a dearth of research on the contents or information provided by the government, their value to the public and their effects on e-public engagement (Janssen et al., 2012). Citizens' engagement with and use of governments' information remains an unexplored niche topic that needs more research attention (Zuiderwijk et al., 2014). This research gap can be attributed to some factors including (1) the predominant focus of e-public engagement/participation research on techno-centric aspects/e-participation activities like the adoption and usage of e-voting, e-petitioning, e-surveys, e-deliberation, etcetera. (Medaglia, 2012; Sæbø, Rose, & Flak, 2008). (2) The significant focus on governments in e-participation research. For instance, there is abundant research on governments' efforts at using technology to improve citizens' participation in governance (United Nations, 2014), the type of technologies adopted for this purpose (Aichholzer & Westholm, 2009), the factors that affect governments' implementation of e-public engagement initiatives (Zheng et al., 2014), and how to adopt and use these initiatives (Alvarez et al., 2009; Bonson et al., 2015; Carter & Belanger, 2012). Studies that have considered citizens or other stakeholders outside ruling sphere tend to be reactionary (Alvarez et al., 2009; Bonson et al., 2015). (3) The superficial approach to studying engagement on the internet (Haile, 2014; Manjoo, 2013; Mintz, 2014), especially on social media, by counting the number of likes, comments, shares, etc. (Bonson et al., 2015; Bonsón et al., 2014; Goggins & Petakovic, 2014; Ye & Wu, 2010). Besides the sparse focus on info-centric aspects of e-public engagement/participation research, previous studies have failed to accept the invitation by Medaglia (2012) and Bertot et al. (2008, p. 137) who called for a shift of e-government and e-participation research focus from governments to citizens. There is also no detailed and comprehensive framework that presents factors which influence CE.

### 6.3 Summary of Findings: Qualitative and Quantitative

This study aims to investigate -from citizens' perspective- the factors that influence CE, and to develop a framework for government information provision. To provide an initial guideline to the investigation, this study adopts a conceptual framework developed around the uses and gratification theory (UGT), which suggests that CE would be based on citizens' information needs, on the contents' features/quality, and on activities that facilitate engagement (Davies, 2010; Maruyama et al., 2013; Susha et al., 2015; Wang et al., 2005; Zuiderwijk et al., 2012). Based on the qualitative empirical investigation, the first phase of this study builds on the conceptual model and hypothesises that (1) CE is directly influenced by citizens' information needs (IN, H1). (2) The contents' attributes which could be visual (VAC, H2-1) and/or perceived (PCQ, H2-2). (3) The perception of the writer (PWC, H3). (4) Trust in government/agency (TGA, H4-1a). (5) Citizens' affinity for governments' platforms (IVP, H4). Qualitative findings of this study also suggest that IVP is dependent on TGA (H4-1b), the platforms' similarity to the public sphere (accessibility (FA, H4-2), content creation (CC, H4-3), and interactivity and deliberation (IDelib, H4-4)) and their hedonic/persuasive features (HF, H4-5). The first phase also hypothesises that social media use by governments will have more positive effect than websites on the influence of TGA on IVP (H5-1). Similar hypotheses were developed for relationships between FA on IVP (H5-2), CC on IVP (H5-3), and IDelib on IVP (H5-4). Finally, the first phase hypothesises that citizens' level of political awareness has a positive moderation effect on the influence of IVP on CE (H6). From these, an initial citizen-content engagement (C-CE) model was developed and ready for further testing.

Based on quantitative empirical research, the second phase of this study tests the assumptions and claims of the first phase. The C-CE model was further refined using factor analysis. IN and PCQ were merged into one to represent contents' quality and ability to meet citizens' information needs (INPCQ, H1), while PWC (H3) was removed entirely. This reduced the factors that may influence CE to four (INPCQ, VAC, TGA, and IVP) in the refined C-CE model; every other aspect remained largely unchanged. The refined C-CE model was then tested for significant relationships between the exogenous and endogenous variables. INPCQ and IVP were found to have a significant influence on CE, while TGA, CC, and IDelib significantly influence IVP. This suggests that H1, H4, H4-1b, H4-3 and H4-4 are accepted. Furthermore, H5-1, H5-3, H5-4 are accepted; but only H5-4 is significant. Finally, H6 is rejected.

Quantitative empirical findings also show that Facebook is the platform of choice for citizens as it concerns getting information from, interacting and communicating with the government. Twitter follows this and then blogs and websites. The top three information types of choice are

information for the personal use of the citizens, information on the economy, and information government's income and expenses. The subsequent sections would interpret the findings based on the endogenous variables (CE and IVP)

#### 6.4 Predictors of Content Engagement (CE)

Four factors were hypothesised to directly predict citizens' engagement with government's online contents (CE); five factors were predicted to do so indirectly. However, only five out of the nine factors were supported empirically (*Table 6.1*) Each factor shall be discussed in the following sections.

*Table 6.1: List of Hypotheses*

<b>Hypothesis</b>	<b>Relationship</b>	<b>Result</b>
H1	INPCQ → CE	Supported (+)
H2-1	VAC → CE	Not supported
H4	IVP → CE	Supported (+)
H4-1A	TGA → CE	Not supported
H4-1B	TGA → IVP	Supported (+)
H4-2	FA → IVP	Not Supported
H4-3	CC → IVP	Supported (+)
H4-4	IDelib → IVP	Supported (+)
H4-5	HF → IVP	Not Supported
<b>Moderating Effects</b>		
H5-1	TGA → IVP (Social media)	Supported (+)
H5-2	FA → IVP (Social media)	Not Supported
H5-3	CC → IVP (Social media)	Supported (+)
H5-4	IDelib → IVP (Social media)	Supported (+)
H6	IVP → CE (Political awareness)	Not Supported

##### 6.4.1 The Effect of INPCQ on CE

The findings of this study indicate, expectedly, that the quality of governments' contents and the contents' ability to meet citizens' information needs (INPCQ) strongly influence their engagement with the contents. INPCQ has the highest total effect on CE. This finding agrees with previous studies which suggest that citizens' engagement with governments' online contents and e-participation are enhanced when government provides the information that meets the citizens needs (Davies, 2012; Susha et al., 2015) and in the right amount and quality (Lin, Fofanah, & Liang, 2011; Medaglia, 2012).

Findings from this study suggest that citizens would mainly want information that is for their individual use and benefits; this includes information that may lead to employment, information

about social interventions and welfare packages, information for academic and professional purposes, etcetera. This type of information need was also observed by Bonson et al. (2015) whose study found that citizens in a Local Governments within Western Europe are more engaged with information that directly affect their lives. Following closely is the need for information for political participation which includes information about the economy, information on governments' income and expenditure, information on government's projects, and information on government's policies. This type of information support citizens' scrutiny of the government, enlighten them as voters, enlighten them on specific issues in the state, and support campaigning and lobbying (Davies, 2010). Interest in political participation is said to be influenced by citizens' access to adequate finance, education, and civic skills (Krawczyk & Sweet-Cushman, 2016; Verba, Schlozman, Brady, & Brady, 1995). In this study, the high interest in information for political participation may be because over half of the respondents had at least a Bachelor's degree, thus were educated. However, access to adequate finance and possession of adequate civil skills may not be factors necessitating the need for information that would aid political participation. This is so as over half of the respondents earned between £126.76 - £507.02 a month; 27% earned less and 19% earned more. Furthermore, Nigeria faces a shortage of adequate civil skills as has been recognised by researchers who have suggested various interventions, especially through education, that may help equip Nigerians with the needed skills and help them avoid uncivil behavior (Aroge, 2012; Enu & Effiom, 2012; Falade, 2008). A more plausible explanation would be the current state of economic hardship and uncertainty in the country which has also gone into recession (Doya, Wallace, & Ibukun, 2016); this may have contributed to the heightened interest in activities of the government and the state of the economy. Previous studies have made similar findings which show that in many developing countries, the marginalised and poor tend to show more interest in governments' activities and participate at higher levels than those with more resources (Holzner, 2010; Inman & Andrews, 2009; Krawczyk & Sweet-Cushman, 2016).

Content/information quality has been well discussed by previous studies and refers to the relevance of the information to the users, the timeliness, accuracy, simplicity (Chen et al., 2002; Iivari & Koskela, 1987; Nardi & O'Day, 1999; Peng et al., 2004; Shedroff, 1999) and captivating presentation which may be story-like (O'Brien & Toms, 2008). The perceived quality of government's contents is particularly important as it concerns simplicity, timeliness, and accuracy/honesty. Governments tend to assume that citizens have the capabilities and knowledge levels required to use government information. Janssen et al. (2012) noted that governments would normally apply statistical techniques in collecting, analysing, interpreting and presenting data even when statistical knowledge is scarce. This results in a situation where the content is not understandable to the general public, and where citizens and users of the content find it

difficult to use the information because they are unfamiliar with the definitions and categories that were used to present the data (Zuiderwijk et al., 2012). Furthermore, as has been observed by previous researchers, citizens' engagement with governments' content is negatively impacted when the information is obsolete (Janssen et al., 2012; Lee & Kwak, 2012); this is more so in Nigeria where government's digital contents are routinely noncurrent (Madukoma & Opemipo, 2016). Another important aspect of perceived quality of governments' contents is the accuracy, or lack thereof, which may impact on trust for the government and bring about cynicism for government information (Janssen et al., 2012; O'Riain et al., 2012). This is even more important as advancements in technology afford governments the ability and the urge to engage in pseudonymous and anonymous communication with the citizens, and to proliferate propaganda (Baldino & Goold, 2014; Lee, 2005).

#### 6.4.2 The Effect of VAC on CE

The finding of this study suggests that the visual attributes of governments' online contents (VAC) have no significant influence on citizens' engagement with the contents. These visual attributes include the length of the contents and the use of relevant pictures and/or videos. This finding goes contrary to opinions of researchers and practitioners that audience of online contents tend to tune-off or disengage the more they read (Haile, 2014; Manjoo, 2013; Mintz, 2014; Zuiderwijk et al., 2012). Renowned web-usability researcher and expert –Jakob Nielsen– recommended that online contents should have concise texts as the majority of the audience would want the content to fit on a single screen (Morkes & Nielsen, 1997). Following a study of online readers, Nielsen (2008) suggested that by default, online contents should be strictly restricted to around 500 words unless they are meant for a targeted elite readership. Furthermore, a study by Bonson et al. (2015) found that pictures improve citizens' reaction to governments' posts on Facebook. Similarly, Morkes and Nielsen (1997) suggest that graphics and texts should complement each other for more engaging experience.

This finding can be explained by reference to the earlier finding which suggests that citizens are more interested in contents which they perceive are of good quality and which meet their information needs; therefore, the length of the contents and the use of complementary pictures and/or videos are not important. Furthermore, citizens would typically visit government's platforms for information and/or to complete transactions (Wang et al., 2005) which are utilitarian other than hedonic. Therefore it is understandable that a citizen would remain engaged to an online government content as long as it meets his/her information needs.

#### 6.4.3 The Effect of IVP on CE

Citizens' affinity for governments' platforms (IVP) was confirmed to have a significant influence on their engagement with the contents on those platforms. IVP had the second highest total effect on CE. Users visit online platforms for extrinsic or intrinsic reasons (Castañeda et al., 2007) to achieve utilitarian or hedonic aims. According to Wang et al. (2005), citizens would mainly visit governments' platforms for information and/or transactions; which is mainly utilitarian. Studies have found that governments' platforms attract more citizens who are in search of information than those who want to complete specific transactions (Oktem et al., 2014; Reddick & Turner, 2012; Sandoval-Almazan et al., 2013). At the time of this discussion, the Researcher was not aware of any past study that discussed the relationship between citizens' affinity for governments' platforms and their engagement with the contents on those platforms. However, in the field of e-marketing, studies have shown that customers' engagement with adverts on a platform is influenced by their affinity for and intent to use that platform (Calder et al., 2009; Chen & Wells, 1999; Gibbs, 2012; Mollen & Wilson, 2010; Peng et al., 2004). It is more likely that customers would engage with adverts placed on their platform of choice than on others (Paek et al., 2013), and this has prompted a call for businesses to reach their audience on the online platform they visit most (Matuszak, 2007). Therefore, an explanation for this finding can be inferred from the e-marketing research field. Just as customers have been found to engage with adverts on their preferred online platforms, citizens' affinity for governments' platforms would influence their engagement with contents on the platforms.

#### 6.4.4 The Effect of TGA on CE

Unexpectedly, the findings of this study indicate that the trust which citizens have on the governments/agencies (TGA) has no significant impact on CE; however, it had the third-highest total effect on CE. Though previous studies suggest that advancements in technology make it easy for governments to proliferate propaganda and thus bring about mistrust and cynicism for governments' information (Baldino & Goold, 2014; Janssen et al., 2012; Lee, 2005); these studies have, however, focused on mistrust for government information due to perceived misinformation or propaganda, and not necessarily due to performance or failure in governance. The issue of citizens' trust in government is salient in e-government research as previous studies have discussed the impact of citizens' trust in government on their adoption of and satisfaction with e-government (Bélanger & Carter, 2008; Colesca, 2015; Warkentin et al., 2002; Welch et al., 2005), and the impact of e-government on citizens' trust for the government (Parent et al., 2005; Tolbert & Mossberger, 2006; Welch & Hinnant, 2003). However, the Researcher is not aware of studies that have empirically researched the influence of citizens' trust in governments

on their engagement with governments' online contents. An explanation for this finding could be that citizens would engage with government contents that may be of benefit to them whether they trust the government or not; the possibility of benefiting from the content and satisfying their need becomes paramount and overshadows any repulsion that mistrust in government may cause. Another explanation could be the information seeking behaviour of citizens which refers to the way they search for and utilise information to satisfy their current information needs (Osiobe, 1988). According to Kuhlthau (1991), in her widely cited model of information seeking behaviour called the information Search Process (SIP), a searcher (information-seeker) would pass through six stages; two of these include pre-focus exploration and information collection. In both stages, a searcher tries to locate relevant information from different sources and could tolerate inconsistencies and incompatibility of information encountered during the search. This could explain the finding as citizens would engage with contents from government platforms as well as from other sources, as they compare, contrast and make sense of the information they have encountered.

#### 6.5 Antecedents of Affinity for Governments' Platforms (IVP)

This study found that trust in the government/agency (TGA), collaborative content creation (CC), and interactivity and deliberation (IDelib) all have important effects on citizens' affinity for governments' online platforms (IVP). However, the effects of accessibility (FA) and the hedonic/persuasive features of the platform (HF) were found not to be important.

The findings suggest that citizens' affinity for governments' platforms would increase when: they trust the government, when they can collaborate amongst themselves and the government to provide needed information on the platform, and when the platform allows interactions and deliberation amongst the citizens and between citizens and government officials. Trust in government had the largest effect size (0.51). These findings were expected and had been confirmed by previous studies with reasons being that trust in government will increase citizens' intent to use e-government platform and services

(Bélanger & Carter, 2008; Colesca, 2015; Warkentin et al., 2002; Welch et al., 2005). Citizens would also be attracted to governments' platforms when they know that they could provide and get information for and from the government and other citizens. This was also observed by Bonson et al. (2015) who found that there was more sign of engagement on governments' Facebook pages that allow citizens to post on the wall. Furthermore, in this present era and ubiquity of social media, users are largely allowed to react to contents on platforms by commenting on the contents, liking them, disliking them, sharing them, etcetera. Therefore, citizens and netizens of today would want such interactivity on governments' platforms. Both

collaborative content creation and interactivity and deliberation promote a multi-way information flow which increases participation (Lilleker et al., 2011; Mahrer & Krimmer, 2005; Oktem et al., 2014)

This study further suggests that accessibility is not important in influencing citizens' affinity for government's platforms. However, previous studies have found that accessibility does impact on citizens' use of and belief in e-government platforms and services (Belanger & Carter, 2006; Bélanger & Carter, 2009; Sipior & Ward, 2005). In fact, governments in developed countries are beginning to take the issue of accessibility seriously, for example, the United Kingdom (Duggin, 2016) and the United States (ODEP, 2014), especially as it concerns access by physically challenged persons. In developing countries, accessibility issues are usually due to digital divide (Dada, 2006; Fuchs & Horak, 2008; Ndou, 2004) which typically materialises as inadequate access to the internet and/or poor computer literacy (Belanger & Carter, 2006). A study by Belanger and Carter (2006) found that access to e-government platforms and services is influenced by income, age and education. With a focus on Nigeria, a survey by Pew Research Centre (2014a) shows that age is the strongest indicator of internet usage. The survey shows that Internet access and use in Nigeria is highest amongst those aged between 18 and 29 (45%), followed by those aged 30-49 (31%) and 50 and above (4%). Furthermore, in its last ICT survey, National Bureau of Statistics found that the ratio of urban to rural internet access in Nigeria is 11:1 (National Bureau of Statistics, 2011). Therefore, there are indications that this finding can be as a result of the demographics of the survey participants in the study. Of the participants, 94% were aged between 18-42; 84% were educated at the undergraduate level at the very least; 38% of the respondents completed the survey online thus indicating access to the internet; while the remaining 62% who completed the paper version of the survey were urban dwellers. This demographic data shows that a majority of the participants had a demographical advantage in terms of access to and use of the internet. This may explain why accessibility was not found to be important in this study. This finding further indicates that out of the three aspects of the public sphere (accessibility, collaborative content creation, interactivity, and deliberation) (Habermas, 1964; Hauser, 1998; Pusey, 1987a), only collaborative content creation, and interactivity and deliberation were found important.

A plausible explanation for the hedonic/persuasive features of governments' platforms not influencing citizens' affinity for the platforms could be the predominant utilitarian intent for visiting governments' online platforms in the first place (Wang et al., 2005). Users of governments' platforms are typically there for information and/or to complete transactions; therefore, they may not be influenced by hedonic features of the platforms as they would have been on an entertainment platform.

## 6.6 Platform Type as a Moderating Factor

This study found that the influence of trust in government agency (TGA), collaborative content creation (CC), and interactivity and deliberation (IDelib) on citizens' affinity for governments' online platforms (IVP) were greater for citizens who visit government's social media platforms than for those who visit the traditional websites/blogs.

The reason for this result may be because of the uni-directional flow of information which characterises traditional websites (Cormode & Krishnamurthy, 2008) as against the multi-directional communication allowed by social media (Berthon et al., 2012). This creates a perception of formality and alienation for citizens visiting governments' websites as they are only docile recipients of contents, who cannot provide feedback on the contents, cannot provide information on the platform and cannot interact with the owner and other readers of the content. These may impact on trust and affinity for governments' platforms. On the other hand, social media creates a perception of informality (Mosquera & Moreda, 2012), where the citizens and government assemble to create and share information, ideas, and opinions as peers. The use of social media by governments has been identified to facilitate transparency and trust in previous studies (Bertot et al., 2010; Bertot et al., 2012; Bonsón et al., 2012; Kim, Park, & Rho, 2015)

However, contrary to expectation, the influence of accessibility (FA) on IVP was greater for citizens who visit government's traditional websites than for those who visit their social media platforms. This may be clearly explained by the fact that social media platforms, especially the widely preferred Facebook and Twitter, are only open to registered users; in contrast, websites/blogs typically do not require registration before access.

Despite the differences between the moderating strengths of social media and traditional website use by the government, only the difference on their impact on the influence of interactivity and deliberation on affinity for government's contents was significant. This can be ascribed to the fact that the ability to allow for interaction and deliberation amongst platform users and between platform users and host is the main difference between social media and traditional websites (Berthon et al., 2012; Cormode & Krishnamurthy, 2008; Lilleker et al., 2011; Lusoli & Ward, 2005; Schweitzer, 2008)

## 6.7 Political Awareness as a Moderating Factor

This study found that the influence of the affinity for government's platforms (IVP) on their engagement with governments' contents (CE) was significantly less for citizens who claim to be interested in government activities, and to have adequate knowledge of the government/agency

and their platforms, than for those who have inadequate knowledge of the government. This finding was unexpected as previous studies have highlighted the importance of awareness in enhancing citizens' adoption and use of e-government initiatives (Bwalya & Healy, 2010; Carter & Weerakkody, 2008; Kolsaker & Lee-Kelley, 2008). This points towards the principles of marketing and advertisement which entails promoting the concerned agencies and/or their online platforms (Grow & Altstiel, 2005; Panopoulou et al., 2014). This finding suggests then that the more the citizens are aware of their government/agencies and their online platforms, the less their intent to visit those platforms and to engage with the contents therein. This may be due to initial information seeking behaviour of citizens where those with a low level of awareness may be more willing to explore and visit governments' platforms in search of information (Kuhlthau, 1991). With time, however, these information-seekers may develop either of or both (1) informed negative perception/opinion of the government/agency (2) informed negative perception/opinion of governments' platform which impacts on their affinity for the platforms. This could be as a result of having got to know much about the government/agency that perception of trust drops, or not being able to find quality information on governments' platforms such that there is no incentive to return to the platform. This phenomenon is related to the concept of e-loyalty in the e-commerce research field which is defined as a customer's favourable attitude towards a retailer that results to repeated buying behaviour and is typically dependent on satisfaction and trust (Li, Aham-Anyanwu, Tevrizci, & Luo, 2015; Luarn & Lin, 2003; Reichheld & Scheffer, 2000; Smith, 2000).

## 6.8 Implications and Contributions

The aim of this study was to contribute to the e-government research area, literature and practice -with a bias to e-public engagement/participation- by developing a framework for optimal citizen engagement with governments' contents on the internet. Two key research questions were asked in Chapter One: (1) What are the factors that influence citizens' engagement with governments' contents on the internet? (2) How well do these factors explain citizens' engagement with governments' contents on the internet? To answer these questions, four objectives were set: (1) to identify factors that influence citizens' engagement with governments' online contents. (2) To propose a hypothesis with the identified factors. (3) To statistically test the hypothesis. (4) To propose a framework for optimal citizens' engagement with governments' contents on the internet based on results of the statistical test.

To meet these objectives, the study was divided into two phases (one phase for each question). The findings of this study and the process by which the study was executed show that the

research questions have been answered, and the objectives met; this was summarised in section 6.3. However, what are the implications of these findings for theory and practice?

#### 6.8.1 Theoretical Implications

This study addresses the need for extensive, in-depth info-centric and citizen-focused e-participation research in a field dominated by technocentric and top-down (government-facing) studies. It extends e-participation research by showing that it was possible to operationalise citizen-content engagement and generate an initial explanatory/thematic (C-CE) model of factors that influence citizen's engagement with government's contents on the internet; the Researcher is not aware of any previous study that has done this. The C-CE model suggests that citizens' information needs, visual and perceived attributes of the contents, the perception of writer's credibility, affinity for governments' platform, trust in government/agency, platforms' public sphere attributes and its hedonic features all play direct and indirect roles in facilitating citizens' engagement with governments' contents.

The model was subjected to and refined through a content adequacy test, a pilot test, factor analysis and a goodness-of-fit test to ensure that it meets all relevant viability indices. However, findings based on the C-CE model cannot be easily generalised as it was developed -ab initio- through an exploratory/qualitative study involving a small sample size and contextualised to a particular country. Furthermore, the refined C-CE model was statistically tested with a sample size that was not representative of the entire population; this also impedes generalisation. Nonetheless, one major theoretical implication of this study is that the C-CE model can serve as a framework or a foundation on which to build future research interested in investigating citizens' engagement with governments' online contents.

Out of necessity, this study developed a quantitative scale from qualitative findings using the content adequacy assessment approach typically popular in the medical field. This was necessitated by the need to build the study around an in-depth investigation of citizens' engagement with governments' content, which has not been studied previously. The Researcher is not aware of any study that has adopted this approach in the information systems/sciences research field where studies typically rely on existing models and theories. This study, therefore, shows that it is possible to build a hypothetical model from the scratch in the IS research field, and serves as an invitation for future studies to attempt same where necessary.

Having adopted a conceptual framework built around the Uses and Gratification Theory (UGT), this study extends it to the e-governments research area as it concerns governments' online contents. The UGT was developed by a psychologist named Herta Herzog in 1944 as she studied

satisfaction amongst radio audiences but has since been extended to the study of audience gratification across several mediums of communication like prints (Finn, 1997), televisions (Palmgreen & Rayburn, 1979; Wenner, 1982), the internet (Ko et al., 2005; Stafford et al., 2004); video games (Sherry et al., 2006), and mobile phones (Leung & Wei, 2000; O'Keefe & Sulanowski, 1995). It is also getting increasingly popular in social media studies (Park et al., 2009; Raacke & Bonds-Raacke, 2008; Urista et al., 2009). This study- particularly, the qualitative phase - suggests that citizens' gratification of governments' contents are the information they contain, their visual and perceived attributes, and the desire to read from certain writers. Furthermore, the gratification of governments' platforms include their public sphere characteristics and hedonic features.

Although the public sphere concept has been studied in the era and context of the Internet, it remains largely alien in the e-participation research field. This may be ascribed to Habermas' reconceptualisation of the public sphere as being free from the interference and control of the State/government (Habermas, 1997). However, findings in this study highlight the importance of considering the concept of the public sphere in the discourse of e-participation. Two (collaborative content creation, and Interactivity and deliberation) out of three of the public sphere factors/characteristics investigated in this study were found to influence citizen's affinity for governments' platforms significantly. Although accessibility was not found to be significant, this may have been due to the homogeneity of the respondents regarding access to the internet as explained in an earlier section; and thus, may be significant in a different study with diverse respondents. Therefore, this study serves as an invitation for researchers to consider ways through which e-participation can be enhanced with the concept of e-public sphere. In essence, this entails the need for studies that investigate ways through which governments, using the internet, can be part of the e-public sphere. Would this be possible while maintaining the principle/characteristics of the public sphere as conceptualised by Habermas? Or is there going a re-conceptualisation of the public sphere for governments to play a role in it via the internet?

Previous studies have indicated the impact of trust on citizens' use of e-government services, and in customers' purchase of online products. However, this study indicates that while trust may influence affinity for governments platforms; it is not important in engagement with the contents on those platforms. As explained earlier, this may be due to the info-centric nature of this study and citizens' information seeking behaviour. This, however, indicates that the influence of trust on platform users' behaviour on a host's platform, will be dependent on the nature of their interest on the platform.

Although Nigerians were the case of this study, some findings can be extended beyond the case and the e-participation research field. For instance, information need and content quality should expectedly influence diverse readers' engagement with different content types whether in e-learning, e-government, e-journalism, etcetera. Similarly, is the importance of citizens' affinity for governments platform in their engagement with the contents on the platform; this is related to the concept of e-loyalty in e-commerce. Therefore, the more the intent of users to visit an online platform, the more the likelihood that they would engage with contents on the platform. However, there are also findings that may be peculiar to the case, for instance, the need for information for political participation which may be due to instability and uncertainty in the country. In more developed countries, citizens' information needs may be more for individual interests than for political participation.

#### 6.8.2 Practical Implication: Proposing the Citizen-content Engagement (C-CE) Framework

The overall result of this research shows that citizens' engagement with governments' online contents is dependent on the perceived attributes of the contents in terms of quality and ability to meet the citizens' information needs, and on citizens' affinity for governments' online platforms. Governments, agencies, and stakeholders are therefore faced with and must meet the challenge of providing the right information on and attracting citizens to their online platforms. However, it is difficult, if not impossible, to provide bespoke contents that meet the information needs of every citizen on governments' online platforms. A more practical solution would be finding ways to understand the predominant information needs of citizens at any given point in time; for example, current socio-economic events in a country may result in an increased demand for certain information as citizens try to understand how the events may affect them. Governments should also be ready to provide tailored information to individual citizens on demand and in the shortest possible time; prima facie, this may appear to be resource consuming. However, governments can approach this by (1) providing a single hub where citizens can request for government-related information. This is very important as government is a huge enterprise with enormous bureaucracies running through ministries, departments and agencies. It is easy for and a common occurrence that citizens get entangled and confused in their search for information from the government. With such a hub, citizens can request for information and it gets channelled to the appropriate ministries, departments or agencies. (2) Publishing frequently-requested information so that subsequent requests can be met by directing the individual citizens to the content. (3) Providing an avenue for citizens to recycle information, for example, community questions and answers platform where citizens can request for information and get same from a community of users who may have had earlier access to the information.

Governments, especially in the developing world, should also realise that a majority of the information that citizens would want from them would be for the purpose of political participation as they try to judge the performance of the government. The natural reaction to this by most governments would be propaganda or doctored information, but this creates mistrust. Therefore, governments may need to rise to the challenge of self-reporting which promotes the perception of transparency and improves trust.

Citizens' affinity for governments' platforms is important in their engagement with governments' online contents. As this study found, a platform's similarity to the public sphere increases citizens' affinity for the platform especially in terms of collaborative content creation, interactivity, and deliberation. This implies that governments should view citizens not as mere consumers of government contents but as active partners in the development of these contents. Governments' platforms should, therefore, be a sphere where citizens and government officials gather to discuss issues of public concern. According to the findings of this study, social media creates such a sphere and even improves the influence of trust on citizens' affinity for governments' platforms. Governments interested in e-participation should, therefore, see social media as an important component of their digital presence.

Governments should also embrace the concept of e-loyalty as in e-commerce. This is so because this study provides proof that citizens with a low level of political awareness tend to show more affinity for governments' platforms and more willing to engage with governments' contents. On the flip side, citizens who are optimally aware of the government tend to show disaffection for governments' platforms, and this may be due to previous poor experience on such platforms. Therefore, governments should endeavour to ensure that citizens have optimal experience and that their information needs are met on their platforms.

Around the world, governments and researchers tend to focus mainly on e-service provision/e-government as proven by the literature. For example, in the United Kingdom, the government is working on a policy called Digital by Default, which aims to digitalise all transactional government services. However, conducting such digital transaction with governments can be perceived as being riskier than creating, requesting and or demanding for digital information from governments; this creates a situation whereby citizens may not trust the digital system and would prefer offline human-to-human transactions. Nonetheless, governments can increase this trust by ensuring appropriate engagement of citizens with the low-risk information level; and this is where the findings of this study can be of help. Governments can start by facilitating citizens' engagement with governments' online contents and their affinity for governments' digital platforms; this then provides a pedestal on which transactional functions can be

introduced. Moreover, engagement with governments' online contents may positively influence the adoption of governments' digital transactions by citizens who lack the digital skills; this is so because they would be confident that the information needed to complete such digital transactions would be accessible.

## 6.9 Limitations and Suggestion for Future Studies

This study is no different from other empirical investigations with their inherent methodological weaknesses. One major weakness of this research is the collection of data exclusively from 'ordinary' citizens and not from other stakeholders like business and civil society organisations and even other governments who also use government information. Therefore, the findings of this study may not be realistically extended to all groups of users of government information. Perhaps, the outcome of this study would have been different if the data was collected from stakeholders across the citizenry, other governments, business and civil society organisations. In this study, the decision to focus on citizens and no other group of stakeholders was intentional because they are the most important actors in e-participation (Medaglia, 2012) and because citizens' engagement with and use of governments' information is an unexplored niche topic that needs research attention (Janssen et al., 2012; Zuiderwijk et al., 2014). In the future, similar studies can be carried out on separate groups of stakeholders or even across different groups of stakeholders. The initial C-CE model developed in this research can also be tested across groups of stakeholders.

The data collection was also cross-sectional and have not captured possible differences or changes in opinions that may occur over a period. This is an even more important limitation considering that opinions of citizens tend to change with changes in socio-economic conditions in their country. There is every possibility that the opinions captured in this study may change a few months from now, and the findings would not be the same. Perhaps, if a longitudinal study approach was adopted, more realistic findings would be made. This study, being a Ph.D. research, had just three years to be concluded. Due to the limited research time, a cross-sectional approach to data collection was more feasible than the longitudinal approach. Future studies could adopt a longitudinal approach to improve the findings of this study.

Although a majority of the values returned by the CFA met the requirement for validity, reliability and fit, there were some that did not meet desirable values. For instance, the factor loadings had some values (between 0.5 and 0.7) that were acceptable but were not great. Similarly, the Average Variance Extracted (AVE) had a value that was below the recommended 0.5. There were also two fit indices that were not met. All these raise questions about the fit, validity and reliability of the model. During the exploratory factor analysis, a new construct

(INPCQ) was formed when the factor rotation clumped items from two different constructs (IN and PCQ) together. It is this construct that is largely to blame for the poor values. However, these shortcomings were allowed because the study was exploratory and the measure was new. Future studies could resolve this by conducting a more conservative round of CFA.

There is also a limitation in terms of generalisability of the findings as the study was contextualised in Nigeria. The findings of the first phase of this research suffer from the usual limitations of qualitative studies as it concerns generalisation; obviously, sampling the opinions of 16 citizens of a single country is not enough to produce a definitive generalisation about factors that influence citizens' engagement with governments' online contents around the world. Similarly, the second phase of this study, though quantitative, relied on non-probability sampling approach other than probability and therefore not everyone in the population had an equal chance of being selected for this study. Furthermore, with only 260 (of which 255 cases were used for the SEM) participants, the sample size was not representative of the entire population. In other words, if this study had included more countries and used samples that are representative of the entire population, the findings may have been closer to reality than it currently is. The decision to contextualise this study stems from the argument that a case study allows for a holistic, in-depth investigation of a phenomenon (Zainal, 2007). The decision to use Nigerians as the case was both for convenience and relevance sakes. A Nigerian but studying in the United Kingdom, in terms of convenience, the Researcher had two options from which to select a case: Nigerians or the British. However, European countries and the United States dominate the contextualisation of e-public engagement research (Bonson et al., 2015; Carter & Belanger, 2012; Freire et al., 2014; Mahrer & Krimmer, 2005; Panopoulou et al., 2014; Saebo et al., 2011; Zheng et al., 2014). This prompted the invitation by Moatshe and Mahmood (2012) for similar studies in developing countries in Africa, Asia, and the Middle-east. Therefore, it was relevant for the extension of e-participation research that this study is contextualised in Nigeria. Furthermore, in the first phase of the study, the Researcher could not have realistically interviewed every individual the target population, and the decision to stop at the 16<sup>th</sup> interviewee was due to the principle of data saturation in qualitative studies (Francis et al., 2010). Similarly, in the second phase, the Researcher adopted non-probability sampling as it was not realistic –within the research time frame- to conduct a survey of a sample that would optimally represent the entire population. The Researcher made efforts to survey as many people as possible using both online and paper-based questionnaires. However, only 260 valid responses came through, and this was further reduced to 255 for the SEM due to outliers. As discussed in Chapter Five, the sample size was appropriate for the data analysis used in this study. Future studies could consider different contexts or use a multiple case study approach. Where possible,

future studies could try to involve a sample size that is representative of the entire population of interest by using probability sampling methods.

Finally, another weakness is the loose theoretical base of this research, which is mainly because the Researcher aimed at developing a framework in a research focus with little prior studies. Although the empirical investigation of this study was based on a conceptual framework developed around the Uses and Gratification theory (UGT), the approach was mainly grounded as the Researcher allowed for new findings and concepts to emerge. Therefore, the UGT did not feature heavily in this study as a theory. Hence, it is appropriate to consider the findings of this study with some scepticism. However, this study has succeeded in proffering a framework of factors that influence citizens' engagement with governments' contents (the C-CE model), and also in initiating a discourse in that regard for future studies to participate in. Future studies can test, and or improve on this framework.

## Chapter 7 : Conclusion

### 7.1 The Study

This chapter wraps up the thesis of seven chapters. In chapter one, the arguments for this research were made, the research questions were asked, and the objectives were set. In chapter two, a literature review was conducted to ascertain the current state of knowledge in e-participation research field as it concerns citizens' engagement with governments' information. In Chapter three, a conceptual framework based on the uses and gratification theory (UGT) was developed, and the research methodology for the study was discussed. In Chapter four, the findings from the qualitative phase were presented, and a hypothetical model (C-CE model) was developed. In Chapter five, items for the questionnaire leading to the quantitative phase of the study were developed, and the qualitative data was analysed and presented. In Chapter six, the research findings, implication, and limitations were discussed. In this chapter, the thesis is concluded

The aim of this study was to contribute to the e-government research area, literature and practice -with a bias to e-public engagement/participation- by developing a framework for optimal citizen engagement with governments' contents on the internet. Two key research questions were asked in Chapter One: **(RQ1)** What are the factors that influence citizens' engagement with governments' contents on the internet? And **(RQ2)** How well do these factors explain citizens' engagement with governments' contents on the internet? For clarity sake, this study was divided into two phases, each phase dedicated to answering a research question.

In phase one and to answer **RQ1**, two objectives were set: **(R-OBJ1)** To identify factors that influence citizens' engagement with governments' online contents. **(R-OBJ2)** To propose a set of hypotheses with the identified factors. To meet **R-OBJ1**, the literature was reviewed, and the conclusion was that little or no research exists in the area of citizens' engagement with governments' contents; some researchers claimed it was a niche research area. To provide an initial guideline to the investigation, this study adopted a conceptual framework based on the uses and gratification theory (UGT), which suggests that citizens' engagement with governments' online contents would be based on their information needs, on the contents' features/quality, and on activities that facilitate engagement. A qualitative empirical investigation built on the theoretical framework and found that citizens' engagement with governments' online contents (CE) is directly influenced by citizens' information needs, the contents' attributes which could be visual (VAC) and/or perceived (PCQ), perception of the writer (PWC), trust in government/agency (TGA), and citizens' affinity for governments' platforms (IVP). Qualitative findings of this study also suggest that IVP is dependent on TGA,

the platforms' similarity to the public sphere (accessibility (FA), content creation (CC), and interactivity and deliberation (IDelib)) and their hedonic/persuasive features (HF). Having arrived at these findings, R-OBJ1 was fully met. To meet **R-OBJ2**, a set of hypotheses was proposed for each of the findings. It was also hypothesised that social media use by governments would have more positive effect than websites on the influence of TGA on IVP, FA on IVP, CC on IVP, and IDelib on IVP. A final hypothesis was that citizens' level of political awareness has a positive moderation effect on the influence of IVP on CE. A hypothetical/thematic model of these findings was also developed and called the citizen-content engagement (C-CE) model and **R-OBJ2** was met. Having met both objectives, **RQ1** was answered, and the first phase of this study was successfully concluded.

In phase two, and to answer **RQ2**, two objectives were set: (**R-OBJ3**) To statistically test the hypotheses. (**R-OBJ4**) To propose a framework for optimal citizens' engagement with governments' contents on the internet based on results of the statistical test. To meet **R-OBJ3**, a quantitative empirical research was conducted to test the assumptions and claims of **R-OBJ2**. Using factor analysis, the C-CE model was further refined. IN and PCQ were merged into one to represent contents' quality and ability to meet citizens' information needs (INPCQ), while PWC was removed entirely. This reduced the factors that may influence CE to four (INPCQ, VAC, TGA, and IVP) in the refined C-CE model while every other thing remained largely unchanged. The refined C-CE model had 14 hypotheses which were tested for significant relationships between the exogenous and endogenous variables. Eight of these hypotheses were accepted: citizens' engagement with governments' online contents (CE) is significantly influenced by the contents' quality and ability to meet citizens' information needs (INPCQ), and their affinity for governments' online platforms (IVP). Citizens' affinity for governments' online platforms (IVP) is significantly influenced by their trust in government/agency (TGA), the platforms' ability to allow collaborative content creation (CC), and interactivity and deliberation (IDelib). Social media use by governments was found to have more positive effects than websites on the influence of trust in government/agency (TGA), collaborative content creation (CC), and interactivity and deliberation (IDelib). To meet **R-OBJ4**, the result and implications of the regression analysis were discussed. Having met both objectives, **RQ2** was answered, and the second phase of this study was successfully concluded.

## 7.2 Study's Contributions to Knowledge

The main contribution to knowledge of this study is that the findings, especially in the qualitative phase, provides a holistic info-centric view of factors that could influence citizens' engagement with governments' digital contents. From the qualitative phase, the citizen-content engagement

(C-CE) model was developed. The C-CE model provides a framework/foundation on which future research in citizens' engagement with governments' information can be built.

Furthermore, this study introduced the use of content validity index for items (I-CVI) and average content validity index for scales (S-CVI/AVE) as an appropriate way of developing scales in the IS research field. This approach was adopted from the healthcare research field where it is widely used to develop and validate scales from qualitative data.

This study also adds to the sparse e-participation research and literature contextualised in developing countries and with a proactive focus on citizens. It also discusses the public sphere as part of e-participation and, therefore, serves as an invitation for researchers to investigate ways through which governments' platforms can foster a public sphere

### 7.3 Plans for Future Work

According to Oscar De La Hoya, "there is always room for improvement, no matter how long you have been in the business". Although this research had taken three years, it is far from perfect as has earlier been highlighted in the section on limitations and recommendations. Therefore, to circumvent those limitations, the Researcher's immediate focus in extending this study would include:

1. Collecting and comparing data from more countries (both developed and developing).
2. Collecting data from a wider range of stakeholders including 'ordinary citizens', businesses, civil societies/organisations, etc.
3. Conducting a longitudinal study to capture possible changes in time and context
4. Adopting a partial least squares (PLS)-SEM approach, in the first instance, to test the C-CE model. A covariance-based-SEM approach can be used when the model is optimally established.

### 7.4 Reflections on the Researcher's Experience: Lessons Learnt and Knowledge Acquired

Before this study, the Researcher had only done qualitative and conceptual (desktop) studies for his Bachelors and Masters degrees. The Researcher had no experience of quantitative research and was also unable to understand outcomes of quantitative studies that were based on any form of regression analysis. However, during the course of this research, the Researcher performed systematic literature reviews, performed qualitative analysis with NVIVO at a level he had never done before, performed a content adequacy assessment which prepared the qualitative data for use in a quantitative survey, and performed various statistical analysis (multiple imputation,

exploratory factor analysis, structural equation modelling) using SPSS and Amos. The Researcher learnt how to interpret various statistical indices used by researchers in quantitative studies. These lessons and acquired knowledge were also fortified with the Researcher teaching his colleagues how to use NVIVO and SPSS for qualitative and quantitative analysis respectively. In the course of this study, the researcher also strengthened his ability in critical thinking, problem-solving and independent research. These are expected of all Ph.D. researchers as there are times when certain bottlenecks can only be overcome by the researcher's resilience, just as there are times when certain tough decisions need to be made by the researcher as long as there are valid justifications for such decisions. The Researcher has, indeed, emerged from the Doctoral journey as a much-improved researcher.

## APPENDICES

### Appendix A: Interview Participants' Information Sheet

**Research Topic:**

**E-participation: Towards a Citizen-Content Engagement Framework**

**Researcher:**

Nnanyelugo Aham-Anyanwu.

**Invitation:**

It is my honour to request that you take part in this research project. Before you decide, it is necessary that you see the reasons for this research and what it shall involve. Please take time to carefully read through the following information. Feel free to discuss this with your friends and colleagues and please do ask me questions where you need clarification or more information. Think about it and let me know if you wish to participate in this research or not. Thank you for reading this.

**What is the research aim?**

This research is aimed at identifying and evaluating factors that enhance citizen-content engagement on government-owned online platforms and developing a framework to enhance it. This research is expected to last for 3 years starting from the 1<sup>st</sup> of August 2013 to the 31<sup>st</sup> of July 2016.

**Why have I been chosen?**

You have been chosen because you read government-owned or government-related online articles. This research shall rely on data collected from you and other participants as it concerns:

1. Factors that keep you engaged with governments' online contents.
2. Factors that make you disengage from governments' online contents

**Do I have to take part?**

Taking part in this research is totally voluntary so it is up to you to decide if you will or not. In the case that you do decide to take part in this research, you would keep this information sheet and also sign a consent form. You are also free to withdraw from this research at any time without having to give reasons.

**What rights do I have under the Data Protection Act of 1998?**

You have the right to prevent the use of the information gathered from you in such a way that it causes you damage or distress; the right to access the information gathered from you at any time and the right to demand compensation if I (the researcher) fail to comply with certain requirements. Feel free to visit <http://www.legislation.gov.uk/ukpga/1998/29/contents> to see more.

**What would happen to me if I participate?**

You are only required to participate in the interview via any medium of your choice. This could be Facebook/Skype chats, Skype/Telephone calls and face-to-face interviews where possible. Any verbal/oral interview shall be recorded, transcribed and then deleted. Any textual interview shall be copied and deleted from the source (Facebook/Skype).

**What happens to the transcribed/textual data during and after the study?**

During the study, the transcribed/textual data shall be stored in stored securely on the University's intranet. It shall also analysed in order to achieve the objectives of the study. Your details shall not be included in the analysis, only your opinions count. You shall be referred to as "Respondent X" where "X" is a number; this would help link opinions to the individuals who gave them while they still remain anonymous. After the study, every transcribed/textual data shall be deleted from storage.

**What are the possible risks and disadvantages of taking part?**

This research poses no risk to you.

**What are the possible benefits of taking part?**

There is no benefit for taking part in this research as it is self-funded. The Researcher would not compensate you for participating.

**What if something goes wrong?**

If you feel that taking part of this research in anyway caused you some distress, please do email your complaints to my (the researcher) supervisor, Dr. Honglei Li at [honglei.li@northumbria.ac.uk](mailto:honglei.li@northumbria.ac.uk). You are also advised to contact my Supervisor if following and as a result of your participation in this research, there is an adverse occurrence.

**Will my taking part in this project be kept confidential?**

Your personal details –though not required- will be kept strictly confidential. It will be impossible to identify you in or link you with any part of the reports or publications following this research as the data would be anonymised before publication.

**What would happen to the results of the research?**

During this research, information gathered from you will be stored electronically in password protected drives and folders. It would be kept till the end of the research and publication of findings. Afterwards, the data would be safely and securely disposed of or deposited with Northumbria University, Newcastle upon Tyne.

**Who is funding the research?**

This research is self-funded and does not represent the interest of any particular organisation. It is however being carried out at the Northumbria University, Newcastle, United Kingdom.

**Who has ethically reviewed the research?**

This research has been reviewed for ethical issues by the Research Ethic Committee of the Faculty of Engineering and Environment, as part of the University Research Ethics Committee (UREC) in Northumbria University.

**Contact for further information**

You can contact the following if the need arises:

- Nnanyelugo Aham-Anyanwu (Researcher): [nnanyelugo.aham-anyanwu@northumbria.ac.uk](mailto:nnanyelugo.aham-anyanwu@northumbria.ac.uk) or [mc.vandrome@gmail.com](mailto:mc.vandrome@gmail.com)
- Dr. Honglei Li (Principal Supervisor): [honglei.li@northumbria.ac.uk](mailto:honglei.li@northumbria.ac.uk)

Please keep a copy of this information sheet and do sign a copy of the consent form should you decide to take part in this study.

Thanks a lot for reading.



Thank you so much, I am very grateful

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### Appendix B3: Consent Page for Survey

*Below is the text used to gain consent from participants in final phase of this study. This was done online using the Google forms survey software. It appeared on the first page of the survey.*

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Hello there!

You are requested to complete a questionnaire which investigates citizens' engagement with Nigerian government's contents on the internet.

You have been selected simply because you are Nigerian or because you live in Nigeria.

You must not participate. Clicking "Next" to go to the next page indicates that you have given your consent to participate; however, you are free to exit at any time before submitting the form and any input made would not be used in this study.

Before you start, please input some of your details on the next page, but do not put down your name. This is just for statistical purposes as I cannot link it to you.

If you have a query, please contact me on [nnanyelugo.aham-anyanwu@northumbria.ac.uk](mailto:nnanyelugo.aham-anyanwu@northumbria.ac.uk) or on WhatsApp: +447554696534

Thank you so much, I am very grateful

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## Appendix C: Interview Questions

1. Why do you visit your government's online platforms?
2. What are your main reasons for seeking government information?
3. What types of information would you want your government to make available online?
4. What are the features/qualities of government's online contents that you find interesting?
5. What qualities of government's online contents do you consider a turn-off?
6. What activities on or features of government's platforms do you think would encourage you to engage with the contents?
7. What activities on or features of government's platforms do you think may discourage you/Nigerians from visiting the platforms?
8. What features do you think may help attract you/Nigerians to government's platforms?
9. How could you tell if one is engaged with an online article?
10. How do you relate with online contents that you find interesting?
11. *What do you expect from the government on the internet?*
12. *How will you describe your government's use of the internet to achieve its objectives?*
13. *On what Platform/s will you want the government to provide information to you and to get feedbacks from you?*
14. *What effect will interactions with government officials have on your interest in government's contents?*
15. *Would you want information government's platform to be solely from the government or would you want members of the public to also make information available on NOA's platforms?*
  - a. *Why do you say so?*
  - b. *If yes, how do you suggest that this be done to ensure that it isn't' misused?*
  - c. *What effect do you think this may have on Nigerians visiting and reading articles on NOA's platforms?*

Note\* Questions 11 -15 (in italics) were not part of the original questions. They were added as data was collected.

Appendix D: Constructs and Items

Constructs	Definition	Second-level constructs	Definition	Third-level constructs	Definition	Source/Reference	Items	Measures
<b>1. Content Engagement (CE)</b>	Gauging how citizens engage with government's contents on the internet					Interview Data  (Bonsón & Ratkai, 2013)	<b>CE1</b>	I usually read government's online contents completely (from top-to-bottom)
							<b>CE2</b>	I often comment on government's online contents that I read
							<b>CE3</b>	I usually like/favourite government's contents which I have read
							<b>CE4</b>	I usually share government's contents that I have read
<b>2. Information Need (IN)</b>	The type of information or topics that citizens expect from the government on the internet					Interview Data  (Davies, 2010)	<b>IN1</b>	I am interested in government information concerning the economy
							<b>IN2</b>	I am interested in government information that concerns government policies.
							<b>IN3</b>	I am interested in information that

Constructs	Definition	Second-level constructs	Definition	Third-level constructs	Definition	Source/Reference	Items	Measures
								focuses on trending socio-political issues in the country.
							IN4	I am interested in information that focuses on government's activities/projects.
							IN5	I am interested in government information that focuses on government's financial income and expenditure.
							IN6	I am interested in government information that is of direct/personal benefit to me (jobs, education, healthcare, welfare packages, etcetera)
							IN7	I'm interested in government's information that would help me judge their performance.
<b>Content Attributes</b>	This refers to those visual and perceived	<b>3. Visual Attributes (VAC)</b>	Gauging the visual attributes			Interview Data	<b>VAC1</b>	In my opinion, government's online

Constructs	Definition	Second-level constructs	Definition	Third-level constructs	Definition	Source/Reference	Items	Measures
	attributes of a content that influence citizens' engagement with them		(visible features) of governments' online contents/articles					contents are usually long
							<b>VAC2</b>	In my opinion, government's online contents usually have relevant pictures
							<b>VAC3</b>	In my opinion, government's contents usually have relevant videos
		<b>4. Perceived Content Quality (PCQ)</b>	Gauging the quality of governments' contents on the internet			Interview Data (Chen, Clifford, & Wells, 2002; Iivari & Koskela, 1987; Peng, Fan, & Hsu, 2004)	<b>PCQ1</b>	Government online contents are usually informative
							<b>PCQ2</b>	Government's online contents are often written in interesting/captivating manner

Constructs	Definition	Second-level constructs	Definition	Third-level constructs	Definition	Source/Reference	Items	Measures
							<b>PCQ3</b>	In my opinion, government's online contents are usually accurate
							<b>PCQ4</b>	I believe that government's online contents serve the selfish purpose of the government
							<b>PCQ5</b>	Government online contents are usually relevant to me
							<b>PCQ6</b>	Government's online contents are usually up-to-date
							<b>PCQ7</b>	Government's contents are usually written in simple terms
<b>5. Perception about the writer's credibility (PWC)</b>	Gauging citizens' perception of content writer's credibility					Interview (Kang, 2010)	<b>PWC1</b>	I believe that the writers of government's contents are usually influential in society
							<b>PWC2</b>	In my opinion, writers of government's contents are usually knowledgeable
							<b>PWC3</b>	I believe that writers of government's contents are usually reliable

Constructs	Definition	Second-level constructs	Definition	Third-level constructs	Definition	Source/Reference	Items	Measures
							<b>PWC4</b>	I believe that writers of government's contents are usually transparent
<b>6. Affinity for governments' Platforms (IVP)</b>	Gauging citizens' reasons for visiting government's online platforms					Interview (Carter & Bélanger, 2005; Gardner & Amoroso, 2004; Peng et al., 2004)	<b>IVP1</b>	I visit government's online platform as an important source of information
							<b>IVP2</b>	I visit government's online platform to express my opinions
							<b>IVP3</b>	I visit government's online platform to interact with other citizens
							<b>IVP4</b>	I visit government's platforms to interact with government officials
<b>7. Trust in Government and Agency (TGA)</b>	Gauging citizens' trust in the government and agency					Interview Data (Carter & Bélanger, 2005; Corey & Garand, 2002)	<b>TGA1</b>	I trust government to keep my best interest in mind
							<b>TGA2</b>	I think I can trust information from the government

Constructs	Definition	Second-level constructs	Definition	Third-level constructs	Definition	Source/Reference	Items	Measures
							<b>TGA3</b>	In my opinion heads of government agencies can be trustworthy
							<b>TGA4</b>	The National Orientation Agency (NAO) is a trustworthy agency
<b>Platform Attributes</b>	Attributes of government's online platforms that encourage citizen-content engagement	<b>Similarity to the public sphere</b>	Attributes of governments' contents that are similar to Habermas' concept of public sphere as it concerns access, initiation of discourse, and exchange of ideas.	<b>8. Accessibility (FA)</b>	Gauging citizens' perceived level of access to governments' platforms	Interview Data (Habermas, 1989; Hauser, 1998; Pusey, 1987b)	<b>FA1</b>	I have free access to government's platforms on the internet
							<b>FA2</b>	I do not have to register on government's platforms to gain access

Constructs	Definition	Second-level constructs	Definition	Third-level constructs	Definition	Source/Reference	Items	Measures
							<b>FA3</b>	I have unrestricted access to government's platform on the internet
				<b>9. Collaborative Content Creation (CC)</b>	Gauging citizens' ability to create and post contents on governments' online platforms	Interview Data (Habermas, 1989; Hauser, 1998; Pusey, 1987b)	<b>CC1</b>	Everyone has equal opportunity to post contents on governments' platforms
							<b>CC2</b>	I see contents written by other citizens on governments' platforms
							<b>CC3</b>	I can initiate a topic for deliberation on governments' platforms
				<b>10. Interactivity and Deliberation (IDelib)</b>	Gauging citizen's ability to deliberate and interact with each other and government officials on government's platforms	Interview Data (Habermas, 1989; Hauser, 1998; Pusey, 1987b)	<b>IDelib1</b>	Citizens discuss critical public policies on government's platforms
							<b>IDelib2</b>	I believe I am free to challenge the opinions of other citizens on

Constructs	Definition	Second-level constructs	Definition	Third-level constructs	Definition	Source/Reference	Items	Measures
								government's platforms
							<b>IDelib3</b>	I believe I am free to challenge the opinions of government officials on government's platforms.
							<b>IDelib4</b>	I can interact with government officials on government's platforms
							<b>IDelib5</b>	I can interact with other citizens on government's platform
		<b>11. Hedonic features (HF)</b>	Gauging the attractive features and activities on government's platforms that stimulate citizens to visit			Interview Data (Andrew et al., 2007; Fogg & Iizawa, 2008; Weiksner et al., 2008)	<b>HF1</b>	I can sign-up to get notification when new contents are posted on government's platforms

Constructs	Definition	Second-level constructs	Definition	Third-level constructs	Definition	Source/Reference	Items	Measures
							<b>HF2</b>	Government's online platforms have interesting gamified activities
							<b>HF3</b>	There are entertaining activities on government's platforms

## Appendix E: Questionnaire

23/09/2016

Questionnaire on Citizens' Engagement with Government's Contents on the Internet

### Questionnaire on Citizens' Engagement with Government's Contents on the Internet

Hello there!

You are requested to complete a questionnaire which investigates citizens' engagement with Nigerian government's contents on the internet.

You have been selected simply because you are Nigerian or because you live in Nigeria.

This survey would only take a few minutes. Before you start, please input some of your details on the next page, but do not put down your name.

If you have a query, please contact me on [nnanyelugo.aham-anyanwu@northumbria.ac.uk](mailto:nnanyelugo.aham-anyanwu@northumbria.ac.uk) or on WhatsApp: +447554696534

Thank you so much, I am very grateful.

**\* Required**

#### Your Details (No Names)

**1. Age \***

*Mark only one oval.*

- Under 18
- 18 -28
- 29-35
- 36-42
- Above 42

**2. Gender \***

*Mark only one oval.*

- Female
- Male

**3. Last Academic Qualification \***

*Mark only one oval.*

- Primary School Leaving Certificate
- Secondary School Leaving Certificate
- Bachelors
- Masters
- Doctorate
- Other:

**4. Marital Status \***

Mark only one oval.

- Single
- Married
- Seperated
- Divorced
- Other: .....

**5. Occupation \***

.....

**6. Years of work experience if any \***

.....

**7. Monthly Income (In Naira) \***

Mark only one oval.

- Less than N20,000
- N20,000 - N49,999
- N50,000 - N99,999
- N100,000 - N199,999
- N200,000 - N299,999
- N300,000 and above

Note that:

1. "Contents" mean articles, write-ups, or information posted on government's online platforms.
2. "Online platforms" and "platforms" refer to Social Media (Facebook, Twitter, etc), Websites, Blogs, etc
3. "Government" refers to the Federal Government of Nigeria and not individuals like the President, Ministers, Senate President or other public office holders/politicians.

**How you relate with interesting government contents on the internet**

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**8. I usually read government's online contents completely (from top-to-bottom) \***

(1) Entirely Disagree (2) Mostly Disagree (3) Somewhat Disagree (4) Neutral (5) Somewhat Agree (6) Mostly Agree (7) Entirely Agree

Mark only one oval.

1	2	3	4	5	6	7
<input type="radio"/>						

**9. I usually click the 'like' button on government's contents which I have read \***

(1) Entirely Disagree (2) Mostly Disagree (3) Somewhat Disagree (4) Neutral (5) Somewhat Agree (6) Mostly Agree (7) Entirely Agree

Mark only one oval.

1	2	3	4	5	6	7
<input type="radio"/>						

**10. I often comment on government's online contents that I read \***

(1) Entirely Disagree (2) Mostly Disagree (3) Somewhat Disagree (4) Neutral (5) Somewhat Agree (6) Mostly Agree (7) Entirely Agree

Mark only one oval.

1	2	3	4	5	6	7
<input type="radio"/>						

## **Your ability to interact and deliberate with other citizens and government officials on government's online platforms**

**11. I am able to discuss critical public policies on government's platforms with other citizens \***

(1) Entirely Disagree (2) Mostly Disagree (3) Somewhat Disagree (4) Neutral (5) Somewhat Agree (6) Mostly Agree (7) Entirely Agree

Mark only one oval.

1	2	3	4	5	6	7
<input type="radio"/>						

**12. I am able to challenge the opinions of government officials on government's platforms. \***

(1) Entirely Disagree (2) Mostly Disagree (3) Somewhat Disagree (4) Neutral (5) Somewhat Agree (6) Mostly Agree (7) Entirely Agree

Mark only one oval.

1	2	3	4	5	6	7
<input type="radio"/>						

**13. I am able to challenge the opinions of other citizens on government's platforms \***

(1) Entirely Disagree (2) Mostly Disagree (3) Somewhat Disagree (4) Neutral (5) Somewhat Agree (6) Mostly Agree (7) Entirely Agree

Mark only one oval.

1	2	3	4	5	6	7
<input type="radio"/>						

**14. I am able to interact with government officials on government's platforms \***

(1) Entirely Disagree (2) Mostly Disagree (3) Somewhat Disagree (4) Neutral (5) Somewhat Agree (6) Mostly Agree (7) Entirely Agree

Mark only one oval.

1	2	3	4	5	6	7
<input type="radio"/>						

**15. I am able to interact with other citizens on government's platform \***

(1) Entirely Disagree (2) Mostly Disagree (3) Somewhat Disagree (4) Neutral (5) Somewhat Agree (6) Mostly Agree (7) Entirely Agree

Mark only one oval.

1	2	3	4	5	6	7
<input type="radio"/>						

### Attractive features and activities on government's online platforms

**16. I am able to sign-up to get notification when new contents are posted on government's platforms \***

(1) Entirely Disagree (2) Mostly Disagree (3) Somewhat Disagree (4) Neutral (5) Somewhat Agree (6) Mostly Agree (7) Entirely Agree

Mark only one oval.

1	2	3	4	5	6	7
<input type="radio"/>						

**17. Government's online platforms have interesting games that engage the citizens \***

(1) Entirely Disagree (2) Mostly Disagree (3) Somewhat Disagree (4) Neutral (5) Somewhat Agree (6) Mostly Agree (7) Entirely Agree

Mark only one oval.

1	2	3	4	5	6	7
<input type="radio"/>						

**18. There are entertaining activities on government's platforms \***

(1) Entirely Disagree (2) Mostly Disagree (3) Somewhat Disagree (4) Neutral (5) Somewhat Agree (6) Mostly Agree (7) Entirely Agree

Mark only one oval.

1	2	3	4	5	6	7
<input type="radio"/>						

### Your ability to freely access governments platforms

**19. I have free access to government's platforms on the internet \***

(1) Entirely Disagree (2) Mostly Disagree (3) Somewhat Disagree (4) Neutral (5) Somewhat Agree (6) Mostly Agree (7) Entirely Agree  
 Mark only one oval.

1	2	3	4	5	6	7
<input type="radio"/>						

**20. I do not have to register on government's platforms in order to gain access \***

(1) Entirely Disagree (2) Mostly Disagree (3) Somewhat Disagree (4) Neutral (5) Somewhat Agree (6) Mostly Agree (7) Entirely Agree  
 Mark only one oval.

1	2	3	4	5	6	7
<input type="radio"/>						

**21. I have unrestricted access to government's platforms on the internet \***

(1) Entirely Disagree (2) Mostly Disagree (3) Somewhat Disagree (4) Neutral (5) Somewhat Agree (6) Mostly Agree (7) Entirely Agree  
 Mark only one oval.

1	2	3	4	5	6	7
<input type="radio"/>						

## Your ability to post information on government's platforms

**22. Everyone has equal opportunity to post write-ups/contents/articles on government's platforms \***

(1) Entirely Disagree (2) Mostly Disagree (3) Somewhat Disagree (4) Neutral (5) Somewhat Agree (6) Mostly Agree (7) Entirely Agree  
 Mark only one oval.

1	2	3	4	5	6	7
<input type="radio"/>						

**23. I see contents/articles written by other citizens on government's platforms \***

(1) Entirely Disagree (2) Mostly Disagree (3) Somewhat Disagree (4) Neutral (5) Somewhat Agree (6) Mostly Agree (7) Entirely Agree  
 Mark only one oval.

1	2	3	4	5	6	7
<input type="radio"/>						

**24. I can initiate a topic for deliberation on government's platforms \***

(1) Entirely Disagree (2) Mostly Disagree (3) Somewhat Disagree (4) Neutral (5) Somewhat Agree (6) Mostly Agree (7) Entirely Agree  
 Mark only one oval.

1	2	3	4	5	6	7
<input type="radio"/>						

## **The credibility of writers of government's contents**

---

**25. Writers of government's contents are usually influential in society \***

(1) Entirely Disagree (2) Mostly Disagree (3) Somewhat Disagree (4) Neutral (5) Somewhat Agree (6) Mostly Agree (7) Entirely Agree  
 Mark only one oval.

1	2	3	4	5	6	7
<input type="radio"/>						

**26. Writers of government's contents are usually reliable \***

(1) Entirely Disagree (2) Mostly Disagree (3) Somewhat Disagree (4) Neutral (5) Somewhat Agree (6) Mostly Agree (7) Entirely Agree  
 Mark only one oval.

1	2	3	4	5	6	7
<input type="radio"/>						

**27. In my opinion, writers of government's contents are usually knowledgeable \***

(1) Entirely Disagree (2) Mostly Disagree (3) Somewhat Disagree (4) Neutral (5) Somewhat Agree (6) Mostly Agree (7) Entirely Agree  
 Mark only one oval.

1	2	3	4	5	6	7
<input type="radio"/>						

## **Intent to visit government's online platforms**

---

**28. I will frequently use government's platforms in the future \***

(1) Entirely Disagree (2) Mostly Disagree (3) Somewhat Disagree (4) Neutral (5) Somewhat Agree (6) Mostly Agree (7) Entirely Agree  
 Mark only one oval.

1	2	3	4	5	6	7
<input type="radio"/>						

**29. I will strongly recommend other citizens to visit government's online platforms \***

(1) Entirely Disagree (2) Mostly Disagree (3) Somewhat Disagree (4) Neutral (5) Somewhat Agree (6) Mostly Agree (7) Entirely Agree

Mark only one oval.

1	2	3	4	5	6	7
<input type="radio"/>						

**30. I would regularly visit government's online platforms \***

(1) Entirely Disagree (2) Mostly Disagree (3) Somewhat Disagree (4) Neutral (5) Somewhat Agree (6) Mostly Agree (7) Entirely Agree

Mark only one oval.

1	2	3	4	5	6	7
<input type="radio"/>						

## Your trust in government and the National Orientation Agency (NOA)

---

**31. I trust government to keep my best interest in mind \***

(1) Entirely Disagree (2) Mostly Disagree (3) Somewhat Disagree (4) Neutral (5) Somewhat Agree (6) Mostly Agree (7) Entirely Agree

Mark only one oval.

1	2	3	4	5	6	7
<input type="radio"/>						

**32. I think I can trust information from the government \***

(1) Entirely Disagree (2) Mostly Disagree (3) Somewhat Disagree (4) Neutral (5) Somewhat Agree (6) Mostly Agree (7) Entirely Agree

Mark only one oval.

1	2	3	4	5	6	7
<input type="radio"/>						

**33. In my opinion heads of government agencies can be trustworthy \***

(1) Entirely Disagree (2) Mostly Disagree (3) Somewhat Disagree (4) Neutral (5) Somewhat Agree (6) Mostly Agree (7) Entirely Agree

Mark only one oval.

1	2	3	4	5	6	7
<input type="radio"/>						

**34. The National Orientation Agency (NAO) is a trustworthy agency \***

(1) Entirely Disagree (2) Mostly Disagree (3) Somewhat Disagree (4) Neutral (5) Somewhat Agree (6) Mostly Agree (7) Entirely Agree

Mark only one oval.

1	2	3	4	5	6	7
<input type="radio"/>						

**The Type of Information on your government's online platforms****35. Government's online platforms contain adequate information on trending socio-political issues in the country. \***

(1) Entirely Disagree (2) Mostly Disagree (3) Somewhat Disagree (4) Neutral (5) Somewhat Agree (6) Mostly Agree (7) Entirely Agree

Mark only one oval.

1	2	3	4	5	6	7
<input type="radio"/>						

**36. Government's online platforms contain adequate information for my personal use and benefit (E.g. for research, for jobs, for welfare, for healthcare, for business, etc) \***

(1) Entirely Disagree (2) Mostly Disagree (3) Somewhat Disagree (4) Neutral (5) Somewhat Agree (6) Mostly Agree (7) Entirely Agree

Mark only one oval.

1	2	3	4	5	6	7
<input type="radio"/>						

**37. I find adequate information on government's online platforms that would help me judge government's performance. \***

(1) Entirely Disagree (2) Mostly Disagree (3) Somewhat Disagree (4) Neutral (5) Somewhat Agree (6) Mostly Agree (7) Entirely Agree

Mark only one oval.

1	2	3	4	5	6	7
<input type="radio"/>						

**38. What type of information do you want to see on your government's online platforms? \***

Check all that apply.

- Information on trending socio-political issues
- Information on government's policies
- Information on government's financial income and expenditure
- Information on government's activities/projects
- Information on the economy
- Information that would be of direct benefit to my life, education, family and/or career
- Other: .....

## The Presentation of government's articles on the internet

---

**39. Government's contents are usually of an appropriate length (not too long and not too short for my liking) \***

(1) Entirely Disagree (2) Mostly Disagree (3) Somewhat Disagree (4) Neutral (5) Somewhat Agree (6) Mostly Agree (7) Entirely Agree  
 Mark only one oval.

1	2	3	4	5	6	7
<input type="radio"/>						

**40. In my opinion, government's online contents usually have relevant pictures \***

(1) Entirely Disagree (2) Mostly Disagree (3) Somewhat Disagree (4) Neutral (5) Somewhat Agree (6) Mostly Agree (7) Entirely Agree  
 Mark only one oval.

1	2	3	4	5	6	7
<input type="radio"/>						

**41. In my opinion, government's contents usually have relevant videos \***

(1) Entirely Disagree (2) Mostly Disagree (3) Somewhat Disagree (4) Neutral (5) Somewhat Agree (6) Mostly Agree (7) Entirely Agree  
 Mark only one oval.

1	2	3	4	5	6	7
<input type="radio"/>						

## The quality of government's contents on the internet

---

**42. Government online contents are usually informative \***

(1) Entirely Disagree (2) Mostly Disagree (3) Somewhat Disagree (4) Neutral (5) Somewhat Agree (6) Mostly Agree (7) Entirely Agree  
 Mark only one oval.

1	2	3	4	5	6	7
<input type="radio"/>						

**43. Government's online contents are often written in interesting/captivating manner \***

(1) Entirely Disagree (2) Mostly Disagree (3) Somewhat Disagree (4) Neutral (5) Somewhat Agree (6) Mostly Agree (7) Entirely Agree  
 Mark only one oval.

1	2	3	4	5	6	7
<input type="radio"/>						

**44. In my opinion, government's online contents are usually accurate \***

(1) Entirely Disagree (2) Mostly Disagree (3) Somewhat Disagree (4) Neutral (5) Somewhat Agree (6) Mostly Agree (7) Entirely Agree  
*Mark only one oval.*

1	2	3	4	5	6	7
<input type="radio"/>						

**45. Government's online contents are usually relevant to me \***

(1) Entirely Disagree (2) Mostly Disagree (3) Somewhat Disagree (4) Neutral (5) Somewhat Agree (6) Mostly Agree (7) Entirely Agree  
*Mark only one oval.*

1	2	3	4	5	6	7
<input type="radio"/>						

**46. Government's online contents are usually up-to-date \***

(1) Entirely Disagree (2) Mostly Disagree (3) Somewhat Disagree (4) Neutral (5) Somewhat Agree (6) Mostly Agree (7) Entirely Agree  
*Mark only one oval.*

1	2	3	4	5	6	7
<input type="radio"/>						

**47. Government's contents are usually written in simple terms \***

(1) Entirely Disagree (2) Mostly Disagree (3) Somewhat Disagree (4) Neutral (5) Somewhat Agree (6) Mostly Agree (7) Entirely Agree  
*Mark only one oval.*

1	2	3	4	5	6	7
<input type="radio"/>						

**Your level of Political Awareness**

---

**48. I am interested in what the government does \***

*Mark only one oval.*

- Yes  
 No

**49. I know government's online platforms \***

*Mark only one oval.*

- Yes  
 No

**50. I know much about the government \***

*Mark only one oval.*

- Yes
- No

**Your choice of online platforms which your government should use to inform and interact with you**

---

**51. Which would you like the government to use to inform and interact with you? \***

*Check all that apply.*

- Facebook
- Twitter
- Blogs
- Website
- Other: .....

**52. Which does your government normally use to inform and interact with you? \***

*Check all that apply.*

- Facebook
- Twitter
- Blogs
- Website
- Other: .....

**53. Any Suggestions, Corrections, Feedbacks or Complaints about the Questionnaire?**

.....

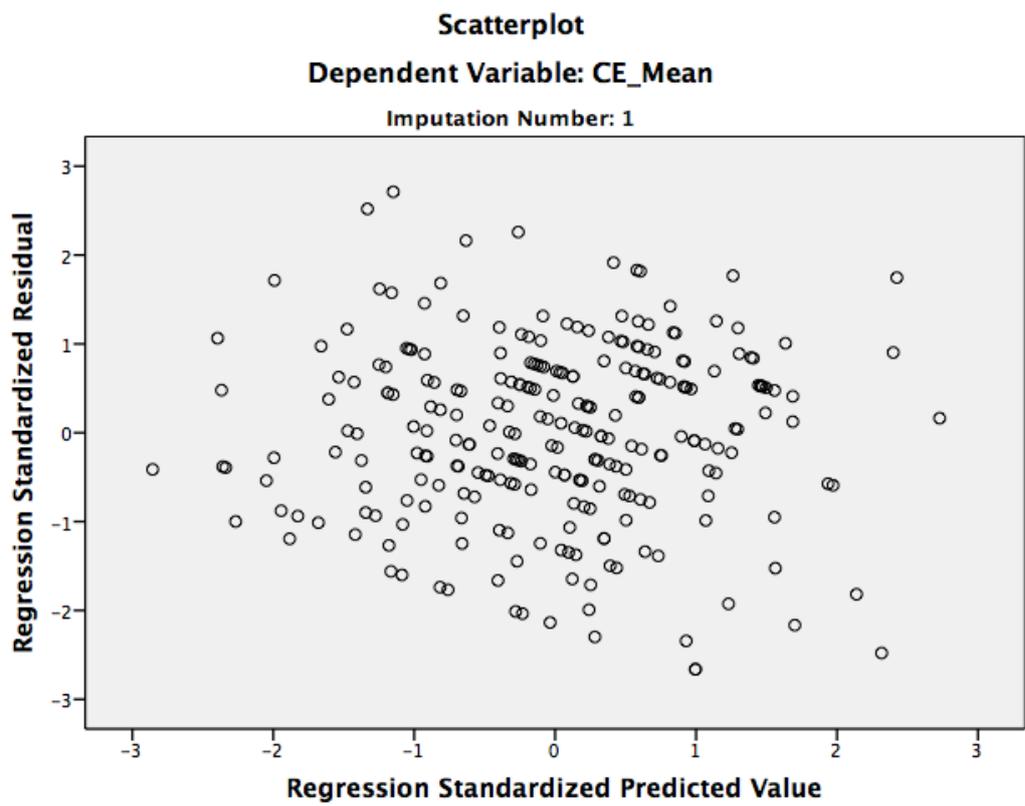
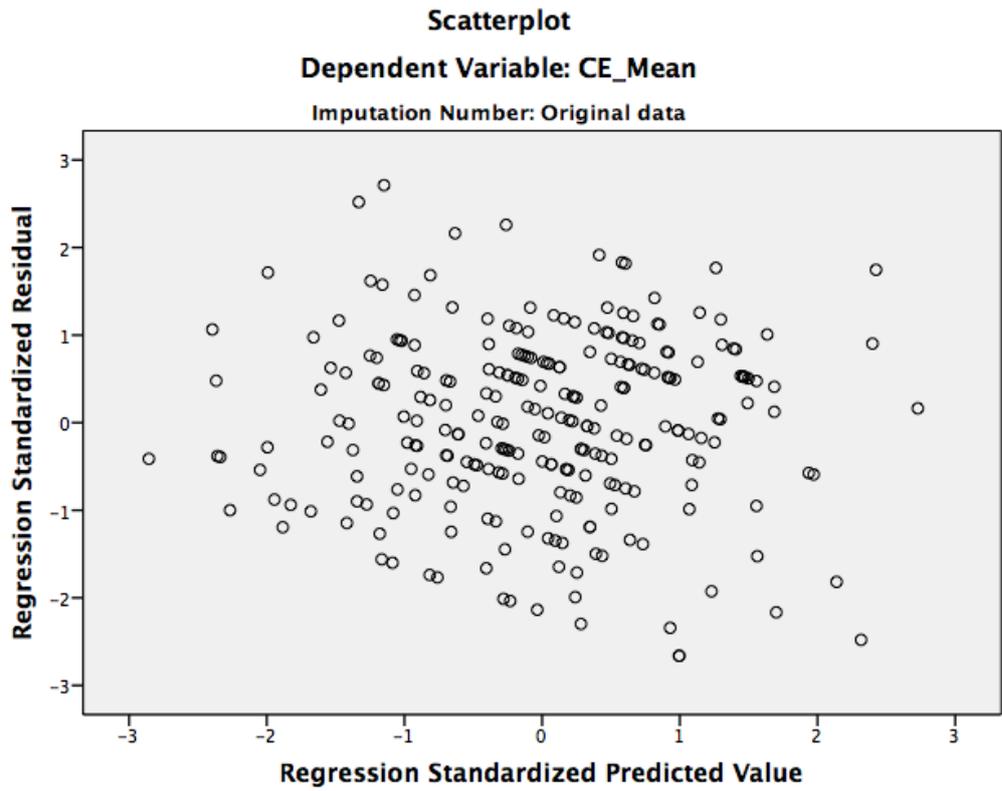
.....

.....

Appendix F: Missing

	Missing		Valid N
	N	Percent	
PC2Others	103	39.6%	157
PC2Web	103	39.6%	157
PC2Blog	103	39.6%	157
PC2Twit	103	39.6%	157
PC2Fbook	103	39.6%	157
IN4Others	21	8.1%	239
IN4PersUse	20	7.7%	240
IN4Econ	20	7.7%	240
IN4GovtProj	20	7.7%	240
IN4GovtExp	20	7.7%	240
IN4GovtPol	20	7.7%	240
IN4Trend	20	7.7%	240
MthIncome	16	6.2%	244
Occupation	15	5.8%	245
PC1Others	5	1.9%	255
PC1Web	5	1.9%	255
PC1Blog	5	1.9%	255
PC1Twit	5	1.9%	255
PC1Fbook	5	1.9%	255
ID5	3	1.2%	257
LastQual	2	0.8%	258
Age	2	0.8%	258
Gender	2	0.8%	258
VP2	1	0.4%	259
MarStat	1	0.4%	259

Appendix G: Scatter plots for CE factors  
(Original data, Iteration 1 and 5)

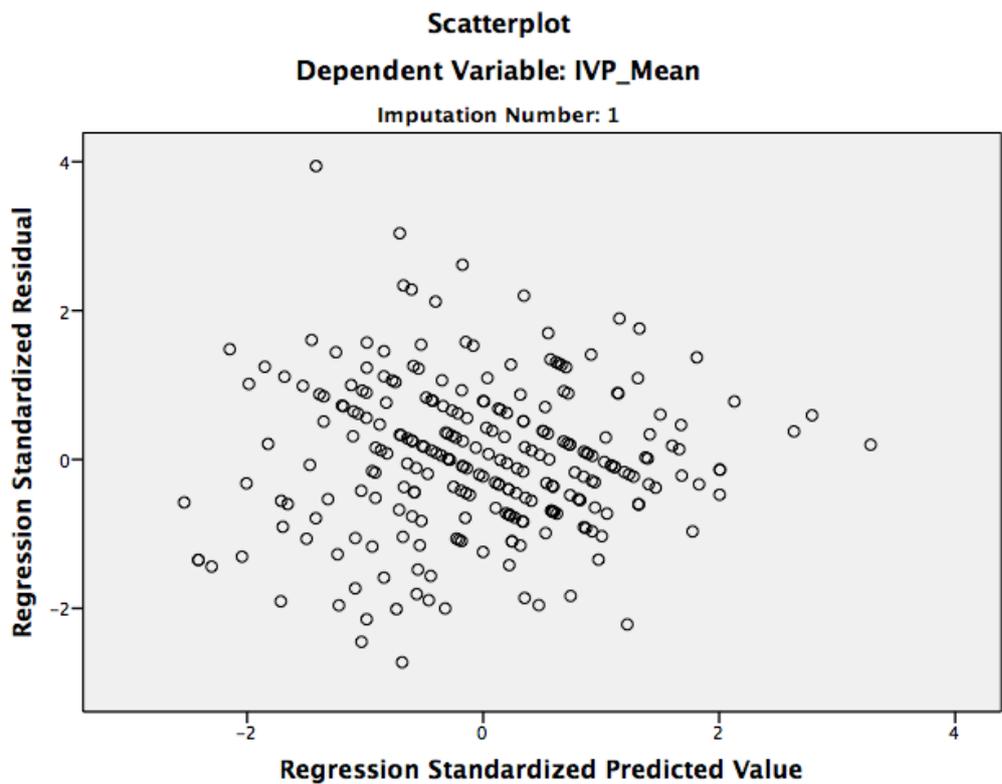
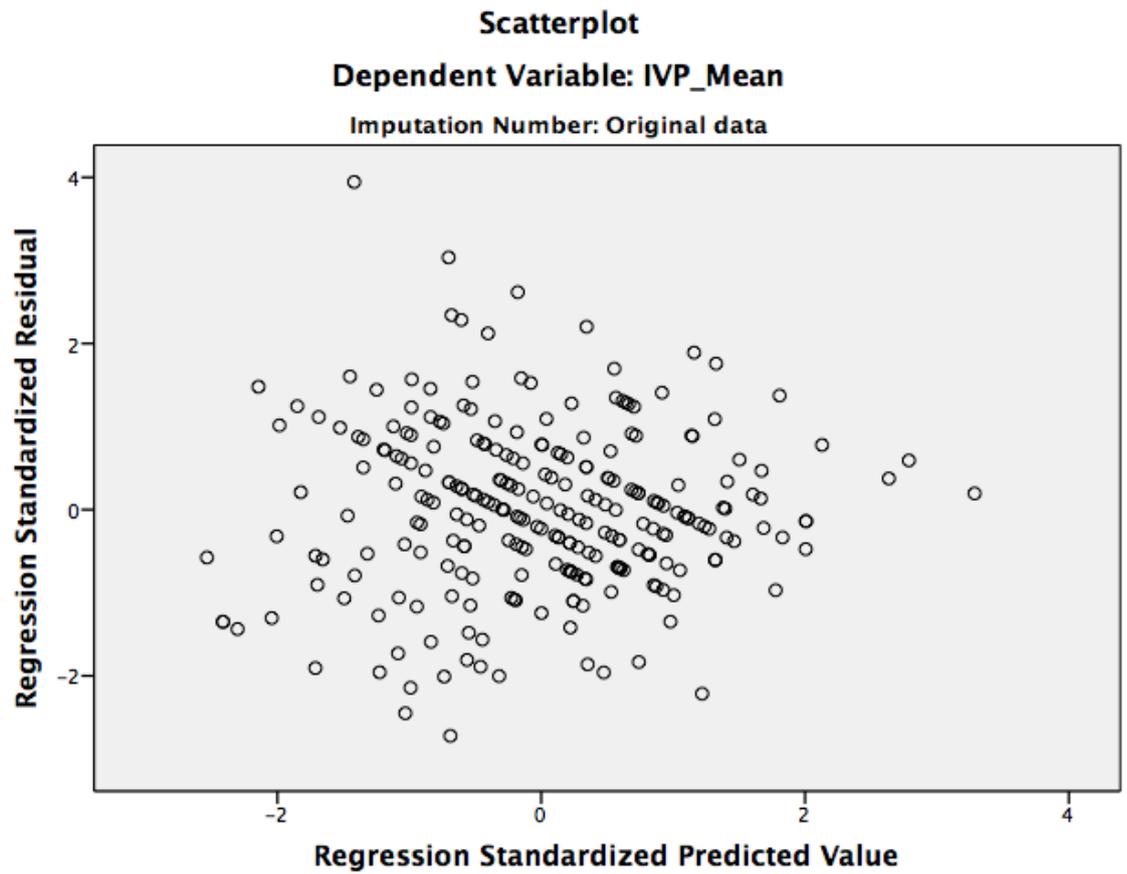


**Scatterplot**  
**Dependent Variable: CE\_Mean**

Imputation Number: 5

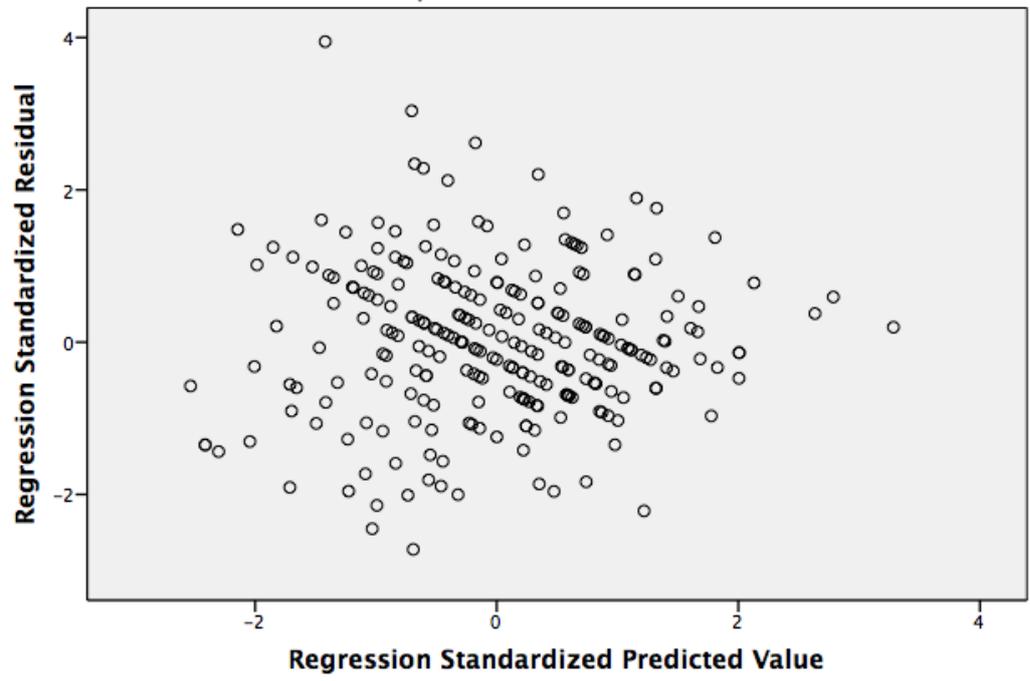


Appendix H: Scatter plots for IVP Factors with outliers  
(Original data, Iteration 1 and 5)

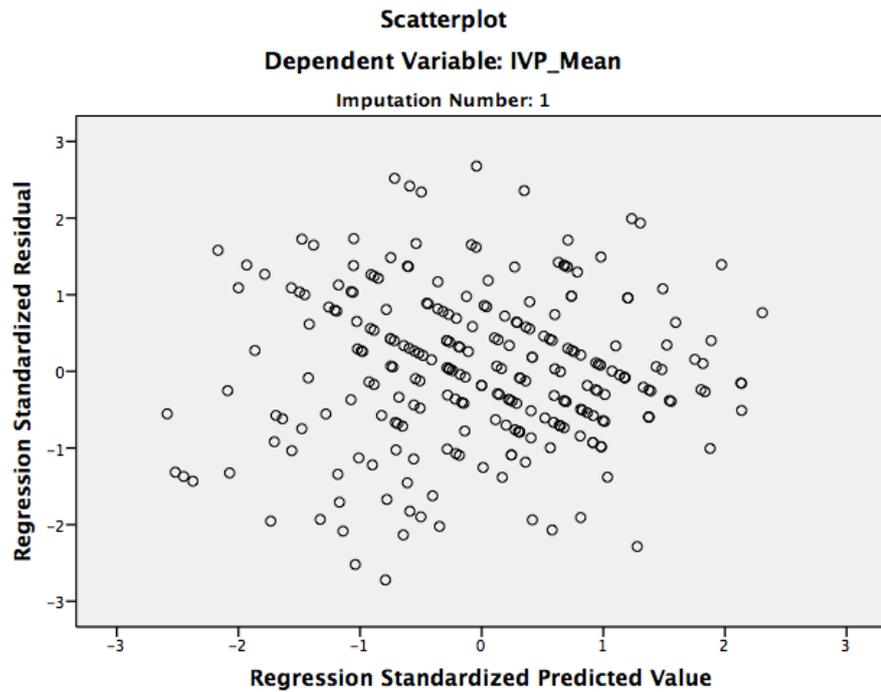
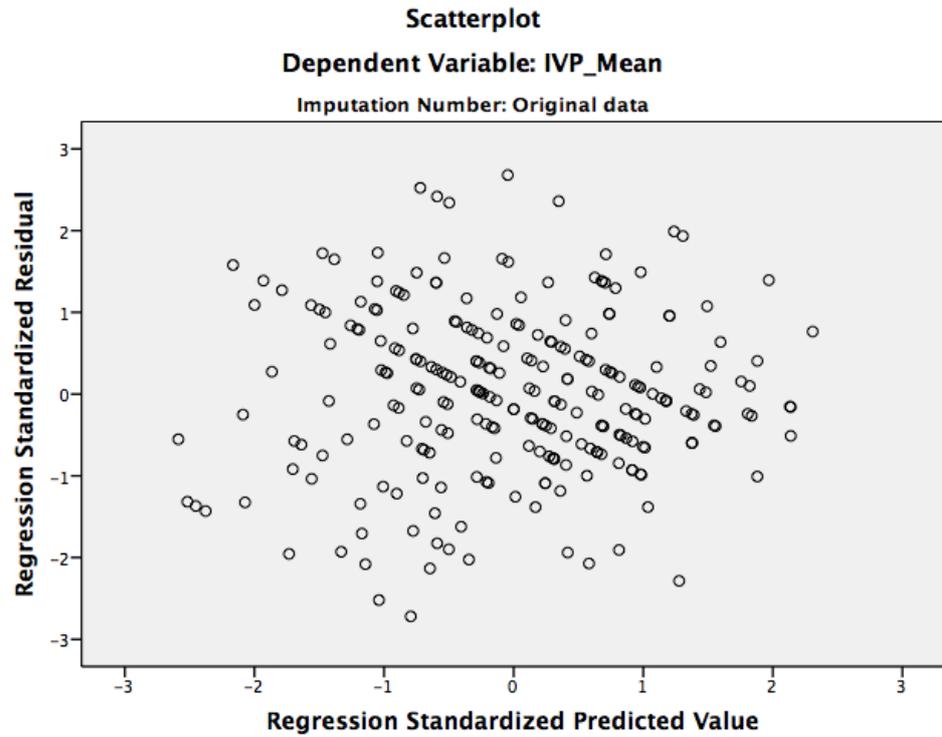


**Scatterplot**  
**Dependent Variable: IVP\_Mean**

Imputation Number: 5

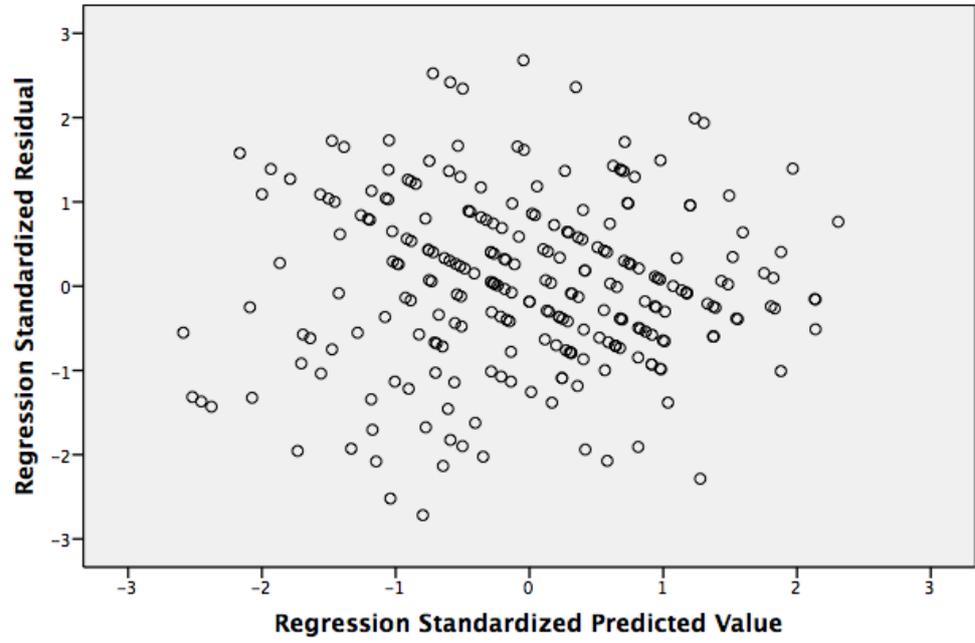


Appendix I: Scatter plots for IVP factors with outliers  
(Original data, Iteration 1 and 5)



**Scatterplot**  
**Dependent Variable: IVP\_Mean**

Imputation Number: 5



Appendix J: Respondents' Data  
(Original data, Iteration 1 to 5)

Details		Number of Cases and Percentages						
		Original Data	1 <sup>st</sup> Iteration	2 <sup>nd</sup> Iteration	3 <sup>rd</sup> Iteration	4 <sup>th</sup> Iteration	5 <sup>th</sup> Iteration	Pooled Iteration
<b>Gender</b>	<i>Male</i>	149 (57.3%)	149 (57.3%)	150 (57.7%)	150 (57.7%)	150 (57.7%)	150 (57.7%)	149.8 (58%)
	<i>Female</i>	109 (41.9%)	111 (42.7%)	110 (42.3%)	110 (42.3%)	110 (42.3%)	110 (42.3%)	110.2 (42%)
<b>Age</b>	<i>18-28</i>	85 (32.7%)	85 (32.7%)	86 (33.1%)	86 (33.1%)	86 (33.1%)	85 (32.7%)	85.6 (33%)
	<i>29-35</i>	131 (50.4%)	131 (50.4%)	132 (50.8%)	131 (50.4%)	131 (50.4%)	132 (50.8%)	131.4 (51%)
	<i>36-42</i>	27 (10.4%)	28 (10.8%)	27 (10.4%)	27 (10.4%)	27 (10.4%)	28 (10.8%)	27.4 (10%)
	<i>42 - Above</i>	15 (5.8%)	16 (6.2%)	15 (5.8%)	16 (6.2%)	16 (6.2%)	15 (5.8%)	15.6 (6%)
<b>Marital Status</b>	<i>Single</i>	156 (60%)	156 (60%)	157 (60.4%)	157 (60.4%)	157 (60.4%)	156 (60%)	156.6 (60%)
	<i>Married</i>	103 (39.6%)	104 (40%)	103 (39.6%)	103 (39.6%)	103 (39.6%)	104 (40%)	103.4 (40%)
<b>Education</b>	<i>SSCE</i>	20 (7.7%)	20 (7.7%)	20 (7.7%)	20 (7.7%)	20 (7.7%)	20 (7.7%)	20 (8%)
	<i>Diploma</i>	19 (7.3%)	19 (7.3%)	21 (8.1%)	20 (7.7%)	20 (7.7%)	21 (8.1%)	20.2 (8%)
	<i>Bachelors</i>	146 (56.2%)	147 (56.5%)	146 (56.2%)	147 (56.5%)	147 (56.5%)	146 (56.2%)	146.6 (56%)
	<i>Postgraduate</i>	73 (28.1%)	74 (28.5%)	73 (28.1%)	73 (28.1%)	73 (28.1%)	73 (28.1%)	73.2 (28%)
<b>Monthly Income</b>	<i>Less than N20,000 (Less than £50.70)</i>	29 (11%)	31 (11.9%)	31 (11.9%)	34 (13.1%)	33 (12.7%)	33 (12.7%)	32.4 (12%)
	<i>N20,000 – N49,999 (£50.70 - £126.75)</i>	37 (14.2%)	41 (15.8%)	40 (15.4%)	38 (14.6%)	41 (15.8%)	39 (15.0%)	39.8 (15%)
	<i>N50,000 – N99,999 (£126.76 - £253.51)</i>	72 (27.7%)	73 (28.1%)	75 (28.8%)	73 (28.1%)	74 (28.5%)	74 (28.5%)	73.8 (28%)
	<i>N100,000 – N199,999 (£253.51 – £507.02)</i>	66 (25.5%)	68 (26.2%)	67 (25.8%)	67 (25.8%)	66 (25.4%)	66 (25.4%)	66.8 (26%)
	<i>N200,000 – N299,999 (£507.03 - £760.54)</i>	28 (10.8%)	31 (11.9%)	32 (12.3%)	28 (10.8%)	31 (11.9%)	29 (11.2%)	30.2 (12%)
	<i>N300,000 and Above (£760.55 and above)</i>	12 (4.6%)	16 (6.2%)	15 (5.8%)	20 (7.7%)	15 (5.8%)	19 (7.3%)	17 (7%)

Details		Number of Cases and Percentages						
		Original Data	1 <sup>st</sup> Iteration	2 <sup>nd</sup> Iteration	3 <sup>rd</sup> Iteration	4 <sup>th</sup> Iteration	5 <sup>th</sup> Iteration	Pooled Iteration
<b>Occupation</b>	<i>Academics/Educators</i>	22 (8.5%)	25 (9.6%)	23 (8.8%)	34 (13.1%)	22 (8.5%)	22 (8.5%)	25.2 (10%)
	<i>Civil Servants</i>	61 (23.5%)	61 (23.5%)	61 (23.5%)	61 (23.5%)	61 (23.5%)	61 (23.5%)	61 (23%)
	<i>Students</i>	29 (11.2%)	29 (11.2%)	29 (11.2%)	29 (11.2%)	29 (11.2%)	29 (11.2%)	29 (11%)
	<i>Professionals (Doctors, Bankers, Lawyers, Pharmacists, etc.)</i>	49 (18.8%)	53 (20.4%)	49 (18.8%)	50 (19.2%)	54 (20.8%)	53 (20.4%)	51.8 (20%)
	<i>National Youth Service Corp Members</i>	13 (5.0%)	13 (5.0%)	27 (10.4%)	13 (5.0%)	13 (5.0%)	14 (5.4%)	16 (6%)
	<i>Self-employed</i>	24 (9.2%)	24 (9.2%)	24 (9.2%)	24 (9.2%)	24 (9.2%)	24 (9.2%)	24 (9%)
	<i>Unemployed</i>	10 (3.8%)	10 (3.8%)	10 (3.8%)	10 (3.8%)	10 (3.8%)	10 (3.8%)	10 (4%)
	<i>IT Professionals/Engineers</i>	20 (7.7%)	20 (7.7%)	20 (7.7%)	20 (7.7%)	22 (8.5%)	22 (8.5%)	20.8 (8%)
	<i>Clerical/Administrative Employees</i>	11 (4.2%)	12 (4.6%)	11 (4.2%)	12 (4.6%)	11 (4.2%)	11 (4.2%)	11.4 (4%)
	<i>Paramilitary and Security Personnel</i>	3 (1.2%)	5 (1.9%)	3 (1.2%)	3 (1.2%)	5 (1.9%)	4 (1.5%)	4 (2%)
	<i>Others</i>	3 (1.2%)	80 (3.1%)	3 (1.2%)	4 (1.5%)	9 (3.5%)	10 (3.8%)	6.8 (3%)

Appendix K: Descriptive Statistics of Likert Variables  
(Original data, Iteration 1 to 5)

Variables	Original Data		1 <sup>st</sup> Iteration		2 <sup>nd</sup> Iteration		3 <sup>rd</sup> Iteration		4 <sup>th</sup> Iteration		5 <sup>th</sup> Iteration		Pooled Iterations	
	Mean	S.D	Mean	S.D	Mean	S.D	Mean	S.D	Mean	S.D	Mean	S.D	Mean	S.D
CE1	4.16	1.48												
CE2	3.10	1.62												
CE3	3.29	1.72												
ID1	4.10	1.82												
ID2	3.52	1.80												
ID3	3.99	1.75												
ID4	2.99	1.78												
ID5*	4.29	1.79	4.30	1.80	4.30	1.78	4.29	1.78	4.30	1.79	4.31	1.80	4.30	1.79
HF1	3.38	1.76												
HF2	2.55	1.56												
HF3	3.00	1.74												
FA1	4.17	1.78												
FA2	4.16	1.75												
FA3	4.02	1.76												
CC1	3.98	1.77												
CC2	4.53	1.70												
CC3	3.78	1.77												
PWC1	3.87	1.61												
PWC2	3.10	1.45												
PWC3	4.04	1.49												
IVP1	4.19	1.43												
IVP2	4.37	1.52												
IVP3	4.12	1.42												
TGA1	2.99	1.68												
TGA2	3.00	1.54												
TGA3	2.70	1.40												
TGA4	3.44	1.38												
IN1	3.96	1.60												

Variables	Original Data		1 <sup>st</sup> Iteration		2 <sup>nd</sup> Iteration		3 <sup>rd</sup> Iteration		4 <sup>th</sup> Iteration		5 <sup>th</sup> Iteration		Pooled Iterations	
	Mean	S.D	Mean	S.D	Mean	S.D	Mean	S.D	Mean	S.D	Mean	S.D	Mean	S.D
<b>IN2</b>	3.67	1.69												
<b>IN3</b>	3.55	1.65												
<b>VAC1</b>	3.78	1.311												
<b>VAC2</b>	3.76	1.39												
<b>VAC3</b>	3.37	1.36												
<b>PCQ1</b>	4.20	1.46												
<b>PCQ2</b>	4.02	1.47												
<b>PCQ3</b>	3.28	1.48												
<b>PCQ4</b>	3.85	1.51												
<b>PCQ5</b>	3.48	1.55												
<b>PCQ6</b>	4.15	1.58												

Appendix L: Descriptive Statistics of Dichotomous and Multi-Response Variables  
(Original data, Iteration 1 to 5)

Variables	Original Data		1 <sup>st</sup> Iteration		2 <sup>nd</sup> Iteration		3 <sup>rd</sup> Iteration		4 <sup>th</sup> Iteration		5 <sup>th</sup> Iteration		Pooled Iter:	
	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No	Y
<b>IN4Trend</b>	111 (42.7%)	129 (49.6%)	120 (46.2%)	140 (53.8%)	128 (49.2%)	132 (50.8%)	124 (47.7%)	136 (52.3%)	122 (46.9%)	138 (53.1%)	122 (46.9%)	138 (53.1%)	123.2 (47.4%)	138.8 (52.6%)
<b>IN4GovtPol</b>	99 (38.1%)	141 (54.2%)	104 (40%)	156 (60%)	109 (41.9%)	151 (58.1%)	111 (42.7%)	149 (57.3%)	108 (41.5%)	152 (58.5%)	103 (39.6%)	157 (60.4%)	107 (41.1%)	157.9 (60.9%)
<b>IN4GovtExp</b>	86 (33.1%)	154 (59.2%)	97 (37.3%)	163 (62.7%)	93 (35.8%)	167 (64.2%)	95 (36.5%)	165 (63.5%)	96 (36.9%)	164 (63.1%)	96 (36.9%)	164 (63.1%)	95.4 (36.7%)	164.6 (63.3%)
<b>IN4GovtProj</b>	90 (34.6%)	150 (57.7%)	103 (39.6%)	157 (60.4%)	96 (36.9%)	164 (63.1%)	98 (37.7%)	162 (62.3%)	99 (38.1%)	161 (61.9%)	96 (36.9%)	164 (63.1%)	98.4 (37.8%)	164.6 (63.0%)
<b>IN4Econ</b>	83 (31.9%)	157 (60.4%)	94 (36.2%)	166 (63.8%)	97 (37.3%)	163 (62.7%)	90 (34.6%)	170 (65.4%)	88 (33.8%)	172 (66.2%)	99 (38.1%)	161 (61.9%)	93.6 (36.0%)	161.4 (64.0%)
<b>IN4PersUse</b>	72 (27.7%)	168 (64.6%)	84 (32.3%)	176 (67.7%)	83 (31.9%)	177 (68.1%)	76 (29.2%)	184 (70.8%)	84 (32.3%)	176 (67.7%)	82 (31.5%)	178 (68.5%)	81.8 (31.4%)	178.2 (68.6%)
<b>IN4Others</b>	228 (87.7%)	11 (4.2%)	243 (93.5%)	17 (6.5%)	241 (92.7%)	19 (7.3%)	240 (92.3%)	20 (7.7%)	242 (93.1%)	18 (6.9%)	240 (92.3%)	20 (7.7%)	241.2 (92.8%)	19.8 (7.2%)
<b>PC1Fbook</b>	66 (25.4%)	189 (72.7%)	68 (26.2%)	192 (73.8%)	67 (25.8%)	193 (74.2%)	68 (26.2%)	192 (73.8%)	70 (26.9%)	190 (73.1%)	68 (26.2%)	192 (73.8%)	68.2 (26.3%)	191.8 (73.7%)
<b>PC1Twit</b>	167 (64.2%)	88 (33.8%)	169 (65.0%)	91 (35.0%)	168 (64.6%)	92 (35.4%)	168 (64.6%)	92 (35.4%)	169 (65.0%)	91 (35.0%)	169 (65.0%)	91 (35.0%)	168.6 (64.8%)	91.4 (35.2%)
<b>PC1Blog</b>	166 (63.8%)	89 (34.2%)	167 (64.2%)	93 (35.8%)	168 (64.6%)	92 (35.4%)	171 (65.8%)	89 (34.2%)	168 (64.6%)	92 (35.4%)	167 (64.2%)	93 (35.8%)	168.2 (64.7%)	91.8 (35.3%)
<b>PC1Web</b>	90 (34.6%)	165 (63.5%)	93 (35.8%)	167 (64.2%)	93 (35.8%)	167 (64.2%)	93 (35.8%)	167 (64.2%)	91 (35.0%)	169 (65.0%)	91 (35.0%)	169 (65.0%)	92.2 (35.5%)	167.8 (64.5%)
<b>PC1Others</b>	233 (89.6%)	22 (8.5%)	235 (90.4%)	25 (9.6%)	236 (90.8%)	24 (9.2%)	236 (90.8%)	24 (9.2%)	235 (90.4%)	25 (9.6%)	235 (90.4%)	25 (9.6%)	235.4 (90.6%)	24.6 (9.4%)
<b>PC2Fbook</b>	111 (42.7%)	46 (17.7%)	183 (70.4%)	77 (29.6%)	171 (65.8%)	89 (34.2%)	162 (62.3%)	98 (37.7%)	163 (62.7%)	97 (37.3%)	182 (70.0%)	78 (30.0%)	172.2 (66.2%)	87.8 (33.8%)
<b>PC2Twit</b>	124 (47.7%)	33 (12.7%)	188 (72.3%)	72 (27.7%)	159 (61.2%)	101 (28.8%)	172 (66.5%)	87 (33.5%)	174 (66.9%)	86 (33.1%)	167 (64.2%)	93 (35.8%)	172.2 (66.2%)	87.8 (33.8%)

Variables	Original Data		1 <sup>st</sup> Iteration		2 <sup>nd</sup> Iteration		3 <sup>rd</sup> Iteration		4 <sup>th</sup> Iteration		5 <sup>th</sup> Iteration		Pooled Iter:	
	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No	Y
<b>PC2Blog</b>	144 (55.4%)	13 (5.0%)	210 (80.8%)	50 (19.2%)	208 (80.0%)	52 (20.0%)	194 (74.6%)	66 (25.4%)	206 (79.2%)	54 (20.8%)	208 (80.0%)	52 (20.0%)	205.2 (78.9%)	54.8 (21.1%)
<b>PC2Web</b>	7 (2.7%)	150 (57.7%)	52 (20.0%)	208 (80.0%)	46 (17.7%)	214 (82.3%)	59 (22.7%)	201 (77.3%)	61 (23.5%)	199 (76.5%)	54 (20.8%)	206 (79.2%)	54.4 (20.9%)	205.6 (79.1%)
<b>PC2Others</b>	133 (51.2%)	24 (9.2%)	170 (65.4%)	90 (24.6%)	195 (75.0%)	65 (25.0%)	193 (74.2%)	67 (25.8%)	197 (75.8%)	63 (24.2%)	212 (81.5%)	48 (18.5%)	193.4 (74.4%)	60.6 (23.6%)
<b>PA1</b>	107 (41.2%)	153 (58.8%)	107 (41.2%)	153 (58.8%)	107 (41.2%)	153 (58.8%)	107 (41.2%)	153 (58.8%)	107 (41.2%)	153 (58.8%)	107 (41.2%)	153 (58.8%)	107 (41.2%)	153 (58.8%)
<b>PA2</b>	179 (68.8%)	80 (30.8%)	179 (68.8%)	81 (31.2%)	180 (69.2%)	80 (30.8%)	179 (68.8%)	81 (31.2%)	179 (68.8%)	81 (31.2%)	180 (69.2%)	80 (30.8%)	179.4 (68.9%)	80.6 (30.1%)
<b>PA3</b>	185 (71.2%)	75 (28.8%)	185 (71.2%)	75 (28.8%)	185 (71.2%)	75 (28.8%)	185 (71.2%)	75 (28.8%)	185 (71.2%)	75 (28.8%)	185 (71.2%)	75 (28.8%)	185 (71.2%)	75 (28.8%)

Appendix M: Communalities  
(Original data, Iteration 1 to 5)

Variables	Initial	Extraction					
		Original Data	1 <sup>st</sup> Iteration	2 <sup>nd</sup> Iteration	3 <sup>rd</sup> Iteration	4 <sup>th</sup> Iteration	5 <sup>th</sup> Iteration
CE1	1.000	.690	.691	.691	.691	.691	.691
CE2	1.000	.714	.716	.716	.716	.716	.715
CE3	1.000	.667	.666	.666	.667	.666	.665
IDelib1	1.000	.671	.672	.672	.672	.672	.672
IDelib2	1.000	.748	.743	.746	.746	.745	.746
IDelib3	1.000	.715	.717	.713	.713	.715	.715
IDelib4	1.000	.602	.597	.600	.599	.599	.599
IDelib5	1.000	.744	.745	.740	.742	.746	.745
HF1	1.000	.515	.516	.516	.516	.516	.517
HF2	1.000	.776	.775	.776	.775	.775	.775
HF3	1.000	.739	.737	.738	.738	.738	.738
FA1	1.000	.718	.717	.716	.716	.717	.717
FA2	1.000	.725	.726	.726	.726	.726	.726
FA3	1.000	.741	.732	.731	.732	.732	.732
CC1	1.000	.684	.681	.681	.681	.681	.681
CC2	1.000	.733	.731	.731	.731	.731	.731
CC3	1.000	.656	.656	.656	.656	.656	.656
PWC1	1.000	.707	.709	.709	.710	.709	.709
PWC2	1.000	.438	.439	.439	.439	.439	.439
PWC3	1.000	.689	.691	.691	.691	.691	.691
IVP1	1.000	.701	.700	.698	.698	.699	.699
IVP2	1.000	.773	.771	.772	.772	.772	.772
IVP3	1.000	.753	.753	.754	.754	.753	.753
TGA1	1.000	.693	.694	.694	.694	.694	.694
TGA2	1.000	.812	.814	.813	.813	.813	.813
TGA3	1.000	.769	.770	.770	.770	.770	.770
TGA4	1.000	.603	.606	.606	.606	.606	.605
IN1	1.000	.628	.628	.629	.629	.629	.629
IN2	1.000	.642	.645	.645	.645	.645	.645
IN3	1.000	.639	.639	.639	.638	.639	.639
VAC1	1.000	.611	.614	.614	.613	.613	.614
VAC2	1.000	.790	.790	.790	.790	.790	.790
VAC3	1.000	.805	.800	.800	.800	.800	.800
PCQ1	1.000	.636	.636	.636	.636	.636	.636
PCQ2	1.000	.615	.614	.614	.614	.614	.614
PCQ3	1.000	.611	.609	.609	.609	.609	.609
PCQ4	1.000	.615	.615	.616	.616	.616	.616
PCQ5	1.000	.540	.542	.542	.542	.542	.542
PCQ6	1.000	.562	.565	.564	.564	.564	.565

Appendix N:  $R^2$ ,  $\beta$  and  $p$   
(Iteration 1 to 5)

*Individual  $R^2$  Values*

Endogenous Variables	First Dataset	Second Dataset	Third Dataset	Fourth Dataset	Fifth Dataset
CE	0.133	0.133	0.133	0.133	0.133
IVP	0.333	0.332	0.332	0.333	0.333

*Individual Path Coefficient ( $\beta$ )*

Hypotheses		First Dataset	Second Dataset	Third Dataset	Fourth Dataset	Fifth Dataset
H4-2	IVP $\leftarrow$ FA	0.078	0.078	0.078	0.078	0.077
H4-3	IVP $\leftarrow$ CC	0.227	0.228	0.228	0.227	0.226
H4-4	IVP $\leftarrow$ IDelib	0.132	0.13	0.13	0.131	0.134
H4-5	IVP $\leftarrow$ HF	-0.013	-0.012	-0.012	-0.012	-0.013
H4-1B	IVP $\leftarrow$ TGA	0.507	0.507	0.507	0.507	0.508
H2-1	CE $\leftarrow$ VAC	0.039	0.039	0.039	0.039	0.039
H1	CE $\leftarrow$ INPCQ	0.253	0.253	0.253	0.253	0.253
H4	CE $\leftarrow$ IVP	0.236	0.236	0.236	0.236	0.236
H4-1A	CE $\leftarrow$ TGA	0.043	0.043	0.043	0.043	0.043

*Individual Coefficient Significance ( $p$ )*

Hypotheses		First Dataset	Second Dataset	Third Dataset	Fourth Dataset	Fifth Dataset
H4-2	IVP $\leftarrow$ FA	0.130	0.130	0.130	0.130	0.131
H4-3	IVP $\leftarrow$ CC	***	***	***	***	***
H4-4	IVP $\leftarrow$ IDelib	0.010	0.011	0.011	0.010	0.009
H4-5	IVP $\leftarrow$ HF	0.805	0.815	0.815	0.809	0.803
H4-1B	IVP $\leftarrow$ TGA	***	***	***	***	***
H2-1	CE $\leftarrow$ VAC	0.505	0.505	0.505	0.505	0.505
H1	CE $\leftarrow$ INPCQ	***	***	***	***	***
H4	CE $\leftarrow$ IVP	***	***	***	***	***
H4-1A	CE $\leftarrow$ TGA	0.529	0.529	0.529	0.529	0.529

Notes: \*\*\* p-value < 0.001





**Keys**    Grey        Failed to load  
              Orange        Removed due to low correlation coefficient score

**Pattern Matrix (2<sup>nd</sup> Iteration)**

Variables	Factors									
	1	2	3	4	5	6	7	8	9	10
IN3	.723									
IN2	.621									
PCQ1	.587									
IN1	.567									
PCQ2	.544									
PCQ5	.536									
PCQ4	.483									
PCQ3										
IDelib2		.832								
IDdelib3		.803								
IDelib1		.781								
IDdelib5		.760								
IDelib4		.474								
FA2			.839							
FA1			.797							
FA3			.748							
HF2				.869						
HF3				.760						
HF1										
TGA2										
TGA4										
TGA3										
TGA1										
CC1										
CC2										
CC3										
PWC1										
PWC3										
CE1										
CE2										
CE3										
IVP3										
IVP2										
IVP1										
VAC3										.878
VAC2										.833
VAC1										.552
PCQ6										.449

**Keys**    Grey        Failed to load  
              Orange        Removed due to low correlation coefficient score

**Pattern Matrix (3<sup>rd</sup> Iteration)**

Variables	Factors									
	1	2	3	4	5	6	7	8	9	10
IN3	.723									
IN2	.620									
PCQ1	.587									
IN1	.567									
PCQ2	.543									
PCQ5	.536									
PCQ4	.483									
PCQ3										
IDelib2		.831								
IDdelib3		.804								
IDelib1		.781								
IDdelib5		.763								
IDelib4		.473								
FA2			.840							
FA1			.797							
FA3			.748							
HF2				.869						
HF3				.760						
HF1										
TGA2					-					
TGA4					.819					
TGA3					.721					
TGA1					.718					
CC1					.639					
CC2						.804				
CC3						.722				
PWC1						.720				
PWC3							.816			
CE1							.652			
CE2								.794		
CE3								.657		
IVP3								.610		
IVP2									.785	
IVP1									.741	
VAC3									.689	.878
VAC2										.833
VAC1										.552
PCQ6										.449

**Keys**    Grey        Failed to load  
              Orange      Removed due to low correlation coefficient score

**Pattern Matrix (4<sup>th</sup> Iteration)**

Variables	Factors									
	1	2	3	4	5	6	7	8	9	10
IN3	.724									
IN2	.621									
PCQ1	.586									
IN1	.566									
PCQ2	.543									
PCQ5	.536									
PCQ4	.483									
PCQ3										
IDelib2		.831								
IDdelib3		.806								
IDelib1		.781								
IDdelib5		.763								
IDelib4		.473								
FA2			.840							
FA1			.797							
FA3			.747							
HF2				.869						
HF3				.760						
TGA2										
TGA4										
TGA3										
TGA1										
CC1										
CC2										
CC3										
HF1										
PWC1										
PWC3										
CE1										
CE2										
CE3										
IVP3										
IVP2										
IVP1										
VAC3										
VAC2										
VAC1										
PCQ6										

**Keys**    Grey    Failed to load





## References

- Ahmed, N. (2006). *An overview of e-participation models*. Paper presented at the UNDESA workshop "E-participation and E-government: Understanding the Present and Creating the Future ", Budapest, Hungary.
- Ahola, K. (2015). The Role of Reading Engagement in a Skills-Focused Intervention.
- Aichholzer, G., & Westholm, H. (2009). Evaluating eParticipation projects: practical examples and outline of an evaluation framework. *European Journal of ePractice*, 7(3).
- Albrecht, S. (2006). Whose voice is heard in online deliberation?: A study of participation and representation in political debates on the internet. *Information, Community and Society*, 9(1), 62-82.
- Alhojailan, M. I. (2012). *Thematic Analysis: A critical review of its process and evaluation*. Paper presented at the WEI International European Academic Conference.
- Allison, P. D. (2002). Missing data: Quantitative applications in the social sciences. *British Journal of Mathematical and Statistical Psychology*, 55(1), 193-196.
- Alvarez, R. M., Katz, G., Llamosa, R., & Martinez, H. E. (2009). Assessing Voters' Attitudes towards Electronic Voting in Latin America: Evidence from Colombia's 2007 E-Voting Pilot. In P. Y. A. Ryan & B. Schoenmakers (Eds.), *E-Voting and Identity, Proceedings* (Vol. 5767, pp. 75-91).
- Anderson, J. C., & Gerbing, D. W. (1988). Structural equation modeling in practice: A review and recommended two-step approach. *Psychological bulletin*, 103(3), 411.
- Anderson, J. C., & Gerbing, D. W. (1991). Predicting the performance of measures in a confirmatory factor analysis with a pretest assessment of their substantive validities. *Journal of Applied Psychology*, 76(5), 732.
- Andrew, A., Borriello, G., & Fogarty, J. (2007). Toward a systematic understanding of suggestion tactics in persuasive technologies *Persuasive technology* (pp. 259-270): Springer.
- Antaki, C., Billig, M., Edwards, D., & Potter, J. (2003). Discourse analysis means doing analysis: A critique of six analytic shortcomings.
- Arnstein, S. R. (1969). A ladder of citizen participation. *Journal of the American Institute of planners*, 35(4), 216-224.
- Aroge, S. T. (2012). Civic education as a panacea to electoral malpractices in Nigeria. *Business and Management Research*, 1(1), p141.
- Astrom, J., Karlsson, M., Linde, J., & Pirannejad, A. (2012). Understanding the rise of e-participation in non-democracies: Domestic and international factors. *Government Information Quarterly*, 29(2), 142-150. doi:10.1016/j.giq.2011.09.008
- Atkinson, T. M., Rosenfeld, B. D., Sit, L., Mendoza, T. R., Fruscione, M., Lavene, D., . . . Cleeland, C. S. (2011). Using confirmatory factor analysis to evaluate construct validity of the Brief Pain Inventory (BPI). *Journal of pain and symptom management*, 41(3), 558-565.
- Awang, Z. (2016). *SEM made simple: A gentle approach to learning structural equation modeling*. Bangi Selangor: MPWS Publishers.
- Ayo, C. (2005). E-Democracy: A Panacea for Enhanced Participatory Democracy (Nigeria in Perspective).

- Bachman, R., & Schutt, R. K. (2008). *Fundamentals of research in criminology and criminal justice*. London: Sage.
- Baker, L., & Wigfield, A. (1999). Dimensions of children's motivation for reading and their relations to reading activity and reading achievement. *Reading research quarterly*, 34(4), 452-477.
- Baldino, D., & Goold, J. (2014). Iran and the emergence of information and communications technology: the evolution of revolution? *Australian Journal of International Affairs*, 68(1), 17-35.
- Baldus, B. J., Voorhees, C., & Calantone, R. (2015). Online brand community engagement: Scale development and validation. *Journal of business research*, 68(5), 978-985.
- Barber, B. (1999). The discourse of civility. In S. Elkin & S. Karol (Eds.), *Citizen competence and democratic institutions* (pp. 39-47). University Park: Pennsylvania State University Press.
- Bartholomew, D. J., Steele, F., Galbraith, J., & Moustaki, I. (2008). *Analysis of multivariate social science data*: CRC press.
- Bason, C. (2010). *Leading public sector innovation: Co-creating for a better society*: Policy Press.
- Baumgartner, J. C., & Morris, J. S. (2009). MyFaceTube politics: Social networking web sites and political engagement of young adults. *Social Science Computer Review*.
- Beer, S. F., Marcella, R., & Baxter, G. (1998). Rural citizens' information needs a survey undertaken on behalf of the Shetland Islands Citizens Advice Bureau. *Journal of Librarianship and Information Science*, 30(4), 223-240.
- Belanger, F., & Carter, L. (2006). *The Effects of the Digital Divide on E-Government: An Empirical Evaluation*. Paper presented at the Proceedings of the 39th Annual Hawaii International Conference on System Sciences (HICSS'06).
- Bélanger, F., & Carter, L. (2008). Trust and risk in e-government adoption. *The journal of strategic Information Systems*, 17(2), 165-176.
- Bélanger, F., & Carter, L. (2009). The impact of the digital divide on e-government use. *Communications of the ACM*, 52(4), 132-135.
- Belanger, F., Hiller, J. S., & Smith, W. J. (2002). Trustworthiness in electronic commerce: the role of privacy, security, and site attributes. *The journal of strategic Information Systems*, 11(3), 245-270.
- Belkin, N. J. (1980). ANOMALOUS STATES OF KNOWLEDGE AS A BASIS FOR INFORMATION-RETRIEVAL. *Canadian Journal of Information Science-Revue Canadienne Des Sciences De L Information*, 5(MAY), 133-143.
- Belkin, N. J. (1993). Interaction with texts: Information retrieval as information seeking behavior. *Information retrieval*, 93, 55-66.
- Benbasat, I., Goldstein, D. K., & Mead, M. (1987). The case research strategy in studies of information systems. *MIS quarterly*, 369-386.
- Bennett, D. A. (2001). How can I deal with missing data in my study? *Australian and New Zealand Journal of Public Health*, 25(5), 464-469.
- Bentler, P. M., & Bonett, D. G. (1980). Significance tests and goodness of fit in the analysis of covariance structures. *Psychological bulletin*, 88(3), 588.
- Berthon, P. R., Pitt, L. F., Plangger, K., & Shapiro, D. (2012). Marketing meets Web 2.0, social media, and creative consumers: Implications for international marketing strategy. *Business horizons*, 55(3), 261-271.

- Bertot, J. C., Jaeger, P. T., & Grimes, J. M. (2010). Using ICTs to create a culture of transparency: E-government and social media as openness and anti-corruption tools for societies. *Government Information Quarterly*, 27(3), 264-271.
- Bertot, J. C., Jaeger, P. T., & Hansen, D. (2012). The impact of policies on government social media usage: Issues, challenges, and recommendations. *Government Information Quarterly*, 29(1), 30-40.
- Bertot, J. C., Jaeger, P. T., & McClure, C. R. (2008). *Citizen-centered e-government services: benefits, costs, and research needs*. Paper presented at the Proceedings of the 2008 international conference on Digital government research.
- Bian, J., Liu, Y., Agichtein, E., & Zha, H. (2008). *Finding the right facts in the crowd: factoid question answering over social media*. Paper presented at the Proceedings of the 17th international conference on World Wide Web.
- Blaxter, L., Hughes, C., & Tight, M. (2001). *How to research*. (2nd ed.). Buckingham: Open University Press.
- Bonsón, E., & Ratkai, M. (2013). A set of metrics to assess stakeholder engagement and social legitimacy on a corporate Facebook page. *Online information review*, 37(5), 787-803.
- Bonson, E., Royo, S., & Ratkai, M. (2015). Citizens' engagement on local governments' Facebook sites. An empirical analysis: The impact of different media and content types in Western Europe. *Government Information Quarterly*, 32(1), 52-62. doi:10.1016/j.giq.2014.11.001
- Bonsón, E., Royo, S., & Ratkai, M. (2014). Facebook Practices in Western European Municipalities An Empirical Analysis of Activity and Citizens' Engagement. *Administration & Society*, 0095399714544945.
- Bonsón, E., Torres, L., Royo, S., & Flores, F. (2012). Local e-government 2.0: Social media and corporate transparency in municipalities. *Government Information Quarterly*, 29(2), 123-132.
- Boukamcha, F. (2015). *Double Estimation Methods to Assess Scales' Psychometric Quality in Marketing Research: ML Versus PLS approaches*. Paper presented at the ECRM2015-Proceedings of the 14th European Conference on Research Methods 2015: ECRM 2015.
- Box, V., Hepworth, M., & Harrison, J. (2002). Identifying information needs of people with multiple sclerosis. *Nursing times*, 99(49), 32-36.
- Braun, V., & Clarke, V. (2006). Using thematic analysis in psychology. *Qualitative research in psychology*, 3(2), 77-101.
- Brekhus, W. H., Galliher, J. F., & Gubrium, J. F. (2005). The need for thin description. *Qualitative Inquiry*, 11(6), 861-879.
- Brians, C. L., Willnat, L., Manheim, J. B., & Rich, R. C. (2011). *Empirical political analysis: Quantitative and qualitative research methods*. New York: Longman.
- Brikci, N., & Green, J. (2007). *A guide to using qualitative research methodology*. Retrieved from [http://evaluation.msf.at/fileadmin/evaluation/files/documents/resources\\_MSF/MSF\\_Qualitative\\_Methods.pdf](http://evaluation.msf.at/fileadmin/evaluation/files/documents/resources_MSF/MSF_Qualitative_Methods.pdf) (Accessed: 12 July 2014)
- Broder, A. (2002). *A taxonomy of web search*. Paper presented at the ACM Sigir forum.
- Burby, J., & Brown, A. (2007). Web analytics definitions. *Washington DC: Web Analytics Association*.

- Burton-Jones, A., & Hubona, G. S. (2006). The mediation of external variables in the technology acceptance model. *Information & Management, 43*(6), 706-717.
- Bwalya, K. J., & Healy, M. (2010). Harnessing e-government adoption in the SADC region: a conceptual underpinning. *Electronic Journal of e-Government, 8*(1), 23-32.
- Calder, B. J., Malthouse, E. C., & Schaedel, U. (2009). An experimental study of the relationship between online engagement and advertising effectiveness. *Journal of interactive marketing, 23*(4), 321-331.
- Capps, D. (2001). *Giving counsel: A minister's guidebook*: Chalice Press.
- Carlsson, C., Nilbert, M., & Nilsson, K. (2006). Patients' involvement in improving cancer care: experiences in three years of collaboration between members of patient associations and health care professionals. *Patient education and counseling, 61*(1), 65-71.
- Carpenter, J., & Kenward, M. (2012). *Multiple imputation and its application*: John Wiley & Sons.
- Carter, L., & Belanger, F. (2012). Internet Voting and Political Participation: An Empirical Comparison of Technological and Political Factors. *Data Base for Advances in Information Systems, 43*(3), 26-46.
- Carter, L., & Bélanger, F. (2005). The utilization of e-government services: citizen trust, innovation and acceptance factors\*. *Information systems journal, 15*(1), 5-25.
- Carter, L., & Weerakkody, V. (2008). E-government adoption: A cultural comparison. *Information Systems Frontiers, 10*(4), 473-482.
- Castañeda, J. A., Muñoz-Leiva, F., & Luque, T. (2007). Web Acceptance Model (WAM): Moderating effects of user experience. *Information & Management, 44*(4), 384-396.
- Cha, M., Haddadi, H., Benevenuto, F., & Gummadi, P. K. (2010). Measuring User Influence in Twitter: The Million Follower Fallacy. *ICWSM, 10*, 10-17.
- Chadwick, A. (2008). Web 2.0: New challenges for the study of e-democracy in an era of informational exuberance. *ISJLP, 5*, 9.
- Chan, G., Cheung, C., Kwong, T., Limayem, M., & Zhu, L. (2003). Online consumer behavior: a review and agenda for future research. *BLED 2003 Proceedings, 43*.
- Charalabidis, Y., & Loukis, E. (2012). Participative public policy making through multiple social media platforms utilization. *International Journal of Electronic Government Research (IJEGR), 8*(3), 78-97.
- Charmaz, K., & Belgrave, L. (2002). Qualitative interviewing and grounded theory analysis. *The SAGE handbook of interview research: The complexity of the craft, 2*, 2002.
- Chen, J. (2007). Flow in games (and everything else). *Communications of the ACM, 50*(4), 31-34.
- Chen, Q., Clifford, S. J., & Wells, W. D. (2002). Attitude toward the site II: new information. *Journal of Advertising Research, 42*(2), 33-46.
- Chen, Q., & Wells, W. D. (1999). Attitude toward the site. *Journal of Advertising Research, 39*(5), 27-37.
- Cheung, G. W., & Rensvold, R. B. (2002). Evaluating goodness-of-fit indexes for testing measurement invariance. *Structural equation modeling, 9*(2), 233-255.

- Cini, L. (2011). *Between participation and deliberation: Toward a new standard for assessing democracy*. Paper presented at the 9th Pavia Graduate Conference in Political Philosophy.
- Codagnone, C., & Undheim, T. A. (2008). Benchmarking eGovernment: tools, theory, and practice. *European Journal of ePractice*, 4, 4-18.
- Colesca, S. E. (2015). Understanding trust in e-government. *Engineering Economics*, 63(4).
- Connelly, L. M. (2008). Pilot studies. *Medsurg Nursing*, 17(6), 411-413.
- Corey, E. C., & Garand, J. C. (2002). Are government employees more likely to vote?: An analysis of turnout in the 1996 US national election. *Public Choice*, 111(3-4), 259-283.
- Cormode, G., & Krishnamurthy, B. (2008). Key differences between Web 1.0 and Web 2.0. *First Monday*, 13(6).
- Coursey, D., & Norris, D. F. (2008). Models of e-government: Are they correct? An empirical assessment. *Public administration review*, 68(3), 523-536.
- Craswell, N., & Hawking, D. (2009). Web information retrieval. *Information Retrieval: Searching in the 21st Century*, 85-101.
- Crawford, K. (2009). Following you: Disciplines of listening in social media. *Continuum: Journal of Media & Cultural Studies*, 23(4), 525-535.
- Crenson, M. A., & Ginsberg, B. (2003). From popular to personal democracy. *National Civic Review*, 92(2), 173-189.
- Creswell, J. W. (1994). *Research design: Qualitative & quantitative approaches*. Thousand Oaks, CA: Sage.
- Creswell, J. W., & Clark, V. L. P. (2011). *Designing and conducting mixed methods research* (2nd ed.). Thousand Oaks: Sage.
- Crouch, M., & McKenzie, H. (2006). The logic of small samples in interview-based qualitative research. *Social science information*, 45(4), 483-499.
- Csikszentmihalyi, M. (1991). *Flow: The psychology of optimal experience* (Vol. 41): HarperPerennial New York.
- Dada, D. (2006). The failure of e-government in developing countries: A literature review. *The electronic journal of information systems in developing countries*, 26.
- Dahl, R. (1998). *On Democracy*. London: Yale University Press.
- Dahlberg, L. (2001a). Computer-mediated communication and the public sphere: A critical analysis. *Journal of Computer-Mediated Communication*, 7(1), 0-0.
- Dahlberg, L. (2001b). The Internet and democratic discourse: Exploring the prospects of online deliberative forums extending the public sphere. *Information, Communication & Society*, 4(4), 615-633.
- Davies, T. (2010). Open data, democracy and public sector reform. *A look at open government data use from data. gov. uk*.
- Davies, T. (2012). Supporting open data use through active engagement. *Using Open Data: policy modeling, citizen empowerment, data journalism (PMOD 2012)*, 1-5.
- Davis, L. L. (1992). Instrument review: Getting the most from a panel of experts. *Applied nursing research*, 5(4), 194-197.
- Davis, R. (1999). *Web of Politics: The Internet's Impact on the American Political System*. Oxford: Oxford University Press.
- Dawson, C. (2002). *Practical research methods: a user-friendly guide to mastering research techniques and projects*. Oxford: How to books.

- De Cindio, F., De Marco, A., & Grew, P. (2007). Deliberative community networks for local governance. *International Journal of Technology, Policy and Management, 7*(2), 108-121.
- Dey, I. (1999). *Grounding grounded theory: Guidelines for qualitative inquiry*: Academic Press.
- Dimmick, J. W., McCain, T. A., & Bolton, W. T. (1979). Media Use and the Life Span Notes on Theory and Method. *American Behavioral Scientist, 23*(1), 7-31.
- Doll, W. J., Raghunathan, T., Lim, J.-S., & Gupta, Y. P. (1995). Research report-A confirmatory factor analysis of the user information satisfaction instrument. *Information systems research, 6*(2), 177-188.
- Dong, Y., & Peng, C.-Y. J. (2013). Principled missing data methods for researchers. *SpringerPlus, 2*(1), 1-17.
- Douglas, Y., & Hargadon, A. (2000). *The pleasure principle: immersion, engagement, flow*. Paper presented at the Proceedings of the eleventh ACM on Hypertext and hypermedia.
- Doya, D. M., Wallace, P., & Ibukun, Y. (2016). *Nigeria Faces Recession Risk as GDP Shrinks in First Quarter*. Retrieved from <http://www.bloomberg.com/news/articles/2016-05-20/nigeria-s-economy-contracts-for-the-first-time-since-2004> (Accessed: 16 July 2016)
- Drusch, G., Bastien, J. C., & Paris, S. (2014). Analysing Eye-Tracking Data: From Scanpaths and Heatmaps to the Dynamic Visualisation of Areas of Interest. *Advances in Science, Technology, Higher Education and Society in the Conceptual Age: STHESCA, 20*, 205.
- Duggin, A. (2016). Doing the hard work to make accessibility simple. Retrieved from <https://gds.blog.gov.uk/2016/05/19/doing-the-hard-work-to-make-accessibility-simple/>. (Accessed: 20 July 2016)
- Durbin, J., & Watson, G. S. (1950). Testing for serial correlation in least squares regression: I. *Biometrika, 37*(3/4), 409-428.
- Eggers, W. D. (2005). Government 2.0: Using Technology to Improve Education. *Cut Red Tape, Reduce Gridlock, and Enhance Democracy, Rowman & Littlefield Pub Inc.*
- Enu, D. B., & Effiom, V. N. (2012). Producing responsible citizenship in Nigeria for national development through social studies education. *American Journal of Social Issues and Humanities, 2*(5).
- Fabrigar, L. R., Wegener, D. T., MacCallum, R. C., & Strahan, E. J. (1999). Evaluating the use of exploratory factor analysis in psychological research. *Psychological methods, 4*(3), 272.
- Faibisoff, S. G., & Ely, D. P. (1974). Information and Information Needs.
- Falade, D. (2008). Civic education as a tool for nation building in Nigeria. *Nigerian Journal of Social Studies, 11*(1), 15-27.
- Fan, J., Zhang, P., & Ieee. (2007). *What factors influence the information sharing across government agencies?*
- Fehring, R. J. (1987). Methods to validate nursing diagnoses. *Nursing Faculty Research and Publications, 27*.
- Ferree, M. M., Gamson, W. A., Gerhards, J., & Rucht, D. (2002). Four models of the public sphere in modern democracies. *Theory and society, 31*(3), 289-324.
- Ferrini, A., & Mohr, J. J. (2009). Uses, limitations, and trends in web analytics. *Handbook of research on Web log analysis, 122-140*.
- Field, A. P. (2005). *Discovering statistics using SPSS* (2nd ed.). London: Sage.

- Finn, S. (1997). Origins of media exposure linking personality traits to TV, radio, print, and film use. *Communication Research*, 24(5), 507-529.
- Fischer, K. E. (2012). Decision-making in healthcare: a practical application of partial least square path modelling to coverage of newborn screening programmes. *Bmc Medical Informatics and Decision Making*, 12(1), 1.
- Flew, T. (2005). From e-government to online deliberative democracy.
- Fogg, B., & Iizawa, D. (2008). Online persuasion in Facebook and Mixi: a cross-cultural comparison *Persuasive technology* (pp. 35-46): Springer.
- Fornell, C., & Larcker, D. F. (1981). Structural equation models with unobservable variables and measurement error: Algebra and statistics. *Journal of marketing research*, 382-388.
- Frakes, W. (1992). Introduction to information storage and retrieval systems. *Space*, 14, 10.
- Francis, J. J., Johnston, M., Robertson, C., Glidewell, L., Entwistle, V., Eccles, M. P., & Grimshaw, J. M. (2010). What is an adequate sample size? Operationalising data saturation for theory-based interview studies. *Psychology and Health*, 25(10), 1229-1245.
- Fraser, N. (1992). Rethinking the public sphere: a contribution to the critique of actually existing democracy. In A. Fung & E. O. Wright (Eds.), *Habermas and the public sphere* (pp. 109-142). Cambridge: MIT Press.
- Freire, M., Fortes, N., & Barbosa, J. (2014). Decisive Factors for the Adoption of Technology in E-Government Platforms. In A. Rocha, D. Fonseca, E. Redondo, L. P. Reis, & M. P. Cota (Eds.), *Proceedings of the 2014 9th Iberian Conference on Information Systems and Technologies*.
- Fuchs, C., & Horak, E. (2008). Africa and the digital divide. *Telematics and informatics*, 25(2), 99-116.
- Fung, A. (2003). Survey article: recipes for public spheres: eight institutional design choices and their consequences. *Journal of Political Philosophy*, 11(3), 338-367.
- Fung, A., & Wright, E. O. (2001). Deepening democracy: innovations in empowered participatory governance. *Politics and society*, 29(1), 5-42.
- Gable, R. K., & Wolf, M. B. (2012). *Instrument development in the affective domain: Measuring attitudes and values in corporate and school settings* (Vol. 36): Springer Science & Business Media.
- Gardner, C., & Amoroso, D. L. (2004). *Development of an instrument to measure the acceptance of internet technology by consumers*. Paper presented at the System Sciences, 2004. Proceedings of the 37th Annual Hawaii International Conference on.
- Gaskin, J. (2012). Plugins and estimands. *Stats Tools Package*. Retrieved from <http://statwiki.kolobkreations.com/> (Accessed: 10 July 2016)
- Gaver, B., & Martin, H. (2000). *Alternatives: exploring information appliances through conceptual design proposals*. Paper presented at the Proceedings of the SIGCHI conference on Human factors in computing systems.
- Gerlitz, C., & Helmond, A. (2011). *Hit, link, like and share. Organising the social and the fabric of the web*. Paper presented at the Digital Methods Winter Conference Proceedings.
- Germain, M.-L. (2006). Stages of Psychometric Measure Development: The Example of the Generalized Expertise Measure (GEM). *Online Submission*.

- Ghani, J. A., & Deshpande, S. P. (1994). Task characteristics and the experience of optimal flow in human—computer interaction. *The Journal of psychology*, 128(4), 381-391.
- Ghani, J. A., Supnick, R., & Rooney, P. (1991). *The Experience Of Flow In Computer-Mediated And In Face-To-Face Groups*. Paper presented at the Proceedings of the International Conference on Information Systems, ICIS 1991, December 16-18, 1991, New York, NY, USA.
- Gibbs, I. (2012). Online Engagement Research. *The Guardian*. Retrieved from <http://www.theguardian.com/advertising/online-engagement> (Accessed: 5 September 2014)
- Given, L. M. (2008). *The Sage encyclopedia of qualitative research methods*: Sage Publications.
- Glencross, A. (2009). E-participation in the legislative process: procedural and technological lessons from Estonia. *Paper published on the web site of the International Regulatory Reform Network*. Retrieved on, 29.
- Goggins, S., & Petakovic, E. (2014). Connecting Theory to Social Technology Platforms: A Framework for Measuring Influence in Context. *American Behavioral Scientist*. doi:10.1177/0002764214527093
- Graham, G. (2012). Public opinion and the public sphere. *Beyond Habermas: Democracy, Knowledge, and the Public Sphere*, 29.
- Graham, M., & Avery, E. J. (2013). Government Public Relations and Social Media: An Analysis of the Perceptions and Trends of Social Media Use at the Local Government Level. *Public Relations Journal*, 7(4).
- Granka, L. A., Joachims, T., & Gay, G. (2004). *Eye-tracking analysis of user behavior in WWW search*. Paper presented at the Proceedings of the 27th annual international ACM SIGIR conference on Research and development in information retrieval.
- Grbesa, M. (2003). Why If at All Is the Public Sphere a Useful Concept? *Politička misao*, 40(5), 110-121.
- Grbeša, M. (2004). Why if at all is the Public Sphere a Useful Concept? *Politička misao*, 40(5), 110-121.
- Green, J., & Thorogood, N. (2013). *Qualitative methods for health research*. Thousand Oaks: Sage.
- Grow, J., & Altstiel, T. (2005). *Advertising strategy: Creative tactics from the outside/in*. Thousand Oaks, California: Sage Publications, Inc.
- Gueorguieva, V. (2008). Voters, Myspace, and Youtube the impact of alternative communication channels on the 2006 election cycle and beyond. *Social Science Computer Review*, 26(3), 288-300.
- Guest, G. (2012). *Applied thematic analysis*. Thousand Oaks, California: Sage.
- Guest, G., MacQueen, K. M., & Namey, E. E. (2011). *Applied thematic analysis*: Sage.
- Gullikson, S., Blades, R., Bragdon, M., McKibbon, S., Sparling, M., & Toms, E. G. (1999). The impact of information architecture on academic web site usability. *Electronic Library, The*, 17(5), 293-304.
- Gummerus, J., Liljander, V., Weman, E., & Pihlström, M. (2012). Customer engagement in a Facebook brand community. *Management Research Review*, 35(9), 857-877.
- Guthrie, J. T. (2004). Teaching for literacy engagement. *Journal of Literacy Research*, 36(1), 1-30.

- Guthrie, J. T., & Wigfield, A. (2000). Engagement and motivation in reading. In M. L. Kamil, P. B. Mosenthal, P. D. Pearson, & R. Barr (Eds.), *Handbook of reading research* (3rd ed., pp. 403-422). New York: Longman.
- Guthrie, J. T., Wigfield, A., Barbosa, P., Perencevich, K. C., Taboada, A., Davis, M. H., . . . Tonks, S. (2004). Increasing Reading Comprehension and Engagement Through Concept-Oriented Reading Instruction. *Journal of Educational Psychology, 96*(3), 403.
- Gutmann, A., & Thompson, D. (2003). Deliberative democracy beyond process. *Debating deliberative democracy, 31-52*.
- Habermas, J. (1964). *The Public Sphere: An Encyclopedia Article*. Retrieved from <http://www.jstor.org/stable/pdfplus/487737.pdf?acceptTC=true&acceptTC=true&jpdConfirm=true> (Accessed: 18 Feb 2014)
- Habermas, J. (1989). *The structural transformation of the public sphere*. Boston: MIT Press.
- Habermas, J. (1997). The public sphere. In R. E. Goodin & P. Pettit (Eds.), *Contemporary political philosophy* (2nd ed., pp. 103-106).
- Haerpfer, C. W., Wallace, C., & Spanring, R. (2002). *Young people and politics in eastern and western Europe*: Inst. für Höhere Studien (IHS).
- Haile, T. (2014, March 9, 2014). Web is wrong. *Time*. Retrieved from <http://time.com/12933/what-you-think-you-know-about-the-web-is-wrong/> (Accessed: 3 July 2014)
- Hair, J., Black, W., Babin, B., Anderson, R., & Tatham, R. (2006a). *Multivariate data analysis* (6th ed.). Upper Saddle River, NJ: Pearson-Prentice Hall.
- Hair, J. F., Black, W. C., Babin, B. J., Anderson, R. E., & Tatham, R. L. (2006b). *Multivariate data analysis* (Vol. 6): Pearson Prentice Hall Upper Saddle River, NJ.
- Hands, J. (2005). E-deliberation and local governance: The role of computer mediated communication in local democratic participation in the United Kingdom. *First Monday, 10*(7).
- Harrison, T. M., & Sayogo, D. S. (2014). Transparency, participation, and accountability practices in open government: A comparative study. *Government Information Quarterly, 31*(4), 513-525.  
doi:10.1016/j.giq.2014.08.002
- Hartmann, S., Mainka, A., & Peters, I. (2013). *Government activities in social media*. Paper presented at the Conference for E-Democracy and Open Government.
- Hassenzahl, M., & Tractinsky, N. (2006). User experience-a research agenda. *Behaviour & Information Technology, 25*(2), 91-97.
- Hauser, G. A. (1998). Vernacular dialogue and the rhetoricality of public opinion. *Communication Monographs, 65*(2), 83-107.  
doi:10.1080/03637759809376439
- Hauser, G. A. (1999). *Vernacular voices: The rhetoric of publics and public spheres*. Columbia: University of South Carolina Press.
- Heald, D. (2012). Why is transparency about public expenditure so elusive? *International Review of Administrative Sciences, 78*(1), 30-49.
- Heath, R. (2007). How do we predict advertising attention and engagement?
- Helman, E., Stoller, R. M., & Freeman, J. B. (2014). Advanced mouse-tracking analytic techniques for enhancing psychological science. *Group Processes & Intergroup Relations, 13*68430214538325.

- Henry, C. (2009). What makes a link post worthy - Part 1. Retrieved from <https://moz.com/blog/what-makes-a-link-worthy-post-part-1>. (Accessed: 16 January 2016)
- Herbst, S. (1993). *Numbered voices*. Chicago: University of Chicago Press.
- Herring, S. C., Kouper, I., Paolillo, J. C., Scheidt, L. A., Tyworth, M., Welsch, P., . . . Yu, N. (2005). *Conversations in the blogosphere: an analysis" from the bottom up"*. Paper presented at the System Sciences, 2005. HICSS'05. Proceedings of the 38th Annual Hawaii International Conference on.
- Herrington, J., Oliver, R., & Reeves, T. C. (2003). Patterns of engagement in authentic online learning environments. *Australian journal of educational technology*, 19(1), 59-71.
- Hill, R. (1998). What sample size is "enough" in internet survey research. *Interpersonal Computing and Technology: An electronic journal for the 21st century*, 6(3-4), 1-12.
- Hinkin, T. R., & Tracey, J. B. (1999). An analysis of variance approach to content validation. *Organizational Research Methods*, 2(2), 175-186.
- Hinkin, T. R., Tracey, J. B., & Enz, C. A. (1997). Scale construction: Developing reliable and valid measurement instruments. *Journal of Hospitality & Tourism Research*, 21(1), 100-120.
- Hodges, B. D., Kuper, A., & Reeves, S. (2008). Discourse analysis. *Bmj*, 337(aug07\_3), a879-a879.
- Hofmann, S., Beverungen, D., Räckers, M., & Becker, J. (2013). What makes local governments' online communications successful? Insights from a multi-method analysis of Facebook. *Government Information Quarterly*, 30(4), 387-396.
- Holzner, C. A. (2010). *Poverty of Democracy: The institutional roots of political participation in Mexico*: University of Pittsburgh Pre.
- Hooper, D., Coughlan, J., & Mullen, M. (2008). Structural equation modelling: Guidelines for determining model fit. *Articles*, 2.
- Horn, R. E. (2000). Information design: Emergence of a new profession. In R. Jacobson (Ed.), *Information design* (pp. 15-33). Massachusetts: MIT Press.
- Hsu, C.-L., & Lu, H.-P. (2004). Why do people play on-line games? An extended TAM with social influences and flow experience. *Information & Management*, 41(7), 853-868.
- Hutcheson, G. D., & Sofroniou, N. (1999). *The multivariate social scientist: Introductory statistics using generalized linear models*. London: Sage.
- IAP2. (2007). *IAP2 spectrum of public participation*. Retrieved from <http://www.iap2.org.au/documents/item/84> (Accessed: 3 September 2014)
- IBM. (2014). Exploratory Factor Analysis with categorical variables. Retrieved from <http://www-01.ibm.com/support/docview.wss?uid=swg21477550> (Accessed: 01 July 2016)
- Iivari, J., & Koskela, E. (1987). The PICO model for information systems design. *MIS quarterly*, 401-419.
- IJsselsteijn, W., De Kort, Y., Midden, C., Eggen, B., & van Den Hoven, E. (2006). Persuasive technology for human well-being: setting the scene *Persuasive technology* (pp. 1-5): Springer.
- Inman, K., & Andrews, J. T. (2009). Corruption and political participation in Africa: Evidence from survey and experimental research. *Midwest Political Science Association*, April, 3-6.

- Internet Live Stats. (2015). Nigeria Internet Users. Retrieved from <http://www.internetlivestats.com/internet-users/nigeria/> (Accessed: 20 May 2015)
- Iredia, T. (2012). Revamp the National Orientation Agency now. *Vanguard*. Retrieved from <http://www.vanguardngr.com/2012/01/revamp-the-national-orientation-agency-now/> (Accessed: 21 May 2015)
- Isaac, S., & Michael, W. B. (1995). *Handbook in research and evaluation* (3rd ed.). San Diego: Educational and Industrial Testing Services.
- Isaksson, A.-S., Kotsadam, A., & Nerman, M. (2014). The gender gap in African political participation: testing theories of individual and contextual determinants. *Journal of Development Studies*, *50*(2), 302-318.
- Jackson, D. L., Gillaspay Jr, J. A., & Purc-Stephenson, R. (2009). Reporting practices in confirmatory factor analysis: an overview and some recommendations. *Psychological methods*, *14*(1), 6.
- Jackson, M. M., Gergel, S. E., & Martin, K. (2015). Citizen science and field survey observations provide comparable results for mapping Vancouver Island White-tailed Ptarmigan (*Lagopus leucura saxatilis*) distributions. *Biological Conservation*, *181*, 162-172.
- Jacob, R. J., & Karn, K. S. (2003). Eye tracking in human-computer interaction and usability research: Ready to deliver the promises. *Mind*, *2*(3), 4.
- Jankowska, M. A. (2004). Identifying university professors' information needs in the challenging environment of information and communication technologies. *The Journal of Academic Librarianship*, *30*(1), 51-66.
- Janssen, M., Charalabidis, Y., & Zuiderwijk, A. (2012). Benefits, adoption barriers and myths of open data and open government. *Information Systems Management*, *29*(4), 258-268.
- Jennings, M. (2000). *Theory and models for creating engaging and immersive ecommerce websites*. Paper presented at the Proceedings of the 2000 ACM SIGCPR conference on Computer personnel research.
- Jensen, J. L. (2003). Public Spheres on the Internet: Anarchic or Government-Sponsored—A Comparison. *Scandinavian Political Studies*, *26*(4), 349-374.
- Johannessen, M. R., Flak, L. S., & Sæbø, Ø. (2012). Choosing the right medium for municipal eparticipation based on stakeholder expectations *Electronic participation* (pp. 25-36): Springer.
- Johari, J., Yahya, K. K., & Omar, A. (2011). The Construct Validity of Organizational Structure Scale: Evidence from Malaysia. *World*, *3*(2), 131-152.
- Jones, M. G. (1998). *Creating Electronic Learning Environments: Games, Flow, and the User Interface*.
- Jones, Q., & Rafaeli, S. (2000). Time to split, virtually:'Discourse architecture'and'community building'create vibrant virtual publics. *Electronic markets*, *10*(4), 214-223.
- Jones, T., & Brown, C. (2011). Reading Engagement: A Comparison between E-Books and Traditional Print Books in an Elementary Classroom. *Online Submission*, *4*(2), 5-22.
- Jørgensen, M., & Phillips, L. (2002). *Discourse analysis as theory and method*. London: Sage Publications.
- Julious, S. A. (2005). Sample size of 12 per group rule of thumb for a pilot study. *Pharmaceutical Statistics*, *4*(4), 287-291.

- Kang, M. (2010). Measuring social media credibility: A study on a Measure of Blog Credibility. *Institute for Public Relations*, 59-68.
- Kaplan, D. (2009). *Structural equation modelling: Foundations and extensions* (2nd ed.). Thousand Oaks: Sage Publications.
- Kardan, A. A., & Sadeghiani, A. (2011). Is e-government a way to e-democracy?: A longitudinal study of the Iranian situation. *Government Information Quarterly*, 28(4), 466-473.
- Katz, E., Blumler, J. G., & Gurevitch, M. (1973). Uses and gratifications research. *Public opinion quarterly*, 509-523.
- Kavanaugh, A. L., Fox, E. A., Sheetz, S. D., Yang, S., Li, L. T., Shoemaker, D. J., . . . Xie, L. (2012). Social media use by government: From the routine to the critical. *Government Information Quarterly*, 29(4), 480-491.
- Kayahara, J., & Wellman, B. (2007). Searching for culture—high and low. *Journal of Computer-Mediated Communication*, 12(3), 824-845.
- Kearsley, G., & Shneiderman, B. (1998). Engagement theory: A framework for technology-based teaching and learning. *Educational technology*, 38(5), 20-23.
- Kellner, D. (2000). Habermas, the public sphere, and democracy: A critical intervention. *Perspectives on Habermas*, 259-288.
- Kenny, D. A. (2015). Measuring model fit. Retrieved from <http://davidakenny.net/cm/fit.htm> (Accessed: 12 July 2016)
- Kieffer, K. M. (1999). An Introductory Primer on the Appropriate Use of Exploratory and Confirmatory Factor Analysis. *Research in the Schools*, 6(2), 75-92.
- Kim, S. K., Park, M. J., & Rho, J. J. (2015). Effect of the Government's Use of Social Media on the Reliability of the Government: Focus on Twitter. *Public Management Review*, 17(3), 328-355.
- Kline, R. B. (2005). *Principles and practice of structural equation modeling* (2nd ed.). New York: The Guilford Press.
- Kline, R. B. (2010). *Principles and practice of structural equation modeling* (3rd ed.). New York: Guilford Press.
- Knol, D. L., & Berger, M. P. (1991). Empirical comparison between factor analysis and multidimensional item response models. *Multivariate Behavioral Research*, 26(3), 457-477.
- Ko, H., Cho, C.-H., & Roberts, M. S. (2005). Internet uses and gratifications: a structural equation model of interactive advertising. *Journal of advertising*, 34(2), 57-70.
- Koçan, G. (2008). Models of public sphere in political philosophy. *EUROSPHERE Çevrimiçi çalışma makaleleri*(02).
- Kolsaker, A., & Lee-Kelley, L. (2008). Citizens' attitudes towards e-government and e-governance: a UK study. *International Journal of Public Sector Management*, 21(7), 723-738.
- Koufaris, M. (2002). Applying the technology acceptance model and flow theory to online consumer behavior. *Information systems research*, 13(2), 205-223.
- Krawczyk, K. A., & Sweet-Cushman, J. (2016). Understanding political participation in West Africa: the relationship between good governance and local citizen engagement. *International Review of Administrative Sciences*, 0020852315619024.
- Krueger, R. A., & Casey, M. A. (2000). Focus groups. *A practical guide for applied research*, 3.

- Kruse, J. A., Williams, R. A., & Seng, J. S. (2014). Considering a relational model for depression in women with postpartum depression. *International journal of childbirth, 4*(3), 151-168.
- Kuhlthau, C. C. (1991). Inside the search process: Information seeking from the user's perspective. *Journal of the American society for information science, 42*(5), 361.
- Kumar, R. (2005). *Research methodology: A step-by-step guide for beginners* (2nd ed.). London: Sage Publishers.
- Kuruppu, P. U., & Gruber, A. M. (2006). Understanding the information needs of academic scholars in agricultural and biological sciences. *The Journal of Academic Librarianship, 32*(6), 609-623.
- Lauteren, G. (2002). *The Pleasure of the Playable Text: Towards an Aesthetic Theory of Computer Games*. Paper presented at the CGDC Conf.
- Lee, G. (2005). Persuasion, Transparency and Government Speech. *Hastings Law Journal, 56*(5), 983.
- Lee, G., & Kwak, Y. H. (2012). An open government maturity model for social media-based public engagement. *Government Information Quarterly, 29*(4), 492-503.
- LeGates, R. T., & Stout, F. (2011). *City reader*: Routledge.
- Lerman, K., & Hogg, T. (2010). *Using a model of social dynamics to predict popularity of news*. Paper presented at the Proceedings of the 19th international conference on World wide web.
- Leston-Bandeira, C., & Bender, D. (2013). How deeply are parliaments engaging on social media? *Information Polity, 18*(4), 281-297.
- Leung, L. (2009). User-generated content on the internet: an examination of gratifications, civic engagement and psychological empowerment. *New Media & Society, 11*(8), 1327-1347.
- Leung, L., & Wei, R. (2000). More than just talk on the move: Uses and gratifications of the cellular phone. *Journalism & Mass Communication Quarterly, 77*(2), 308-320.
- Li, H. (2006). *An empirical exploration of virtual community participation: the interpersonal relationship perspective*. (Doctor of Philosophy), The Chinese University of Hong Kong.
- Li, H., Aham-Anyanwu, N., Tevrizci, C., & Luo, X. (2015). The interplay between value and service quality experience: e-loyalty development process through the eTailQ scale and value perception. *Electronic Commerce Research, 15*(4), 585-615.
- Lilleker, D. G., Koc-Michalska, K., Schweitzer, E. J., Jacunski, M., Jackson, N., & Vedel, T. (2011). Informing, engaging, mobilizing or interacting: Searching for a European model of web campaigning. *European Journal of Communication, 26*(3), 195-213.
- Lin, F., Fofanah, S. S., & Liang, D. (2011). Assessing citizen adoption of e-Government initiatives in Gambia: A validation of the technology acceptance model in information systems success. *Government Information Quarterly, 28*(2), 271-279.
- Lin, J. C.-C., & Lu, H. (2000). Towards an understanding of the behavioural intention to use a web site. *International Journal of Information Management, 20*(3), 197-208.

- Linders, D. (2012). From e-government to we-government: Defining a typology for citizen coproduction in the age of social media. *Government Information Quarterly*, 29(4), 446-454.
- Loehlin, J. C. (1998). *Latent variable models: An introduction to factor, path, and structural analysis*: Lawrence Erlbaum Associates Publishers.
- Loewenthal, K. M. (2001). *An introduction to psychological tests and scales*: Psychology Press.
- Lorenc, A., & Robinson, N. (2015). A tool to improve patient and public engagement in commissioning sexual and reproductive health and HIV services. *Journal of Family Planning and Reproductive Health Care*, 41(1), 8-12.
- Lu, Y., Zhou, T., & Wang, B. (2009). Exploring Chinese users' acceptance of instant messaging using the theory of planned behavior, the technology acceptance model, and the flow theory. *Computers in human behavior*, 25(1), 29-39.
- Luarn, P., & Lin, H.-H. (2003). A Customer Loyalty Model for E-Service Context. *J. Electron. Commerce Res.*, 4(4), 156-167.
- Lusoli, W., & Ward, J. (2005). "Politics Makes Strange Bedfellows" The Internet and the 2004 European Parliament Election in Britain. *The Harvard International Journal of Press/Politics*, 10(4), 71-97.
- Lynn, M. R. (1986). Determination and quantification of content validity. *Nursing research*, 35(6), 382-386.
- Madukoma, E., & Opemipo, M. F. (2016). Information Behaviour of Revenue Collectors in Lagos State, Nigeria. *Library Philosophy and Practice*, 0\_1.
- Mahrer, H., & Krimmer, R. (2005). Towards the enhancement of e-democracy: identifying the notion of the 'middleman paradox'. *Information systems journal*, 15(1), 27-42. doi:10.1111/j.1365-2575.2005.00184.x
- Maile, S., & Griffiths, D. (2014). Cafe scientifique and the art of engaging publics. In S. Maile & D. Griffiths (Eds.), *Public Engagement and Social Science* (pp. 7-28). Bristol: Policy Press.
- Mainka, A., Hartmann, S., Stock, W. G., & Peters, I. (2015). Looking for friends and followers: a global investigation of governmental social media use. *Transforming Government: People, Process and Policy*, 9(2), 237-254.
- Mangold, W. G., & Faulds, D. J. (2009). Social media: The new hybrid element of the promotion mix. *Business horizons*, 52(4), 357-365.
- Manjoo, F. (2013). You Won't Finish This Article. Why people online don't read to the end: Slate.
- Marchionini, G. (2008). Human-information interaction research and development. *Library & Information Science Research*, 30(3), 165-174.
- Marshall, S. (2007). Engagement Theory, WebCT, and academic writing in Australia. *International Journal of Education and Development using ICT*, 3(2).
- Maruyama, M., Douglas, S., & Robertson, S. (2013). *Design teams as change agents: Diplomatic design in the open data movement*. Paper presented at the System Sciences (HICSS), 2013 46th Hawaii International Conference on.
- Mason, M. (2010). *Sample size and saturation in PhD studies using qualitative interviews*. Paper presented at the Forum Qualitative Sozialforschung/Forum: Qualitative Social Research.
- Mathwick, C., & Rigdon, E. (2004). Play, flow, and the online search experience. *Journal of Consumer Research*, 31(2), 324-332.
- Matuszak, G. (2007). Enterprise 2.0: Fad or Future? *The Business Role for Social Software Platforms*.

- Maxwell, J. A. (2013). *Qualitative research design: An Interactive Approach* (3rd ed.). California: SAGE Publication.
- McGarrigle, A., & Sanderson, S. (2010). *Engagement metrics in the media planning process*. Paper presented at the Audience Measurement 5.0, Millennium Broadway Hotel, New York City.
- McLean, S. (2014). *Business communication for success*. Retrieved from [http://catalog.flatworldknowledge.com/bookhub/15?e=mclean-ch08\\_s03](http://catalog.flatworldknowledge.com/bookhub/15?e=mclean-ch08_s03) (Accessed: 7 October 2014)
- Medaglia, R. (2012). eParticipation research: Moving characterization forward (2006-2011). *Government Information Quarterly*, 29(3), 346-360. doi:10.1016/j.giq.2012.02.010
- Melo, D. F., & Stockemer, D. (2014). Age and political participation in Germany, France and the UK: A comparative analysis. *Comparative European Politics*, 12(1), 33-53.
- Mergel, I. (2013). A framework for interpreting social media interactions in the public sector. *Government Information Quarterly*, 30(4), 327-334.
- Michailidou, E., Christoforou, C., & Zaphiris, P. (2014). Towards Predicting Ad Effectiveness via an Eye Tracking Study *HCI in Business* (pp. 670-680): Springer.
- Michener, G., & Bersch, K. (2013). Identifying transparency. *Information Polity*, 18(3), 233-242.
- Miles, M. B., & Huberman, A. M. (1994). *Qualitative data analysis: An expanded sourcebook* (2nd ed.). Beverly Hills: Sage.
- Milne, C. (2012). Deconstructing games as play: progress, power, fantasy, and self. *Cultural Studies of Science Education*, 7(4), 761-765.
- Mintz, D. (2014). 3 interesting things attention minutes have already taught us. Retrieved from <http://blog.upworthy.com/post/76538569963/3-interesting-things-attention-minutes-have-already>. (Accessed: 3 July 2014)
- Moatshe, R. M., & Mahmood, Z. (2012). *Implementing eGovernment projects: Challenges facing developing countries*. Paper presented at the Proceedings of the European Conference on e-Government, Institute of Public Governance and Management, Barcelona.
- Mohammed, S., Abubakar, M. K., & Bashir, A. (2010). *eGovernment in Nigeria: A Catalyst for National Development*. Paper presented at the 4th International Conference on Development Studies, Nigeria.
- Mollen, A., & Wilson, H. (2010). Engagement, telepresence and interactivity in online consumer experience: Reconciling scholastic and managerial perspectives. *Journal of business research*, 63(9), 919-925.
- Montola, M., Stenros, J., & Waern, A. (2009). *Pervasive games: theory and design*: Morgan Kaufmann Publishers Inc.
- Moore, G. C., & Benbasat, I. (1991). Development of an instrument to measure the perceptions of adopting an information technology innovation. *Information systems research*, 2(3), 192-222.
- Morkes, J., & Nielsen, J. (1997). Concise, scannable, and objective: How to write for the Web. *Useit.com*.
- Mosquera, A., & Moreda, P. (2012). *Smile: An informality classification tool for helping to assess quality and credibility in web 2.0 texts*. Paper presented at the Proceedings of the ICWSM workshop: Real-Time Analysis and Mining of Social Streams (RAMSS).

- Mossberger, K., Wu, Y., & Crawford, J. (2013). Connecting citizens and local governments? Social media and interactivity in major US cities. *Government Information Quarterly*, 30(4), 351-358.
- Moy, P., & Scheufele, D. A. (2000). Media effects on political and social trust. *Journalism & Mass Communication Quarterly*, 77(4), 744-759.
- Mudhai, O. F. (2009). Implications for Africa of E-Gov Challenges for Giants South Africa and Nigeria. *African Media and the Digital Public Sphere*, 21-40.
- Mueller, F., & Lockerd, A. (2001). *Cheese: tracking mouse movement activity on websites, a tool for user modeling*. Paper presented at the CHI'01 extended abstracts on Human factors in computing systems.
- Nakamura, J., & Csikszentmihalyi, M. (2009). Flow Theory and Research. In C. R. S. E. Wright & S. J. Lopez (Eds.), *Oxford handbook of positive psychology* (pp. 195-206). New York: Oxford University Press.
- Näkki, P., Bäck, A., Ropponen, T., Kronqvist, J., Hintikka, K. A., Harju, A., . . . Kola, P. (2011). Social media for citizen participation. *Report on the Somus Project, VTT Publications*, 755.
- Nardi, B. A., & O'Day, V. (1999). *Information ecologies: Using technology with heart*. Cambridge: MIT Press.
- National Audit Office. (2012). *Cross-government review: Implementing transparency*. Retrieved from <https://www.scribd.com/document/89884318/Implementing-Transparency-Report-from-the-NAO> (Accessed: 13 October 2014)
- National Bureau of Statistics. (2011). *2011 annual socio-economic report: Access to ICT*. Retrieved from <http://www.nigerianstat.gov.ng/pdfuploads/Social Economic survey - ICT.pdf> (Accessed: 20 July 2016)
- National Orientation Agency. (2011). *The role of National Orientation Agency in managing Nigeria's pluralism in ethno-religious crises*. Retrieved from [http://www.noa.gov.ng/attachments/article/63/THE\\_ROLE\\_OF\\_NATIONAL\\_ORIENTATION\\_AGENCY\\_IN\\_MANAGING\\_NIGERIA.pdf](http://www.noa.gov.ng/attachments/article/63/THE_ROLE_OF_NATIONAL_ORIENTATION_AGENCY_IN_MANAGING_NIGERIA.pdf). (Accessed: 16 June 2015)
- National Orientation Agency. (2014). About us. Retrieved from <http://www.noa.gov.ng/index.php/about-us> (Accessed: 20 May 2015)
- Ndou, V. (2004). E-government for developing countries: opportunities and challenges. *The electronic journal of information systems in developing countries*, 18.
- Nevo, B. (1985). Face validity revisited. *Journal of Educational Measurement*, 22(4), 287-293.
- Nguyen, A. M., van Landingham, S. W., Massof, R. W., Rubin, G. S., & Ramulu, P. Y. (2014). Reading ability and reading engagement in older adults with glaucoma. *Investigative ophthalmology & visual science*, 55(8), 5284-5290.
- Nielsen, J. (1999). User interface directions for the web. *Communications of the ACM*, 42(1), 65-72.
- Nielsen, J. (2008). How little do users read? *Nielsen Norman Group*.
- Norris, P. (2001). *Digital divide: Civic engagement, information poverty, and the Internet worldwide*: Cambridge University Press.
- Novak, T. (2005). Toward a Digitized Public Sphere? A Critical Reevaluation of the Internet's Democratizing Potential.
- Novak, T. P., Hoffman, D. L., & Duhachek, A. (2003). The influence of goal-directed and experiential activities on online flow experiences. *Journal of consumer psychology*, 13(1), 3-16.

- Novak, T. P., Hoffman, D. L., & Yung, Y.-F. (2000). Measuring the customer experience in online environments: A structural modeling approach. *Marketing science*, 19(1), 22-42.
- Nwaubani, A. T. (2014, 23 September 2014). Letter from Africa: Nigeria's internet warriors. *BBC*. Retrieved from <http://www.bbc.co.uk/news/world-africa-29237507> (Accessed: 12 March 2015)
- O'Brien, H. L., & Toms, E. G. (2008). What is user engagement? A conceptual framework for defining user engagement with technology. *Journal of the American Society for Information Science and Technology*, 59(6), 938-955.
- O'Keefe, G. J., & Sulanowski, B. K. (1995). More than just talk: Uses, gratifications, and the telephone. *Journalism & Mass Communication Quarterly*, 72(4), 922-933.
- O'Riain, S., Curry, E., & Harth, A. (2012). XBRL and open data for global financial ecosystems: A linked data approach. *International Journal of Accounting Information Systems*, 13(2), 141-162.
- ODEP. (2014). Improving the Accessibility of Social Media in Government. Retrieved from <https://www.digitalgov.gov/resources/improving-the-accessibility-of-social-media-in-government/>. (Accessed: 20 July 2016)
- OECD. (2010). *Learning to learn: Student engagement, strategies and practices*. Retrieved from Paris: <https://www.oecd.org/pisa/pisaproducts/48852630.pdf> (Accessed: 5 April 2016)
- Oktem, M. K., Demirhan, K., & Demirhan, H. (2014). The Usage of E-Governance Applications by Higher Education Students. *Kuram Ve Uygulamada Egitim Bilimleri*, 14(5), 1925-1943.
- Olphert, W., & Damodaran, L. (2007). Citizen participation and engagement in the design of e-government services: The missing link in effective ICT design and delivery. *Journal of the Association for Information Systems*, 8(9), 491.
- Onnela, J.-P., & Reed-Tsochas, F. (2010). Spontaneous emergence of social influence in online systems. *Proceedings of the National Academy of Sciences*, 107(43), 18375-18380.
- Open Government Data. (2015). What is open government Data. Retrieved from <http://opengovernmentdata.org/> (Accessed: 17 June 2015)
- Ormandy, P. (2011). Defining information need in health—assimilating complex theories derived from information science. *Health expectations*, 14(1), 92-104.
- Osborne, J. W. (2015). What is Rotating in Exploratory Factor Analysis? *Practical Assessment, Research & Evaluation*, 20(2), 2.
- Osborne, J. W., & Costello, A. B. (2009). Best practices in exploratory factor analysis: Four recommendations for getting the most from your analysis. *Pan-Pacific Management Review*, 12(2), 131-146.
- Osiobe, S. A. (1988). Information seeking behaviour. *International Library Review*, 20(3), 337-346.
- Paek, H.-J., Hove, T., Jung, Y., & Cole, R. T. (2013). Engagement across three social media platforms: An exploratory study of a cause-related PR campaign. *Public Relations Review*, 39(5), 526-533.
- Palmgreen, P., & Rayburn, J. D. (1979). Uses and Gratifications and Exposure To Public Television A Discrepancy Approach. *Communication Research*, 6(2), 155-179.
- Panagiotopoulos, P., Bigdeli, A. Z., & Sams, S. (2014). Citizen—government collaboration on social media: The case of Twitter in the 2011 riots in England. *Government Information Quarterly*, 31(3), 349-357.

- Panopoulou, E., Tambouris, E., & Tarabanis, K. (2014). Success factors in designing eParticipation initiatives. *Information and Organization*, 24(4), 195-213. doi:10.1016/j.infoandorg.2014.08.001
- Parent, M., Vandebeek, C. A., & Gemino, A. C. (2005). Building citizen trust through e-government. *Government Information Quarterly*, 22(4), 720-736.
- Park, N., Kee, K. F., & Valenzuela, S. (2009). Being immersed in social networking environment: Facebook groups, uses and gratifications, and social outcomes. *CyberPsychology & Behavior*, 12(6), 729-733.
- Patton, M. Q. (1990). *Qualitative evaluation and research methods*: SAGE Publications, inc.
- Pellegrini, A. D. (1995). Introduction. In A. D. Pellegrini (Ed.), *The future of play theory: A multidisciplinary inquiry into the contributions of Brian Sutton-Smith* (pp. vii-x). Albany: State University of New York Press.
- Peng, K.-F., Fan, Y.-W., & Hsu, T.-A. (2004). Proposing the content perception theory for the online content industry-a structural equation modeling. *Industrial Management & Data Systems*, 104(6), 469-489.
- Pew Research Centre. (2014a). *Emerging nations embrace internet, mobile technology*. Retrieved from <http://www.pewglobal.org/2014/02/13/emerging-nations-embrace-internet-mobile-technology/> (Accessed: 10 February 2015)
- Pew Research Centre. (2014b). *Many in emerging and developing nations disconnected from politics*. Retrieved from <http://www.pewglobal.org/2014/12/18/many-in-emerging-and-developing-nations-disconnected-from-politics/> (Accessed: 10 February 2015)
- Phillips, P. W. B. (2013). Democracy, governance, and public engagement: A critical assessment. In K. O'Doherty & E. Einsiedel (Eds.), *Public Engagement and Emerging Technologies* (pp. 45-65). Vancouver: UBC Press.
- Pickard, A. J. (2013). *Research methods in information* (2nd ed.). London: Facet Publishing.
- Ping, R. (2009). *Is there any way to improve average variance extracted (AVE) in a latent variable (LV) X* Retrieved from <http://home.att.net/~rpingjr/ImprovAVE1.doc> (Accessed: 15 July 2016)
- Pizzo, E., Doyle, C., Matthews, R., & Barlow, J. (2014). Patient and public involvement: how much do we spend and what are the benefits? *Health expectations*.
- Polit, D. F., & Beck, C. T. (2006). The content validity index: are you sure you know what's being reported? Critique and recommendations. *Research in nursing & health*, 29(5), 489-497.
- Polit, D. F., Beck, C. T., & Owen, S. V. (2007). Is the CVI an acceptable indicator of content validity? Appraisal and recommendations. *Research in nursing & health*, 30(4), 459-467.
- Postrel, V. (2009). *The substance of style*. New York: Harper Collins.
- Preece, J. (2001). Sociability and usability in online communities: Determining and measuring success. *Behaviour & Information Technology*, 20(5), 347-356.
- Prieger, J. E. (2003). The supply side of the digital divide: is there equal availability in the broadband Internet access market? *Economic Inquiry*, 41(2), 346-363.
- Prudon, P. (2014). Confirmatory factor analysis: a brief introduction and critique: Tilgængelig på: <http://home.kpn.nl/p.prudon/CFA-critique.pdf>. Besøgt.
- PSU. (2016). *Regression methods*. Retrieved from <https://onlinecourses.science.psu.edu/stat501/node/279> (Accessed: 15 July 2016)

- Pusey, M. (1987a). *Jürgen Habermas*. Chichester: Ellis Horwood.
- Pusey, M. (1987b). *Jürgen Habermas: key sociologists*. London: Routledge.
- Raacke, J., & Bonds-Raacke, J. (2008). MySpace and Facebook: Applying the uses and gratifications theory to exploring friend-networking sites. *CyberPsychology & Behavior*, *11*(2), 169-174.
- Raat, H., Botterweck, A. M., Landgraf, J. M., Hoogeveen, W. C., & Essink-Bot, M.-L. (2005). Reliability and validity of the short form of the child health questionnaire for parents (CHQ-PF28) in large random school based and general population samples. *Journal of epidemiology and community health*, *59*(1), 75-82.
- Rashotte, L. (2007). Social influence. *The blackwell encyclopedia of social psychology*, *9*, 562-563.
- Reddick, C. G., & Turner, M. (2012). Channel choice and public service delivery in Canada: Comparing e-government to traditional service delivery. *Government Information Quarterly*, *29*(1), 1-11.
- Reichheld, F. F., & Scheffer, P. (2000). E-loyalty: your secret weapon on the web. *Harvard business review*, *78*(4), 105-113.
- Reid, D. (2004). A model of playfulness and flow in virtual reality interactions. *Presence*, *13*(4), 451-462.
- Resmini, A., & Rosati, L. (2012). A brief history of information architecture. *Journal of Information Architecture*, *3*(2).
- Rieber, L. P. (1996). Seriously considering play: Designing interactive learning environments based on the blending of microworlds, simulations, and games. *Educational technology research and development*, *44*(2), 43-58.
- Rissi, J. J., Gelmon, S., Saulino, E., Merrithew, N., Baker, R., & Hatcher, P. (2015). Building the foundation for health system transformation: Oregon's patient-centered primary care home program. *Journal of Public Health Management and Practice*, *21*(1), 34-41.
- Rodman, G. R. (2009). *Mass media in a changing world: History, industry, controversy*: McGraw Hill Boston.
- Rogers, E. M. (2003). *Diffusion of Innovation*. New York: The Free Press.
- Rogers, S. (2012). UK open government data: the results of the official audit. *The Guardian*. Retrieved from <https://www.theguardian.com/news/datablog/2012/apr/18/uk-open-government-data-national-audit-office> (Accessed: 13 October 2014)
- Roman, A. V., & Miller, H. T. (2013). New questions for e-government: Efficiency but not (yet?) democracy. *International Journal of Electronic Government Research (IJEGR)*, *9*(1), 65-81.
- Rosenfeld, L., & Morville, P. (2002). *Information architecture for the world wide web*: "O'Reilly Media, Inc."
- Ross, K. N. (2005). *Quantitative research methods in educational planning*: UNESCO International Institute for Educational Planning. 6th Edition, Englewood Cliffs, NJ Prentice-Hall.
- Rowe, G., & Frewer, L. J. (2005). A typology of public engagement mechanisms. *Science, technology & human values*, *30*(2), 251-290.
- Roy, J. (1999). Polis and oikos in classical Athens. *Greece and Rome (Second Series)*, *46*(01), 1-18.

- Rubin, A. (2002). The uses-and -gratification perspective of media effects. In J. Bryant & D. Zillmann (Eds.), *Media effects: Advances in theory and research* (2nd ed., pp. 525-548). New Jersey: Lawrence Erlbaum Associates, Inc.
- Rubin, D. B. (2004). *Multiple imputation for nonresponse in surveys* (Vol. 81). New York: John Wiley & Sons.
- Rubio, D. M., Berg-Weger, M., Tebb, S. S., Lee, E. S., & Rauch, S. (2003). Objectifying content validity: Conducting a content validity study in social work research. *Social work research, 27*(2), 94-104.
- Ryan, G. W., & Bernard, H. R. (2000). Data management and analysis methods. In N. K. Denzin & Y. S. Lincoln (Eds.), *Handbook of qualitative research* (2nd ed., pp. 769-802). Thousand Oaks, CA: Sage.
- Sack, W. (2005). Discourse architecture and very large-scale conversation. In R. Latham & S. Sassen (Eds.), *Digital formations: IT and new architectures in the global realm* (pp. 242-282). Princeton: Princeton University Press.
- Saebø, O., Flak, L. S., & Sein, M. K. (2011). Understanding the dynamics in e-Participation initiatives: Looking through the genre and stakeholder lenses. *Government Information Quarterly, 28*(3), 416-425.  
doi:10.1016/j.giq.2010.10.005
- Sæbø, Ø., Rose, J., & Flak, L. S. (2008). The shape of eParticipation: Characterizing an emerging research area. *Government information quarterly, 25*(3), 400-428.
- Sæbø, Ø., Rose, J., & Molka-Danielsen, J. (2010). eParticipation: Designing and managing political discussion forums. *Social Science Computer Review, 28*(4), 403-426.
- Sæbø, Ø., Rose, J., & Skiftenes Flak, L. (2008). The shape of eParticipation: Characterizing an emerging research area. *Government Information Quarterly, 25*(3), 400-428.
- Said, H., Badru, B. B., & Shahid, M. (2011). Confirmatory factor analysis (CFA) for testing validity and reliability instrument in the study of education. *Australian Journal of Basic and Applied Sciences, 5*(12), 1098-1103.
- Sample, J. (2014). *The communication styles and abilities inventory for leaders (c-sail): Feedback results* Retrieved from [http://www.linkageinc.com/leadership-development-documents/files/assessments/Linkage C SAIL Sample Report.pdf](http://www.linkageinc.com/leadership-development-documents/files/assessments/Linkage_C_SAIL_Sample_Report.pdf) (Accessed: 7 October 2014)
- Sandoval-Almazan, R., & Gil-Garcia, J. R. (2012). Are government internet portals evolving towards more interaction, participation, and collaboration? Revisiting the rhetoric of e-government among municipalities. *Government Information Quarterly, 29*, S72-S81.
- Sandoval-Almazan, R., Leyva, N. K. S., & Gil-Garcia, J. R. (2013). *Maturity and evolution of e-government portals in central America: a three-year assessment 2011-2013*. Paper presented at the Proceedings of the 7th International Conference on Theory and Practice of Electronic Governance.
- Santos, J. R. A. (1999). Cronbach's alpha: A tool for assessing the reliability of scales. *Journal of extension, 37*(2), 1-5.
- Sashi, C. (2012). Customer engagement, buyer-seller relationships, and social media. *Management Decision, 50*(2), 253-272.
- Saunders, J. B., Aasland, O. G., Babor, T. F., De la Fuente, J. R., & Grant, M. (1993). Development of the alcohol use disorders identification test (AUDIT): WHO

- collaborative project on early detection of persons with harmful alcohol consumption-II. *Addiction*, 88(6), 791-804.
- Schermelleh-Engel, K., Moosbrugger, H., & Müller, H. (2003). Evaluating the fit of structural equation models: Tests of significance and descriptive goodness-of-fit measures. *Methods of psychological research online*, 8(2), 23-74.
- Schmitt, N., Klimoski, R. J., Ferris, G. R., & Rowland, K. M. (1991). *Research methods in human resources management*: South-Western Pub.
- Schriesheim, C. A., Powers, K. J., Scandura, T. A., Gardiner, C. C., & Lankau, M. J. (1993). Improving construct measurement in management research: Comments and a quantitative approach for assessing the theoretical content adequacy of paper-and-pencil survey-type instruments. *Journal of Management*, 19(2), 385-417.
- Schultze, U., & Avital, M. (2011). Designing interviews to generate rich data for information systems research. *Information and Organization*, 21(1), 1-16.
- Schumacker, R. E., & Lomax, R. G. (2004). *A beginner's guide to structural equation model* (2nd ed.). Mahwah: Lawrence Erlbaum Associates.
- Schweitzer, E. J. (2008). Innovation or normalization in e-campaigning? A longitudinal content and structural analysis of German party websites in the 2002 and 2005 national elections. *European Journal of Communication*, 23(4), 449-470.
- Seiter, J. S., & Gass, R. H. (2004). *Perspectives on persuasion, social influence, and compliance gaining*. Boston, MA: Allyn and Bacon.
- Shedroff, N. (1999). Information interaction design: A unified field theory of design. *Information design*, 267-292.
- Sherry, J. L., Lucas, K., Greenberg, B. S., & Lachlan, K. (2006). Video game uses and gratifications as predictors of use and game preference. *Playing video games: Motives, responses, and consequences*, 213-224.
- Shirk, J. (2015). "I Try to Work With These People." *Scientists, Citizen Science, and Public Engagement*. Paper presented at the 2015 AAAS Annual Meeting (12-16 February 2015).
- Shirky, C. (2011). Political Power of Social Media-Technology, the Public Sphere Sphere, and Political Change, The. *Foreign Aff.*, 90, 28.
- Simons, H. W. (1976). *Persuasion*: Addison-Wesley Reading, Massachusetts.
- Sinharay, S., Stern, H. S., & Russell, D. (2001). The use of multiple imputation for the analysis of missing data. *Psychological methods*, 6(4), 317.
- Sipior, J. C., & Ward, B. T. (2005). Bridging the digital divide for e-government inclusion: A United States case study. *The electronic Journal of e-Government*, 3(3), 137-146.
- Sirianni, C., & Friedland, L. (2003). Deliberative Democracy. *Civic Dictionary, The Civic Practices Network*, <http://www.cpn.org/tools/dictionary/deliberate.html>.
- Smith, E. R. (2000). *E-loyalty: How to keep customers coming back to your website*: HarperInformation.
- Smith, G., John, P., & Sturgis, P. (2013). Taking political engagement online: An experimental analysis of asynchronous discussion forums. *Political Studies*, 61(4), 709-730.
- Smith, J. A., Flowers, P., & Larkin, M. (2009). *Interpretative phenomenological analysis: Theory, method and research*: London: Sage.
- Smith, K. N. (2011). Social media and political campaigns.
- Smucker, M. D., Guo, X. S., & Toulis, A. (2014). *Mouse movement during relevance judging: implications for determining user attention*. Paper presented at the

- Proceedings of the 37th international ACM SIGIR conference on Research & development in information retrieval.
- Soley-Bori, M. (2013). *Dealing with missing data: Key assumptions and methods for applied analysis*. Retrieved from <http://www.bu.edu/sph/files/2014/05/Marina-tech-report.pdf> (Accessed: 20 July 2016)
- Sørensen, E., & Torfing, J. (2011). Enhancing collaborative innovation in the public sector. *Administration & Society*, 0095399711418768.
- Squires, J. E., Estabrooks, C. A., Newburn-Cook, C. V., & Gierl, M. (2011). Validation of the conceptual research utilization scale: an application of the standards for educational and psychological testing in healthcare. *BMC health services research*, 11(1), 1.
- Srnka, K. J., & Koeszegi, S. T. (2007). From words to numbers: how to transform qualitative data into meaningful quantitative results. *Schmalenbach Business Review*, 59(1), 29-57.
- Stafford, T. F., Stafford, M. R., & Schkade, L. L. (2004). Determining uses and gratifications for the Internet. *Decision Sciences*, 35(2), 259-288.
- StatSoft. (2013). *Electronic statistics textbook*. Retrieved from Tulsa, OK: <http://www.statsoft.com/Textbook> (Accessed: 15 March 2016)
- Steiger, J. H. (2007). Understanding the limitations of global fit assessment in structural equation modeling. *Personality and Individual Differences*, 42(5), 893-898.
- Strickland, O. L., Moloney, M. F., Dietrich, A. S., Myerburg, S., Cotsonis, G. A., & Johnson, R. V. (2003). Measurement issues related to data collection on the World Wide Web. *Advances in Nursing Science*, 26(4), 246-256.
- Strohmeier, D., Yanagida, T., & Toda, Y. (2016). 13 Individualism/collectivism as predictors of relational and physical victimization in Japan and Austria. *School Bullying in Different Cultures: Eastern and Western Perspectives*, 259.
- Supp, S., La Sorte, F., Cormier, T., Lim, M., Powers, D., Wethington, S., . . . Graham, C. (2015). Citizen-science data provides new insight into annual and seasonal variation in migration patterns. *Ecosphere* 6 (1): 15.
- Susha, I., Grönlund, Å., & Janssen, M. (2015). Organizational measures to stimulate user engagement with open data. *Transforming Government: People, Process and Policy*, 9(2), 181-206.
- Sutcliffe, A. (2009). Designing for user engagement: Aesthetic and attractive user interfaces. *Synthesis lectures on human-centered informatics*, 2(1), 1-55.
- Tabachnick, B. G., & Fidell, L. S. (2007). *Using Multivariate Statistics*. Boston: Pearson Education Inc.
- Taylor, R. S. (1962). The process of asking questions. *American documentation*, 13(4), 391-396.
- Terrell, S. R. (2012). Mixed-methods research methodologies. *The Qualitative Report*, 17(1), 254-280.
- Thompson, B. (2004). *Exploratory and confirmatory factor analysis: Understanding concepts and applications*: American Psychological Association.
- Thomson, M., MacInnis, D. J., & Whan Park, C. (2005). The ties that bind: Measuring the strength of consumers' emotional attachments to brands. *Journal of consumer psychology*, 15(1), 77-91.
- Toder-Alon, A., Brunel, F. F., & Fournier, S. (2014). Word-of-mouth rhetorics in social media talk. *Journal of Marketing Communications*, 20(1-2), 42-64.

- Tojib, D. R., & Sugianto, L.-F. (2006a). *Content validating the B2E portal user satisfaction instrument*. Paper presented at the Computer and Information Science, 2006 and 2006 1st IEEE/ACIS International Workshop on Component-Based Software Engineering, Software Architecture and Reuse. ICIS-COMSAR 2006. 5th IEEE/ACIS International Conference on.
- Tojib, D. R., & Sugianto, L.-F. (2006b). Content validity of instruments in IS research. *Journal of Information Technology Theory and Application (JITTA)*, 8(3), 5.
- Tolbert, C. J., & Mossberger, K. (2006). The effects of e-government on trust and confidence in government. *Public administration review*, 66(3), 354-369.
- Toms, E. G. (2002). Information interaction: Providing a framework for information architecture. *Journal of the American Society for Information Science and Technology*, 53(10), 855-862.
- Treece, E. W., & Treece Jr, J. W. (1977). Elements of research in nursing. *Nursing* 2015, 7(6), 12-13.
- Trevino, L. K., & Webster, J. (1992). Flow in computer-mediated communication electronic mail and voice mail evaluation and impacts. *Communication Research*, 19(5), 539-573.
- Trochim, W. M. K. (2006). *Research methods knowledge base*. Retrieved from <http://www.socialresearchmethods.net/kb/index.php> (Accessed: 22 June 2014)
- Turner III, D. W. (2010). Qualitative interview design: A practical guide for novice investigators. *The Qualitative Report*, 15(3), 754-760.
- Ubaldi, B. (2013). Open Government Data.
- United Nations. (2014). *E-government survey 2014: E-government for the future we want*. Retrieved from New York: [http://unpan3.un.org/egovkb/Portals/egovkb/Documents/un/2014-Survey/E-Gov\\_Complete\\_Survey-2014.pdf](http://unpan3.un.org/egovkb/Portals/egovkb/Documents/un/2014-Survey/E-Gov_Complete_Survey-2014.pdf) (Accessed: 21 August 2014)
- Urista, M. A., Dong, Q., & Day, K. D. (2009). Explaining why young adults use MySpace and Facebook through uses and gratifications theory. *Human Communication*, 12(2), 215-229.
- Vandenberg, R. J. (2006). Statistical and methodological myths and urban legends: Where, pray tell, did they get this idea? *Organizational Research Methods*, 9(2), 194.
- Venkatesh, V., Brown, S. A., & Bala, H. (2013). Bridging the qualitative-quantitative divide: Guidelines for conducting mixed methods research in information systems. *MIS quarterly*, 37(1), 21-54.
- Verba, S., Schlozman, K. L., Brady, H. E., & Brady, H. E. (1995). *Voice and equality: Civic voluntarism in American politics* (Vol. 4): Cambridge Univ Press.
- Vetere, F., Gibbs, M. R., Kjeldskov, J., Howard, S., Mueller, F. F., Pedell, S., . . . Bunyan, M. (2005). *Mediating intimacy: designing technologies to support strong-tie relationships*. Paper presented at the Proceedings of the SIGCHI conference on Human factors in computing systems.
- Waisberg, D., & Kaushik, A. (2009). Web Analytics 2.0: empowering customer centrality. *The original Search Engine Marketing Journal*, 2(1), 5-11.
- Waltz, C. F., & Bausell, B. R. (1981). *Nursing research: design statistics and computer analysis*: Davis FA.
- Wang, A. (2006). Advertising engagement: A driver of message involvement on message effects. *Journal of Advertising Research*, 46(4), 355.
- Wang, L., Bretschneider, S., & Gant, J. (2005). *Evaluating web-based e-government services with a citizen-centric approach*. Paper presented at the System

- Sciences, 2005. HICSS'05. Proceedings of the 38th Annual Hawaii International Conference on.
- Warkentin, M., Gefen, D., Pavlou, P. A., & Rose, G. M. (2002). Encouraging citizen adoption of e-government by building trust. *Electronic markets*, 12(3), 157-162.
- Warren, A. M., Sulaiman, A., & Jaafar, N. I. (2014). Social media effects on fostering online civic engagement and building citizen trust and trust in institutions. *Government Information Quarterly*, 31(2), 291-301.
- Wayman, J. C. (2003). *Multiple imputation for missing data: What is it and how can I use it*. Paper presented at the Annual Meeting of the American Educational Research Association, Chicago, IL.
- Webster, J., Trevino, L. K., & Ryan, L. (1994). The dimensionality and correlates of flow in human-computer interactions. *Computers in human behavior*, 9(4), 411-426.
- Weiksner, G. M., Fogg, B., & Liu, X. (2008). Six patterns for persuasion in online social networks *Persuasive Technology* (pp. 151-163): Springer.
- Welch, E. W., & Hinnant, C. C. (2003). *Internet use, transparency, and interactivity effects on trust in government*. Paper presented at the System Sciences, 2003. Proceedings of the 36th Annual Hawaii International Conference on.
- Welch, E. W., Hinnant, C. C., & Moon, M. J. (2005). Linking citizen satisfaction with e-government and trust in government. *Journal of public administration research and theory*, 15(3), 371-391.
- Wellington, J., Bathmaker, A.-M., Hunt, C., McCulloch, G., & Sikes, P. (2005). *Succeeding with your doctorate*. London: Sage.
- Welman, Kruger, & Mitchell. (2005). *Research methodology* (3rd ed.). Oxford: Oxford University Press.
- Welsh, E. (2002). *Dealing with data: Using NVivo in the qualitative data analysis process*. Paper presented at the Forum Qualitative Sozialforschung/Forum: Qualitative Social Research.
- Wenner, L. A. (1982). GRATIFICATIONS SOUGHT AND OBTAINED IN PROGRAM DEPENDENCY A Study of Network Evening News Programs and 60 Minutes. *Communication Research*, 9(4), 539-560.
- Wigfield, A., Cambria, J., & Ho, A. N. (2012). Motivation for Reading Information Texts. In J. T. Guthrie, A. Wigfield, & S. L. Klauda (Eds.), *Adolescents' engagement in academic literacy* (pp. 52-102).
- Wigfield, A., & Guthrie, J. T. (1997). Relations of children's motivation for reading to the amount and breadth of their reading. *Journal of Educational Psychology*, 89(3), 420.
- Wilhelm, A. G. (2000). Democracy in the digital age. *Challenges to political life in the digital age Routledge. USA*.
- Wilkinson, S. (2000). Women with breast cancer talking causes: Comparing content, biographical and discursive analyses. *Feminism & Psychology*, 10(4), 431-460.
- Williams, B., Onsmann, A., & Brown, T. (2010). Exploratory factor analysis: A five-step guide for novices. *Australasian Journal of Paramedicine*, 8(3).
- Wilson, T. D. (2006). On user studies and information needs. *Journal of Documentation*, 62(6), 658-670.
- Wolfenbarger, M., & Gilly, M. C. (2001). Shopping online for freedom, control, and fun. *California Management Review*, 43(2), 34-55.

- Wright, S., & Street, J. (2007). Democracy, deliberation and design: the case of online discussion forums. *New Media & Society*, 9(5), 849-869.
- Ye, S., & Wu, S. F. (2010). Measuring message propagation and social influence on Twitter. *com Social informatics* (pp. 216-231): Springer.
- Zainal, Z. (2007). Case study as a research method. *Jurnal Kemanusiaan*(9), 1-6.
- Zaller, J. (1990). Political awareness, elite opinion leadership, and the mass survey response. *Social Cognition*, 8(1), 125.
- Zhao, Y., Fautz, C., Hennen, L., Srinivas, K. R., & Li, Q. (2015). Public Engagement in the Governance of Science and Technology *Science and Technology Governance and Ethics* (pp. 39-51): Springer.
- Zheng, L., & Zheng, T. (2014). Innovation through social media in the public sector: Information and interactions. *Government Information Quarterly*.
- Zheng, Y., Schachter, H. L., & Holzer, M. (2014). The impact of government form on e-participation: A study of New Jersey municipalities. *Government Information Quarterly*, 31(4), 653-659. doi:10.1016/j.giq.2014.06.004
- Zuiderwijk, A., Janssen, M., Choenni, S., Meijer, R., & Alibaks, R. S. (2012). Socio-technical impediments of open data. *Electronic Journal of e-Government*, 10(2), 156-172.
- Zuiderwijk, A., Janssen, M., Gil-García, J., & Helbig, N. (2014). Introduction. Innovation through open data: a review of the state-of-the-art and an emerging research agenda. *Journal of Theoretical and Applied Electronic Commerce Research*, 9(2), 258-268.