Transacting Government: A Comparative Content Analysis of the Interactive and Communicative Functions of e-Government Web sites – The Case of Africa, Asia and Europe

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Abstract

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Transacting Government: A Comparative Content Analysis of the Interactive and Communicative Functions of e-Government Web sites – The Case of Africa, Asia and Europe

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E-government has emerged as an important phenomenon in 21 Century democratic practice. Increasingly, governments are utilizing the World Wide Web and the Internet to achieve a number of organizational goals including delivery of services to various constituents, improving public sector efficiency, enhancing public diplomacy and managing public perception of state institutions and their representatives.

One important characteristic of the Internet is its capacity to facilitate communication and interaction between and among players in communication transactions, going beyond the scope of what was commonly allowed with traditional forms of media. In this context the use of the Internet and other new media technologies by governments warrant some scholarly analysis, particularly as it relates to the interactive nature of these technologies.

Global democratic practices in the last two decades have led to calls for greater levels of civic engagement, transparency and public accountability. A natural outcome of these demands is the need for institutional structures and practices that are at once fully open and accommodating of all stakeholders in the democratic process. This level of openness which is contextualized within a democratic framework requires a reconstitution of the relationship between governments and stakeholders, especially since
the involvement of the latter remains critical to the successful adoption and implementation of national policies and programs.

This study therefore attempts an examination of how selected governments across Africa, Asia and Europe are using the Internet and newer forms of technology to foster citizen engagement and interaction. Secondly, the study offers an assessment of current e-government practices by utilizing Grunig and Hunt’s Models of Public Relations to explicate the relationship between government and its key publics in relation to the delivery of and access to public service information. Further analysis sought to ascertain whether there was any correlation between democratic openness of countries identified in the study and levels of interactivity promoted through respective government web sites. Finally, a theoretical model of participatory stakeholder engagement was derived based on the findings of the study. This model is intended to provide a strategic framework for improving citizen-government relations.

Given the research hypotheses as well as the research objectives, a multi-methods approach to this study was deemed appropriate for addressing the thesis statements that frame this study. The research methodology involved an analysis of the manifest content of sixty-two (62) web sites/portals drawn from fifteen (15) countries. Coding was based on seven broad categories: (1) access to information, (2) access to services, (3) interactivity mechanisms, (5) opportunities for public participation, (6) site structure and design; and (7) the visual rhetoric of web sites. These categories were developed from a review of literature on e-government and resulted in a measure of forty-eight (48) individual elements. The manifest content of each web site/web portal was recorded using a modified version of the e-government coding categories developed by Johnson.
and Kolko (2010). Additionally, the Four Models of Public Relations advanced by Grunig and Hunt provided a useful framework for assessing how site structure, design and visual rhetoric facilitated two-way symmetrical communication between government and stakeholders.

Findings of the study show that the majority of government web sites examined offered limited opportunities for citizen interaction and participation. This was true across regions with only 6.45% of country web sites actively soliciting participation or input on draft policy documents. However, there were greater opportunities for post-policy involvement or interaction with 82.26% of web sites providing some mechanisms for filing complaints or for offering feedback.

Findings also indicate that the majority of government ministries and departments practiced a publicity or asymmetrical model of public relations with an emphasis on “making government look good” rather than attempting to help increase understanding of stakeholders or negotiate stakeholder engagement. Of the 62 web sites, 72.58% offered a wide range of government publications compared to the 45.16% that offered limited online access to key social services.

The study concludes that there is no relationship between democratic openness and interactivity. A Pearson product-moment correlation coefficient indicated that there was no correlation $r(60) = .006$, $p= 0.961$ between democracy rank and interactivity. Increases in the democracy rank of a country were not correlated with increases in the level of interactivity seen on government web sites.
Approved: _____________________________________________________________

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Chapter 1: Introduction

One of the notable facts emerging from e-government literature is that the practice of 21st Century government demands a greater level of responsiveness to both local and global audiences/stakeholders. New information technologies have ushered in an era of global politics and global democracy to the extent that citizens are more actively engaged in scrutinizing government. As a consequence, citizens are also demanding greater accountability and transparency as well as opportunities for participation in democratic processes.

These demands have coincided with calls for greater public sector efficiency, and for wider online access to government services by citizens around the world. What has resulted is a considerable global increase in e-government both as a tool and as a practice at the state and national levels. More than ever, world leaders are attempting to integrate new communication technologies into the delivery of services to local citizens.

As with any new technology, there have been numerous challenges both in terms of implementation and in evaluation of e-government output. (Kaaya 2001) notes that developed countries have led the way as early adopters of e-government and were quickly followed by developing countries, especially by those in Asia. However, some countries in Africa took a while to get their e-government programs off the ground. (p.39)

Disparity in the diffusion and adoption of e-Government is linked to a broad range of factors. Stoltzfus (2004) notes that “E-government is costly, that it involves tremendous risk, and requires a skilled technical pool of resources, and a stable technical
infrastructure” (p.334). Addition factors also include the economic and political climate of nation states as well as the capacity for access by citizens.

Notwithstanding these disparities, digitalization of the global environment and the adoption of web sites and web portals by governments have materialized an important space for government and its stakeholders to enact a new model of participatory democracy.

Questions remain, however, as to whether such e-government practices are engendering participatory democracy and are by extension promoting dialogic communication between and among government and stakeholders.

The perceived absence of a participatory element in current e-government practices may be rooted in what experts point to as the lack of a standardized definition for e-government (Stoltzfus, 2004; Leith and Morrison, 2003; Kaaya, 2001). More often than not, definitions of e-government serve to accentuate service delivery or the technologies of distribution and access to the exclusion of the interactive and communicative capacities that exist for promoting and building relationship between government, citizens and businesses as well as other agencies of government within the borders of nation states and beyond (Stoltzfus, 2004, p.333).

This paper proposes that a redefinition of the term e-government must by necessity attempt to show the extent to which interactivity is inherently present in online communication that is two-way. By extension, there needs to be a willingness to move beyond linear or transmission models of communication to one that emphasizes the interactive aspects of communication and capitalizes on the bi-directional infrastructure of the Internet and the interactive features of the World Wide Web.
Additionally, examination of the legitimizing function of government web sites/portals and the role they play in structuring the image of government both at home and abroad have received little scholarly attention. This issue represents an important point of departure for this study.

**Background to the study**

There is a sufficient body of evidence to suggest that the practices of government and governance in 21st Century societies have been impacted by the rapid adoption and diffusion of new information and communication technologies (ICTs). These technologies including cell phones, personal computers, the Internet, and broadband infrastructure have resulted in unprecedented but somewhat uneven growth in many countries across the world. (ITU, 2010, n.p)

Concomitant with this development is the emergence of newer levels and forms of connectivity than at any other time in our history. In this new era, the internet forms the primary basis for access to information and is deemed critical to social, economic and cultural participation, both locally and internationally.

While it is widely accepted and even expected that businesses will be early adopters of new innovations, the same is not always true for governments. (Garson, 2007, p.118) The expediency for businesses may be rooted in the competitive environment or industries in which they operate; flexible customer attitudes and upward pressure on building and maintaining mutual relationships with key consumer/stakeholder groups since these are critical to the goal of maintaining profitability. Governments on the other
hand are accountable to constituents who use the voting booth to register either their approval or disapproval of elected officials as well as government policies and programs. Where the interests of businesses, citizens and government intersect is that these stakeholders have a vested interest in how government is practiced and the ways in which participation, inclusivity, transparency and good governance are demonstrated to the citizenry as a whole. It is against this backdrop that the adoption and diffusion of ICTs for government gains particular currency.

A key element of the discourse on e-government is the extent to which new media technologies and broadband infrastructure have radically altered our communicative practices and industrial capacity. The term Network Society (Van Dijk, 1991) appropriately characterizes the current environment in which new ICTs including internet communication technology are seen as critical to the way we present, process and exchange information (p.20). “Web sites, in particular are being touted as the catalyst by which organizations (including governments) move away from geographic and time constraints to more immediate, customized responses to customer needs” (Stoltzfus, 2004, p333).

Stoltzfus’ analysis reflects one aspect of the discourse on the perceived benefits and role of e-government, which she defines as “the deployment of digitized inter- connective communication systems linking governmental organizations, its stakeholders such as the public, businesses, and other governments.” However, while this definition underscores the potential power of the internet and by extension web sites, for connecting government and key stakeholder groups, the theme of relationship building is not given prominence in other definitions of e-government.
For example, the United Nations Division for Public Economics and Public Administration, reasons that “e-government can include virtually all information and communication technology (ICT) platforms and applications in use by the public sector.” However, for the purpose of their annual E-government readiness assessment, e-government is defined as: *utilizing the internet and the world-wide-web for delivering government information and services to citizens* (UN, 2002, p.1).

Leith and Morrison (2003) accentuate the challenges inherent in defining e-government by noting that it is a relatively new concept which was brought to the fore by government’s attempt to utilize business models to re-engineer the relationship between the citizen and government. The assumption being that the adoption and use of web based technologies could prove just as effective for governments as it has for businesses (pp. 25-35).

Clearly, both sectors have a need to establish and solidify relationships with core constituents and from this perspective web sites can be seen as key communicative tools. Therefore, if the manifest function of the web site is to create a channel of communication between government and citizens, then in many ways, the web site has as much importance as any other traditional form of communication or maybe even more. Huang (2006) introduces another dimension of e-government noting that “E-government refers to the transformation of traditional public sector services and processes into an electronic format with greater accessibility and interactivity to citizens” (p.165).

The notions of accessibility and interactivity as identified by Huang, along with e-participation, and transparency, have emerged as important themes in relation the discourse on e-government. In contrast to earlier definitions these themes also suggest
other dimensions of the emerging phenomenon of e-government and by extension point to key characteristics of newly emerging web based platforms.

A thorough review of e-government literature suggests that interactivity - sometimes referred to as e-participation - is a core element of e-government practice or the larger goal of participatory democracy. In many ways, interactivity points to a reconceptualization of traditional models of mass communication. It underscores the notion that the role of communication recipient is not static or passive. Rather, that the recipient functions simultaneously as both a receiver and creator of media messages, especially in the online environment.

The fluidity of online interaction is realized because the World Wide Web is inherently constructed to facilitate dynamic interaction between sender and receiver of messages. However, research shows that many organizations (including governments) fail to capitalize on the interactive capabilities of the World Wide Web and therefore continue to use old models of communication in a new media environment (Kent and Taylor, 1998, p.325). That is, communication for the most part is still one-way, from government to citizens with limited capacity for citizens to engage with government. This approach runs counter to the nature of the World Wide Web as a new medium of mass communication. It also highlights the seeming contradictions in the way e-government is conceptualized and how it is practiced.

Despite the presumed reluctance to create more open channels of communication with citizens via the Internet, it is a fact that governments recognize the vast potential of this medium. It’s also true that they understand the opportunities that the Internet presents for managing and structuring how citizens and other stakeholders perceive the
actions and policies of government. This raises questions about the public relations function of government web sites and the strategies that are used to persuade and promote favorable public opinion toward government. Similarly, questions would have to be asked about the nature of the communication and its intended objective.

The explorations of e-government web sites and portals as tools of public relations have received some attention in the research literature, albeit in a limited way. This study proposes that the importance of such analysis must be underscored by the growing importance of web sites and web portals as 21st Century communication tools.

Zavattaro (2010) points to the commercialized nature of US municipal (government) web sites by advancing the idea that cities are selling themselves. She suggests that US municipal web sites are:

“The attempt to use the same promotional and image-generation techniques as private – sector PR firms for the same end – increased consumption of goods and services, which in this case are for cities and not for private-sector businesses” (p.191).

This reconceptualization of the role of municipal (government) web sites is in many ways a reflection of how modern business practices are being incorporated in the practice of government and governance. Underlying Zavattaro’s assertion is the idea that citizens are in indeed customers who must be sold on ideas and policies. She underscores the importance of images in this context noting:

“Because image often trumps substance (Baudrillard, 1998), cities are focusing on ways to create and sell organizationally produced images to its various publics as organizations of all types routinely mobilize images as symbolic capital and as
strategically coded cultural representations designed to influence consumer behavior or to build brand awareness (McCallum, Spencer, & Wyly, 2005, p. 25)” (p.192).

She suggests that the choice of web content is a deliberate and strategic action aimed at producing a specific outcome which is identified as generating “positive images and associations”. The goal of municipal (government) web sites in managing public perception therefore emerges as an important consideration in Zavattaro’s thesis and underscores the complexity and variability of e-government practice.

In a slightly different tone, Jensen (2010) asserts that government web sites are both a public policy and a public policy tool. He notes that:

“Web sites achieve these goals [government responsiveness and accountability] through a hierarchical assemblage of images and text connectedness through hyperlinks. The interrelationship of the web site architecture, images, video, and text play an important role in how web sites are able to achieve their public policy interests” (p.92).

His emphasis on the structure and design of government web sites serves to underscore how these factors impact the type and level of civic engagement that will ultimately evolve between government and citizens. However, current approaches seem to privilege the consumption of government products and services rather than participatory stakeholder engagement.

Although there is some variation in the conceptualization of e-government web sites, it has to be noted that the perspectives advanced by Zavattaro and Jensen both emphasize a specific outcome of structuring public perception of government. Unfortunately, this goal is not premised on the notion of building mutually beneficial
relations (goal of public relations), rather it highlights an uneven and unequal approach to managing organizational communication.

Grunig and Hunt (1994) advanced four models or approaches to public relations (see appendix A) beginning with a least desired approach that focuses more on the image of the organization and ending with a preferred approach to managing relationships with “organizational publics”.

The first approach known as the Press Agentry Model is a one-way model of communication that is focused primarily on obtaining favorable publicity for the organization. The Public Information model has a similar focus but is also aimed at changing the behavior of organizational publics and not that of the organization. A third model, the two-way asymmetrical model employs a strategic approach to behavior change and is research-driven. However, this approach also places the burden for change on the public. The most ecological approach is known as the two-way symmetrical model. This model emphasizes research-oriented interaction and is aimed at improving understanding between the organization and its publics while also emphasizing the need for ethical engagement (pp. 8-9).

In examining the interactivity of government web sites and web portals as well as the communicative and legitimizing functions they play, it is hoped that a new theoretical approach to e-government practice will emerge.
Chapter 2: Literature Review

E-government

A common theme emerging from the body of literature on electronic government or e-government is the conceptual challenges involved in both defining and operationalizing the term. Chen (2002) notes that the vastness of the topic makes it difficult to arrive at a comprehensive definition hence the variation in usage across research literature (p.95).

This observation is shared by Seifert (2003) who points out that many definitions of e-government often focus on specific actions or on the automation of delivery of government services (p.2). However, the inherent limitations of this conceptualization of e-government is that it fails to acknowledge or consider the key stakeholders or intended recipients of e-government actions or services. By extension, this conceptualization also suggests a one-way flow of communication from government to stakeholders or constituents. A one-way flow of communication to any of these groups does not offer a new approach to government but rather an old approach which is achieved using new technologies.

This paper draws upon the definition proposed by the Gartner Group which summarizes e-government as “the continuous optimization of service delivery, constituency participation, and governance by transforming internal and external relationships through technology, the Internet, and new media” (Seifert, 2003, p.2). In comparison to some others, this definition amply captures the intent of this study and is closely aligned to relevant literature on the role of e-government in fostering greater citizen participation. It also provides a number of proxies that could be easily measured.
More specifically, Gartner’s definition emphasizes a two-way flow of communication between government and citizens. It also provides a suitable framework for analyzing government web sites as spaces of exchange, where citizens are not just receiving information but can also play a meaningful participatory and interactive role in providing feedback to government thereby engendering transparency and accountability in the democratic process.

Studies on e-participation and e-democracy are closely aligned to research on e-government. These studies attempt to address the bigger issue of the use of Web 2.0 tools such as social media as part of a broader strategy by governments to encourage citizen participation. Macintosh and Whyte (2006) examined “How Participation Changes Local Democracy” and observed that there is need to better understand current e-participation applications and learn from these experiences (p.1).

The authors point to the work of Hacker and van Dijk (2000), who proffered the term “digital democracy” which is defined as “a collection of attempts to practice democracy without the limits of time, space and other physical conditions, using ICT (information communication technology) or CMC (computer mediated communication) instead. Here the technology is seen as an addition, not a replacement for traditional ‘analogue’ political practices.” (p.2) Macintosh and Whyte, however, demonstrate a clear preference for the term “e-democracy” noting that the term captures both the intent to support democracy and studies of the outcomes and context.

Macintosh (2004) defines e-democracy as “concern for the use of information and communication technologies to engage citizens, support the democratic decision-making processes and strengthen representative democracy”. The benefit of this definition is
that it allows for the “the democratic decision making processes to be divided into two main categories: one addressing the electoral process, including e-voting, and the other addressing citizen e-participation in democratic decision-making” (p. 2).

In the same context, a working definition of e-participation, is offered as “the use of ICTs to support information provision and ‘top-down’ engagement, i.e. government-led initiatives, or ‘ground-up’ efforts to empower citizens, civil society organizations and other democratically constituted groups to gain the support of their elected representatives” (p.1-2). These definitions suggest a setting for examining how social media tools are being incorporated into government web sites as a means of encouraging interactivity and participation.

When taken together all of these terms, “digital democracy”, “e-democracy”, and “e-Participation” have a single underlying theme. That is, they use ICT’s including the Internet and social media platforms to facilitate efficiency in government and governance as well as the participation of citizens in democratic processes.

Other researchers, however, have attempted to draw a clear distinction between e-democracy or cyber-democracy and e-government noting that, while the terms are sometimes used interchangeably, the meanings vary from one person to another. The key distinction is that cyber-democracy speaks directly to the interactive nature of web sites which allow for interaction with government officials and for input into the decision-making process. Conversely, e-government refers to the use of digital technology in the management and delivery of public services, predominantly through the Internet. According to Ferber et al (2004) the term e-government positions government web sites as mere electronic billboards for the provision of information. (p. 4-5)
While these distinctions are useful, they point to the challenges associated with this relatively young area of research. Questions also arise as to the extent to which e-government and cyber democracy can be clearly delineated. In fact, it could be argued that the one is in many ways an extension of the other.

This paper proposes that cyber-democracy and e-government do not evolve in a linear manner and are not mutually exclusive of each other. In fact, they can occur at the same time and ultimately have the same long-term goals of building government and stakeholder relationships. Additionally, both practices could be described as stages of development operating on a continuum with the higher end being a fully integrated government web site offering forms of public service but also allowing for stakeholder participation in the democratic process.

In expanding this argument, both of these constructs have been operationalized as outcomes of democratic openness. That is, both e-democracy and e-government are predicated on an open or facilitative environment in which a participatory philosophy or ideology toward government is openly practiced.

**Interactivity**

In light of the rapid diffusion of both government and commercial web sites, a number of questions remain about how the content and structure of these web sites are impacting user experience. Some of the major points of inquiry focus on why users return to a site time and again, what type of experience gratifies them, how much contact they desire to have with site owners, and to what extent do users want to interact with and customize site content?
The very nature of these questions underscores the stark differences between old and new media and provokes some thought about the nature of interactivity and its centrality to the new media environment. Further, they expose the need for a paradigmatic shift in our understanding of communication not as a one-to-many model, as previously conceived, but rather as a many-to-many model where the role of sender and recipient is being transformed and redefined (Coiro et al, 2010; Janoschka, 2004).

Schorr (2003) characterizes interactivity as both a media use option as well as a variable of effect in communication processes (p.57). Interactivity of web sites has also emerged as an important area of research in the last decade. Tetlutter et al (2010) identified three main streams of research in web site interactivity literature. The first included studies of definition and conceptualization of interactivity, followed by mapping of interactivity on web sites using content analysis and, lastly, investigation of consumers’ responses to interactivity (p.217).

The first stream of research reflects a major concern with the absence of a universally accepted definition of interactivity, a concern shared in this study. Consequently, various proxies or dimensions have been advanced based on what researchers are trying to measure. The second stream of research, which this study falls into, reflects a concern with site structure and design as important determinants of interactivity. Tremayne (2005) observed that studies of interactivity often focus on an examination of structures and to a lesser extent on the role of users. Structural analyses, as he indicates, involve the categorization of those features of the World Wide Web that sets it apart from traditional media and this is often done using content analyses. He
points to conceptualization and operationalization of interactivity as the primary reasons for the contradictory conclusions that researchers often arrive at. (p. 40 – 41)

Tremayne’s conclusion is supported by other researchers writing on interactivity of government and commercial web sites (Heeter, 1989; Kaaya, 2001; Ha and James, 1998). Heeter, who is heavily cited in this area of research, provided one of the earliest operationalization of interactivity which included six identifiable but non-exhaustive dimensions. These included complexity of choice available, effort users must exert, responsiveness to the user, monitoring information use, ease of adding information and facilitation of interpersonal communication. Each of these dimensions has an accompanying statement that suggests what specific features of the web site should be assessed. Since its emergence a number of researchers have used this six-point scale to examine interactivity of both government and commercial web sites.

In another study of interactivity, Kaaya (2001) examined e-government practices in East Africa and offered another conceptualization of web site interactivity positing that the term signifies the level of two-way communication between a government agency and users. Emerging from her research were a number of interactivity attributes including hot-linking addresses, provision for user searching, downloadable forms and feedback mechanisms. (p. 49) Kaaya’s interactivity attributes showed some consistency to the dimensions identified by Heeter and others.

Ha and James (1998) offer a departure from earlier thinking by arguing that discussions around interactivity have been filled with restrictive assumptions that require re-examination. This includes the assumption that reciprocal two-way communication is a common desire of both the communicator and the audience (p.460). In an attempt to re-
conceptualize interactivity, Ha and James describe a process in which two or more communication parties can act on each other, on the communication medium and on the messages and the degree to which such influences are synchronized.

In their definition, the authors go beyond earlier conceptualizations and instead attempt to broaden the scope of the term to show that interactivity takes place at the level of the communication actors, the message and the medium. To improve the explanatory scope of their definition, the pair advanced a five-point scale for assessing interactivity of web sites. Dimensions on this scale include: playfulness, choice, connectedness, information collection and reciprocal communication.

The first dimension "playfulness" is explained as interactivity within oneself rather than with another person. This is based on the perception that a user may have an occasional need to communicate with self rather than with others. Interactivity is present to the extent that the web site is able to satisfy the users’ need for self-communication by offering opportunities for play through games and entertainment.

The second dimension of interactivity is "choice." The authors propose that providing the users with several options to choose from potentially increases the perception of interactivity between the user and the medium. This could include the option or choice of choosing a particular language, text or some other aspect of site content.

“Connectedness” is the third dimension of interactivity. It refers to the extent to which hyperlinks are available and the degree of diversity and connectedness that these links provide for users of web sites. The result is increased interactivity with the site by users.
The fourth dimension of interactivity is "information collection." This dimension focuses on web site owners/providers and the importance of user information to them. This information may be collected through site register or tracking cookies. The willingness of users to provide information constitutes a form of interactivity.

Finally, "reciprocal communication" is offered as the fifth dimension of interactivity. It focuses on two-way communication between the user and the web site owner with emphasis being placed on the extent to which the web site owners can respond to the needs of site users.

Although Ha and James applied their analysis to commercial web sites, the dimensions proffered have broad applicability to government web sites as well. However, a common element in all of the definitions discussed is the absence of a fully exhaustive measure of interactivity. As demonstrated by the literature, this is due both to the challenges of operationalizing the terms as well as the nature of the online environment which makes it difficult to measure certain variables.

This point was borne out in an earlier study of e-government web sites in Asia, Africa and Europe (Stephens, 2010). The study involved a content analysis of 55 government portals and web sites drawn from 13 countries. Research questions that were used to frame this analysis focused on how countries in Asia, Africa and Europe were integrating new media technology into the practice and delivery of government, the differences and similarities present in e-government practices across Africa, Asia, and Europe, as well as the type of content used by governments to foster citizen participation.
Data emerging from the study showed that the level of diffusion of e-government was relatively high across all regions with all countries examined possessing one or more department/ministry web site and/or government portal. However, the majority of e-government sites was geared toward the provision of policy or information documents and did little to promote access to government services or encourage greater citizen participation in government.

There were observed similarities and differences in the structure of sites as well as the delivery of content. Government web sites in Africa and Asia were far more informative compared to those in Europe, indicating a singular approach to presentation of content. Findings also showed that some governments are using Twitter and YouTube as well as online forums to encourage participation and feedback, but this was limited to a few countries.

The author posits that findings emerging from that exploratory investigation yielded some baseline data which could provide a point of comparison for findings emerging in this study.

The gap in research literature on cross country comparisons of e-government practices indicates that while a number of studies have looked at e-government practices within specific geographic regions (Kaaya, 2001; Zaied, et al, 2007; Johnson and Kolko, 2010) very few have attempted to broaden the scope of investigation and to look at how practices vary across regions.

Although the current body of research is intended to examine interactivity through an analysis of the structure of government web sites, the aim was to do so within a comparative framework. A key benefit of such an analysis is that it illustrates the
performance of country web sites across Africa, Asia, and Europe while also offering a clear departure from other studies on e-government.

**Democratic openness**

One of the main propositions that underpin this study is that interactivity on government web sites correlates to the democratic openness of each country. This argument presupposes that countries with higher levels of democratic openness will naturally have more online mechanisms for citizens to participate in government and the democratic process. In this way interactivity on web sites could serve as a barometer of the extent to which a country is democratic and engaged in transparent government practices.

A major challenge to this proposition is that there is no universally accepted definition of democratic openness. In problematizing this concept it becomes necessary to identify the parameters of this terminology so as to ensure greater clarity and interpretation. This study proposes that the presence of democratic openness implies the notion of government accountability, transparency and citizen participation.

Hofmann and Turk (2006) argue for a clear distinction between openness as a value in its own right or just as a tool for reaching higher values (p.555). Further, the authors point to concerns about the inability to correctly assess how much openness is necessary in a democracy. All of these questions highlight the challenges associated with measuring democratic openness.

By delineating the terminology, this study establishes democratic openness as a condition or prerequisite for any participatory democracy. In this sense, it places certain
responsibilities on political leaders and guarantees some rights to citizens, including the right of consultation on national program and policies.

Although a number of studies have been undertaken in the area of e-government research there is a dearth of information on the possible link between democratic openness and the structure of government web sites. Many studies have sought to explore the level of e-government readiness and have also attempted to use interactivity as a measure of good e-government practice. However, there is need for further investigation and analysis into the questions of whether interactivity can be used as a predictor of democratic openness and the extent to which e-government web sites truly reflect the democratic aspirations of a state.

Although several other ratings of democracy exist (Freedom in the World, Index of Economic Freedom, Polity Data Series), the 2008 and 2010 Democracy Indices compiled by the Economist Intelligence Unit (EIU) offered the best framework for assessing democratic openness of countries in this study. The EIU indices are comprehensive and provide a useful set of indicators.

The 2008 and 2010 reports compiled by the EIU are said to provide a measure of the state of democracy of 167 countries based on five categories: electoral process and pluralism; civil liberties; the functioning of government; political participation; and political culture. Countries are placed in one of four types of regimes including full democracies, flawed democracies, hybrid regimes, and authoritarian regimes. While providing an assessment of the current state of democracy of countries identified in this study, the index offers a clear framework for cross country comparisons.
Participatory democracy and e-participation

Another key concept that is intended to frame this study is that of “participatory democracy”. Underlying this concept is the idea that citizens will be active participants in their own governance. According to Zittel and Fuchs (2007) participatory theory is said to “envision citizens who engage in political decision-making in great numbers and who share a sense of collective responsibility” (p.9). When this process is mediated through web-based technologies, the term e-participation is used (Demediuk & Solli, 2010; Macintosh 2004; Misuraca, 2007). The former may be described as the end result while the latter represents a means to that end.

The vast body of literature on participatory democracy suggests that it is not in any way a novel idea. Webler and Tuler (2008) explain that there is an abundance of prescriptive advice available to those who organize participatory processes (p.126). The question of whether these prescriptions are working and with what degree of success is not easily answered. In fact, Webler and Tuler are careful to note that “All countries are wrestling with how to involve interested and affected parties in governance appropriately; however, the demands of effective involvement are constantly changing” (p.126).

In its broadest sense, e-participation refers to the use of new information communication technologies to facilitate participation in various forms of government including policy making. This concept underpins e-democracy since it attempts to define greater citizen involvement as a key characteristic of modern democratic practices.

However, studies on e-participation demonstrate that failure of government web sites to encourage participatory engagement may be rooted in a wide range of factors. Sobaci (2010) concluded that the lack of e-participation content on Turkish web sites was
primarily because of the political and administrative culture. Saglie and Vabo (2009) argue for a correlation between offline and online political participation noting that “predictors of offline participation also influence online participation”. Meanwhile, Macintosh et al (2009) introduce another dimension by suggesting that e-participation is contingent on the ability of citizens to understand and critically interpret complex issues. Therefore argumentation systems should be used to aid e-participation.

These strands of thinking around participatory democracy and e-participation point to the need for a broad assessment of the current state of e-government practices. It also suggests the need for appropriate tools to undertake such assessment.

As earlier illustrated, the current tools of assessment have a number of limitations. Thus, the study of e-government requires a mixed methodological approach, since no single methodology could adequately answer the questions that frame such a complex analysis. Consequently, the study of the interactive and communicative functions of e-government web sites across Africa, Asia and Europe represents a significant departure from other studies on this issue. It is therefore hoped that this paper will illuminate new thinking on the topic and as a result a new theoretical approach to e-government practices will emerge from this analysis.

**Research questions and hypotheses**

In its broadest context, this study is aimed at undertaking a cross-country comparison of e-government practices in Africa, Asia and Europe with the hope of informing e-government development and implementation in emerging democracies. More specifically, the study will attempt the following objectives:
1. Examine the level of interactivity on e-government web sites.

2. Explicate the communicative function of e-government web sites using Grunig and Hunt’s Four Models of Public Relations.

3. Determine whether there is a correlation between democratic openness and the level of interactivity of government web sites.


Questions pertinent to this study were formulated around four central concepts which included: the interactivity of government web sites; citizen participation via web sites; public opinion model of web sites and democratic openness. The following questions were proposed:

1. How are countries in Asia, Africa and Europe integrating the web into the practice and delivery of government?

2. What differences and similarities are present in e-government practices in Africa, Asia, and Europe?

3. What type of content is used to encourage interactivity and citizen participation?

4. What type of content is being used to promote favorable public opinion of governments?

5. What is the relationship between interactivity and democratic openness of a country?
Chapter 3: Methodology

Research design

This study is largely descriptive in nature. Descriptive designs are applicable when the researcher is attempting to describe a particular phenomenon or issue. One of its chief merits is the ability to blend both quantitative and qualitative methodologies into the same study.

The principal method of data collection was a content analysis of government web sites. As a research methodology content analysis views data as representations not of physical events but of texts, images and expressions that are created to be seen, read, interpreted and acted on for their meanings (Krippendorff, 2004). Content Analysis also has a high degree of applicability to the study of a broad range of communication content including web sites and web portals. It is particularly useful to this study because it allows the researcher to examine specific elements of government web sites which could hinder or foster interaction between governments and stakeholders in the democratic process. It also provides a tool for assessing how and to what extent citizens are able to participate in government.

Based on the UN E-Government Survey, 2008, and in keeping with the UN Web Measure Index which is used by the United Nations Public Administration Network (UNPA), five types of web sites were included in the study. These included Ministries/Departments of: (1) Health, (2) Education, (3) Social Welfare, (4) Labor and (5) Finance. According to the UNPA the services offered by these ministries and departments are in high demand by citizens the world over. Given that the names of
ministries and departments vary widely across countries classifications were based on the
title of the webpage as well as the core services being offered. After identification, each
web site was assessed using the five interactivity dimensions identified by Ha and James
(1989) in a seminal study of business web sites. Table 1 below illustrates these
dimensions and the corresponding measures.

Table 1
Dimensions of Interactivity

<table>
<thead>
<tr>
<th>Dimensions</th>
<th>Measures</th>
</tr>
</thead>
<tbody>
<tr>
<td>Playfulness</td>
<td>Games and curiosity arousal devices on web sites</td>
</tr>
<tr>
<td>Choice</td>
<td>Ability to customize site content including color, language and text</td>
</tr>
<tr>
<td>Connectedness</td>
<td>Mechanisms available for users to contact ministry, links to relevant agencies, hyperlinks, and navigational ease</td>
</tr>
<tr>
<td>Information Collection</td>
<td>Site counter, opinion polls, registration (newsletter etc.)</td>
</tr>
<tr>
<td>Reciprocal Communication</td>
<td>Phone number, email address, chat/discussion forums, links to social media</td>
</tr>
</tbody>
</table>


Since the study was intended to examine interactivity in relation to citizen participation three separate measures or dimensions of e-participation were also used alongside the interactivity dimensions proposed by Ha and James. This allowed for observations on access to information, provision of services, and public participation.
E-participation was operationalized as the ability of citizens to participate in government through mechanisms provided on government web sites or portals. Here, government web sites and portals refer to any online facility that is managed by a ministry, department or agency for the expressed purpose of providing sector related news, information and services. E-participation was assessed based on the extent to which site users were able to access information and other public services while also engaged in the process of policy-making. Table 2 below identifies the dimensions of e-participation used in this study.

Table 2
Dimensions of e-participation

<table>
<thead>
<tr>
<th>Access to Information</th>
<th>Access to government publications and other information (regulations, policies, manuals etc.)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Services</td>
<td>Access to government services (online application, make payments, etc.)</td>
</tr>
<tr>
<td>Public Participation</td>
<td>Ability to make input or comment on policy documents</td>
</tr>
</tbody>
</table>

The second level of analysis included an assessment of how government web sites/portals functioned as public relations tools and the ways in which governments practice public relations. The four theoretical public relations paradigms advanced by Grunig and Hunt (1984) offer a useful framework for explicating the communicative function of government web sites (See Table 3 in the Appendix).

Twenty-three (23) individual elements were developed to examine the structure and design as well as the visual rhetoric of each web site. Thereafter, Grunig
and Hunt’s Public Relations Models offered a structure for assessing the interrelation of these two categories.

Site structure and design focused on elements of usability and accessibility while visual rhetoric examined the persuasive use of imagery on each web site. Usability is defined in terms of the properties of a web site that allow users to access and navigate the site with little difficulty. This includes the layout of the site, text size, and the effective use of graphics and so on. Web accessibility is also related to user experience but is defined in terms of how the web site caters to the needs of people with some form of disability. This may include features or mechanism to help those who are visually or hearing impaired. These properties are important for access and participation on government web sites.

Visual rhetoric, on the other hand, is largely concerned with the persuasive use of images. Shepherd (2011) identifies the goal of rhetoric as that of “evoking feelings, evoking action and promoting understanding” (p.8). These actions apply to how users interact with images such as web sites and the messages conveyed as well as the meanings that are derived from such interaction.

For the purpose of this study web sites were assessed as visual objectives intended to communicate specific ideas about the government as well as the country of origin. The general presence of each of the items related to structure and design as well as visual rhetoric were coded using an overall rating assessment of High: 100-75%, Medium: 74.9-41% and Low: 40.9–0%.

Finally, the third method of assessment focused on a possible correlation between democratic openness and interactivity of government web sites. Democratic openness of
each country was assessed on four dimensions using the 2008 and 2010 Democracy Indices compiled by the Economist Intelligence Unit. Countries appearing on the index are categorized as full democracies, flawed democracies, hybrid regimes, and authoritarian regimes. Five different categories of indicators are used to determine a country’s ranking including electoral processes and pluralism, civil liberties, functioning of government, political participation, and political culture.

Correlational analysis was intended to evaluate the strength of the relations between democracy ranking of countries in the study and the level of interactivity demonstrated on government web sites, thereby either supporting or disproving the hypothesis.

Sampling

An aggregate of elements from which the sample was drawn included all countries in Africa, Asia and Europe which appeared on the UN E-government Index 2008. The list was purged of thirteen (13) countries that had been previously included in a preliminary study conducted by the researcher in November of 2010. The study population for this paper included the remaining 121 countries spread across Africa, Asia and Europe. A random sample of 12% of the countries in each region resulted in a total of 15 countries broken down as Africa 6, Asia 4 and Europe 5.

For each country the ministries/departments of health, education, finance, social welfare and labor were selected. This was intended to result in the overall analysis of 75 web sites. However, it was expected that this number would change based on the
variations in governmental structures across the Africa, Asia and Europe as well as the non-existence of some departments/ministries.

Instrumentation and data collection

Content analysis was undertaken between the periods July 1 – July 30 and August 2 – August 15, 2011 respectively. The second stage of data collection was due to the challenges of locating some web sites.

Prior to data collection two trained coders were instructed on how to access the homepage of each ministry or department by going through the country’s government portal, where necessary. This approach was deemed appropriate given the absence of any complete list of ministry/department web sites. Secondly, it was an attempt to minimize errors and provide easier access to government web sites. In the absence of a government portal, coders were instructed to use Google and Mozilla Firefox to search for the relevant web sites.

Content analysis was confined to the homepage of each ministry/department web site because of the volume of information that it was likely to contain as well as the communicative capacity of its visual elements. However, given the hierarchical structure of web sites, it was anticipated that accessing other information related to the study would require coders to go at least two levels beyond the home page.

Seven broad categories comprised of 50 individual elements were identified for coding the manifest content of each government web sites. These included: (1) access to information, (2) access to services, (3) interactivity mechanisms, (5) opportunities for public participation, (6) site structure and design, and (7) visual rhetoric of web sites.
Each category was developed from a review of literature on e-government including the dimensions of interactivity developed by Ha and James as well as a modified version of the e-government coding categories developed by Johnson and Kolko (2010). The latter was initially developed by Johnson and Kolko to analyze e-government and transparency in authoritarian regimes. However, given their broad applicability to the study of government web sites, the categories were amended for use in this research. (See appendix C for a copy of the coding sheet).

To determine the reliability of the research instrument the content analysis coding sheets were pre-tested prior to the collection of data. This was intended to determine the usefulness of all variables and to make adjustments where necessary. Percentage of agreement was used to assess inter-coder reliability with an approximate percentage of agreement at 62%. Further modifications were made to the coding sheet and inter-coder reliability was calculated at 85%.

Finally, data emerging from the study were subjected to both qualitative and quantitative analyses and presented using frequency distribution, percentages, and chi square tests.
Chapter 4: Results

A total of 62 out of 75 web sites were subjected to analysis. This resulted from the fact that 8.6% of the sites had missing or broken URL’s while another 4.8% did not have a ministry or department related to those being studied. A further 9.7% of all ministries/departments were amalgamated and came under the purview of one subject minister. Approximately 9.7% of the web sites under review were also difficult to code because the content appeared in a language other than English. Where possible, Microsoft Page Translator was used to access the content but with clear limitations since some content could not be fully translated. The table below illustrates the distribution of web sites across various public sectors.

Table 3
Distribution of Ministries and Departments

<table>
<thead>
<tr>
<th>Ministry/Department</th>
<th>No.</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Finance</td>
<td>14</td>
<td>22.6</td>
</tr>
<tr>
<td>Education</td>
<td>14</td>
<td>22.6</td>
</tr>
<tr>
<td>Health</td>
<td>13</td>
<td>21.0</td>
</tr>
<tr>
<td>Labour</td>
<td>8</td>
<td>12.9</td>
</tr>
<tr>
<td>Social Welfare</td>
<td>7</td>
<td>11.3</td>
</tr>
<tr>
<td>Double Portfolio</td>
<td>6</td>
<td>9.7</td>
</tr>
<tr>
<td>Total</td>
<td>62</td>
<td>100</td>
</tr>
</tbody>
</table>
Among the sites, Ministries of Finance and Education account for almost half of the distribution (45.2%) suggesting that these are high priority areas for most governments. The next highest distribution is for Ministries of Health. Departments of Labour and Social Welfare have lower distributions but this could have result from the melding of portfolios which accounts for 9.7% of the sample.

**Integrating the web into the practice and delivery of government**

Findings of the study show that there is a high rate of diffusion and adoption of the World Wide Web and the Internet by governments across the regions being studied. All of the countries identified in this study have an online presence ranging from two government web sites at the lower end and up to five at the higher end. The majority of web sites (72.6%) are however focused on the provision of information products with only 4.8% of all sites providing a broad range of transactional services. The table below illustrates the disparity between access to public information and access to transactional services across the board.

**Table 4**
Disparity between access to public information and access to transactional services online

<table>
<thead>
<tr>
<th>Categories</th>
<th>Publications</th>
<th>%</th>
<th>Services</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Full access</td>
<td>45</td>
<td>72.6</td>
<td>3</td>
<td>4.8</td>
</tr>
<tr>
<td>Limited access</td>
<td>6</td>
<td>9.7</td>
<td>28</td>
<td>45.2</td>
</tr>
<tr>
<td>No access</td>
<td>1</td>
<td>1.6</td>
<td>21</td>
<td>33.9</td>
</tr>
<tr>
<td>Can’t say</td>
<td>10</td>
<td>16.1</td>
<td>10</td>
<td>16.1</td>
</tr>
<tr>
<td>Total</td>
<td>62</td>
<td>100</td>
<td>62</td>
<td>100</td>
</tr>
</tbody>
</table>
As the preceding table illustrates, there is a huge imbalance between the provision of information products and transactional services. The narrow margin of difference (11.3%) between web sites offering limited services and those offering none highlight the inadequate options available to citizens and other stakeholders who are inclined to use the government web sites identified in this study.

**Differences and similarities in e-government practices**

Table five provides an assessment of the attributes of web site design and structure that were examined to determine differences and similarities in e-government practices.
Table 5  
Comparative Assessment of E-government Web sites by Regions  

<table>
<thead>
<tr>
<th>Attribute</th>
<th>Africa</th>
<th></th>
<th>Asia</th>
<th></th>
<th>Europe</th>
<th></th>
<th>Assessment</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>No.</td>
<td>%</td>
<td>No.</td>
<td>%</td>
<td>No.</td>
<td>%</td>
<td></td>
</tr>
<tr>
<td>Site Identification</td>
<td>17</td>
<td>33.3</td>
<td>15</td>
<td>29.4</td>
<td>19</td>
<td>37.3</td>
<td>High</td>
</tr>
<tr>
<td>Home Page</td>
<td>20</td>
<td>36.4</td>
<td>14</td>
<td>25.5</td>
<td>21</td>
<td>38.2</td>
<td>High</td>
</tr>
<tr>
<td>Menu/Index/Site Map</td>
<td>23</td>
<td>41.1</td>
<td>14</td>
<td>25.0</td>
<td>19</td>
<td>33.9</td>
<td>High</td>
</tr>
<tr>
<td>Legibility</td>
<td>23</td>
<td>37.1</td>
<td>18</td>
<td>29.0</td>
<td>21</td>
<td>33.9</td>
<td>High</td>
</tr>
<tr>
<td>Navigation</td>
<td>23</td>
<td>38.3</td>
<td>16</td>
<td>26.7</td>
<td>21</td>
<td>35.0</td>
<td>High</td>
</tr>
<tr>
<td>Accessibility</td>
<td>0</td>
<td>0.0</td>
<td>6</td>
<td>35.3</td>
<td>11</td>
<td>64.7</td>
<td>Low</td>
</tr>
<tr>
<td>Usability</td>
<td>5</td>
<td>35.7</td>
<td>7</td>
<td>50.0</td>
<td>2</td>
<td>14.3</td>
<td>Low</td>
</tr>
<tr>
<td>Privacy Statement</td>
<td>6</td>
<td>33.3</td>
<td>9</td>
<td>50.0</td>
<td>3</td>
<td>16.7</td>
<td>Low</td>
</tr>
<tr>
<td>Site Construction</td>
<td>19</td>
<td>35.2</td>
<td>15</td>
<td>27.8</td>
<td>20</td>
<td>37.0</td>
<td>High</td>
</tr>
<tr>
<td>Language Links</td>
<td>1</td>
<td>4.5</td>
<td>11</td>
<td>50.0</td>
<td>10</td>
<td>45.5</td>
<td>Low</td>
</tr>
<tr>
<td>Translation of Content</td>
<td>1</td>
<td>5.6</td>
<td>9</td>
<td>50.0</td>
<td>8</td>
<td>44.4</td>
<td>Low</td>
</tr>
</tbody>
</table>

The general presence of each item related to structure and design of web sites were rated using an overall rating assessment of High: 100-75%, Medium: 74.9-41% and Low: 40.9-0%.

It’s worth noting that except for a few areas no significant differences have emerged among government web sites in this study. Rather, there are more areas of commonality
in the design and structure of web sites across the three regions. The following observations are made of the findings:

**Site Identification** - was scored based on the presence of clear identifying information on each department/ministry web site such as the name of the county and the ministry or department. Findings show that there was a high level of site recognition across the regions with only a 4% margin of difference between Europe and Africa.

**Use of Index, Menu or Table of Contents** - Web sites were assessed for these direction-oriented elements because it makes it easier for users to access pertinent information on a web site. Countries in Africa emerged slightly ahead of those in Europe with 41%, while overall there was 90.3% rating of all web sites based on the presence of these elements.

**Navigation** – This element was assessed based on the extent to which site structure allowed for free and easy movement from one page to another, both internally and externally. Navigation on all web sites across the regions was at 96.7% leading to a high overall assessment.

**Accessibility, Usability and Privacy Statements** - The presence of each of these elements was scored based on its availability in an easily distinguishable format, either as a single file or as stand-alone documents. Findings show that these statements were not present on the majority of web sites except for countries in Asia which had statements on half of its government web sites. In spite of this, the overall ratings were low with privacy statements at 29%, usability statements, 22.5%; and accessibility statements, 27.4%.

**Construction** - Web sites were measured based on the extent to which these sites was fully operational. This included properly working links and pages with the correct
information as stated on the web site. Overall, construction was assessed at 87.9% indicating that a significant number of web sites were fully constructed.

*Links for multiple languages and Translation* – This was a measure of whether site content catered to larger audiences including those who did not speak the national language. This included options to navigate to an English page or to use another language. Foreign language sites represented 9.7% of the sample while 29% of all web sites required either full or partial translation. The presence of language links and translations options were given a low overall assessment except for countries in Asia which these options on 50% of government web sites.

**Interactivity and citizen participation on government web sites**

*Playfulness* - Government web sites in this study were not assessed for “Playfulness”. This is not to suggest that curiosity arousal devices are not located on these web sites. Rather, it was a subjective decision to focus on other dimensions of interactivity.

*Choice* - Findings indicate that only 13 or 21% of all web sites provided a full range of options for users to customize elements such as color, language and text size. A breakdown across regions shows that Swedish web sites had the highest level of choice (100%) available to users. This was followed by Malaysia with 60%, United Kingdom with 50% and India with 40% respectively. The Table below illustrates the breakdown of choice across regional web sites.
Table 6

Choice available on web sites across Africa, Asia and Europe

<table>
<thead>
<tr>
<th>Regions</th>
<th>Full</th>
<th>Limited</th>
<th>None</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>No.</td>
<td>No.</td>
<td>No.</td>
</tr>
<tr>
<td></td>
<td>%</td>
<td>%</td>
<td>%</td>
</tr>
<tr>
<td>Africa</td>
<td>0</td>
<td>2</td>
<td>21</td>
</tr>
<tr>
<td>Asia</td>
<td>5</td>
<td>9</td>
<td>3</td>
</tr>
<tr>
<td>Europe</td>
<td>8</td>
<td>11</td>
<td>1</td>
</tr>
<tr>
<td>Total</td>
<td>13</td>
<td>22</td>
<td>25</td>
</tr>
</tbody>
</table>

*Connectedness* – Some 66.1% of the sample provided a broad range of information for citizens and stakeholders to contact government agencies, as well as other relevant agencies. Significantly, there was no information forthcoming for 17.7 %, of the countries because web sites were not accessible. Findings also show a high level of connectedness across regions with 80.6% of all internal and external hyperlinks in working order. The breakdown according to regions show a high level of connectedness among countries in Europe (100%) followed by Africa (73.9%) and Asia (66.7%).

*Information collection* – A significant number of government web sites in this study (66.2%) actively collected user information through the use of mechanisms such as hit counters and online polls, as well as feedback and complaint forms. The latter represented real potentials since some personal information such as names and email addresses will be collected as part of the process.

*Reciprocal Communication* – Two-way communication was assessed in this study based on the presence of online and traditional forms of communication including e-mail,
links to social media, discussion forums and the telephone. Findings indicate that 83.9 % of the sample offered a broad mix of traditional and online options for users to communicate with government ministries/departments. However, email and telephone were the main options available while social media and online discussion forums only accounted for 3.2 % of the sample.

In addition to the dimensions proffered by Ha and James, three other areas, which shall be considered dimensions of participation, were examined in this study and included access to information, access to services, and public participation. These dimensions were derived from a review of extant literature as well as the coding categories developed by Johnson and Kolko (2010). The presence of these dimensions is illustrated below.

Table 7
Dimensions of participation on government web sites

<table>
<thead>
<tr>
<th>Dimensions</th>
<th>Africa</th>
<th>Region Asia</th>
<th>Europe</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>No.</td>
<td>%</td>
<td>No.</td>
</tr>
<tr>
<td>Participation</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Full</td>
<td>4</td>
<td>17.4</td>
<td>0</td>
</tr>
<tr>
<td>Limited</td>
<td>17</td>
<td>73.9</td>
<td>15</td>
</tr>
<tr>
<td>None</td>
<td>2</td>
<td>8.7</td>
<td>0</td>
</tr>
<tr>
<td>Online-Services</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Full</td>
<td>1</td>
<td>4.3</td>
<td>1</td>
</tr>
<tr>
<td>Limited</td>
<td>12</td>
<td>52.2</td>
<td>10</td>
</tr>
<tr>
<td>None</td>
<td>10</td>
<td>43.5</td>
<td>3</td>
</tr>
<tr>
<td>Information</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Full</td>
<td>18</td>
<td>78.3</td>
<td>13</td>
</tr>
<tr>
<td>Limited</td>
<td>4</td>
<td>17.4</td>
<td>1</td>
</tr>
<tr>
<td>None</td>
<td>1</td>
<td>4.3</td>
<td>0</td>
</tr>
</tbody>
</table>
Access to information was operationalized as the extent to which web sites provided a full range of information regarding the ministry/department including information about its formation, mission, and broader sector related goals. The preceding table shows that this information was widely available across all regions in the study.

Other information such as the structure of the ministry, key ministerial positions, and biographical information for ministers or department heads, as well as core service areas were also provided. Information about web sites such as site ownership, establishment and revision dates was not readily available with some 21% of the sample providing a full range of information while 67.7 % provided limited information.

Access to transactional services is defined in this study as the extent to which users are able to transact business with government online. This includes paying taxes, licenses fees, fines, or making other types of applications. Results show that 52% of all web sites provided some type of job related information which was more likely to be found on finance and labor related web sites.

Information on tenders, contracts and procurement proved to be less forthcoming with only 37.1 % of all ministries providing this information in comparison to the 46.8 % which provided none. The breakdown across regions show higher frequencies of disclosure for countries in Africa (10) followed by Asia (7) and Europe (4).
Figures for access to online services show that only 4.8% of government websites offered a full range of online services while the number of those offering a limited range of services (45.2%) was significantly higher.

Public Participation – The study reveals that 6.5% of all websites actively encouraged public input on policy documents. This varied widely with 83.9% or 52 websites allowing citizens to file complaints. The latter has to be considered post-policy participation since users are allowed to participate after the policy or program has already been implemented.

Interactivity and democratic openness

One of the underlying assumptions of this study was the existence of a correlation between democratic openness of a country and the level of interactivity on government websites. The study proposed that governments from highly democratic countries would naturally encourage higher levels of interaction and participation using e-government sites as a medium for such interaction and involvement.

In relation to this proposition, democratic openness is operationalized as a consultative process of broad government which is also characterized by accountability and transparency.

The 2008 and 2010 democracy Indices compiled by the Economist Intelligence Unit (EIU) offer a useful framework for exploring the democratic openness of countries in this study. EIU notes that the current index provides a snapshot of the state of democracy worldwide for 165 independent states and two territories and reflects the global situation as of November 2010.
Countries in the index are classified into four regime types: (1) full democracies, (2) flawed democracies, (3) hybrid regimes, and (4) authoritarian regimes. The table below provides an overview of country rankings for 2008 and 2010.

<table>
<thead>
<tr>
<th>Rank</th>
<th>2010</th>
<th>Country</th>
<th>Overall Score</th>
<th>Regime Type</th>
</tr>
</thead>
<tbody>
<tr>
<td>4</td>
<td>1</td>
<td>Sweden</td>
<td>9.50</td>
<td>9.88</td>
</tr>
<tr>
<td>11</td>
<td>9</td>
<td>Luxembourg</td>
<td>8.88</td>
<td>9.10</td>
</tr>
<tr>
<td>16</td>
<td>19</td>
<td>Czech Republic</td>
<td>8.19</td>
<td>8.19</td>
</tr>
<tr>
<td>19</td>
<td>21</td>
<td>United Kingdom</td>
<td>8.16</td>
<td>8.15</td>
</tr>
<tr>
<td>30</td>
<td>31</td>
<td>South Africa</td>
<td>7.79</td>
<td>7.91</td>
</tr>
<tr>
<td>40</td>
<td>35</td>
<td>India</td>
<td>7.28</td>
<td>7.80</td>
</tr>
<tr>
<td>53</td>
<td>51</td>
<td>Croatia</td>
<td>6.81</td>
<td>7.04</td>
</tr>
<tr>
<td>71</td>
<td>68</td>
<td>Malaysia</td>
<td>6.19</td>
<td>6.36</td>
</tr>
<tr>
<td>77</td>
<td>94</td>
<td>Ghana</td>
<td>6.02</td>
<td>5.35</td>
</tr>
<tr>
<td>86</td>
<td>89</td>
<td>Lebanon</td>
<td>5.82</td>
<td>5.62</td>
</tr>
<tr>
<td>91</td>
<td>97</td>
<td>Zambia</td>
<td>5.68</td>
<td>5.25</td>
</tr>
<tr>
<td>101</td>
<td>103</td>
<td>Kenya</td>
<td>4.71</td>
<td>4.79</td>
</tr>
<tr>
<td>114</td>
<td>129</td>
<td>Kuwait</td>
<td>3.88</td>
<td>3.39</td>
</tr>
<tr>
<td>123</td>
<td>124</td>
<td>Nigeria</td>
<td>3.47</td>
<td>3.53</td>
</tr>
<tr>
<td>146</td>
<td>148</td>
<td>Zimbabwe</td>
<td>2.64</td>
<td>2.53</td>
</tr>
</tbody>
</table>

Source: Economist Intelligence Unit Limited, 2010 and 2008

Based on the information presented above, it is clear that the rankings for countries have changed between the two periods of assessment. Most noticeable is Sweden which slipped three places from a position of number one to number four. Similar changes in ranking can be observed for Luxembourg, India, Malaysia and Croatia. Conversely, several countries also moved up the ranking including the United Kingdom, Ghana, Zambia and Kuwait.
To assess the strength and direction of the linear relationship between interactivity and democratic openness an interactivity score was computed for each web site by summing the interactivity dimensions available to users on each site. These included devices or mechanism for: choice, connectedness, information collection and reciprocal communication. Countries with the highest level of interactivity on web sites are show in the chart below.

![Chart showing countries with the highest levels of interactivity on government websites.](image)

*Figure 1.* Countries with the highest levels of interactivity on government web sites.

Next, a measure of democratic openness was derived from the four categories of democracy rankings proposed by the Economist Intelligence Unit in the 2010 Democracy Index.
A Pearson product-moment correlation coefficient (r) was conducted to determine whether a relationship existed between the dependent variable interactivity and the independent variable, democracy rank.

Findings indicate that there was no correlation $r(60) = .006$, $p = 0.961$ between democracy rank and interactivity. Increases in the democracy rank of a country were not correlated with increases in the level of interactivity seen on government web sites.

**Public opinion of governments**

This study attempted to explore the type of web content that was used to create favorable public opinion of ministries/departments and, by extension, government. Elements such as, use of national symbols, videos and photographs, press releases, speeches, reports, mission statements, and other interactive content were examined using a visual rhetorical perspective which allowed for a broader exploration of these elements.

Across all ministries/departments a summation of scores shows high levels of activity, (88.7%), in relation to the use of symbols such as the country’s coat of arms and the national flag.

The use of videos and photographs scored 58.1% and in many instances these images were prominently placed (79%) and featured engagement between ministry officials and stakeholders.

Availability of government reports averaged 80.6 % across all ministries while press releases accounted for 66.1 % and speeches 35.5 %. All of these elements have high publicity value and are intended to create further awareness of the actions of individual ministries.
The highest percentages across ministries (91.9%) were recorded for highlighted content such as blinking, flashing, scrolling text, images, bold features and the use of colored text which was aimed at drawing attention to particular content on a home page.

**E-government practices as public information vs. two-way symmetric model of public relations**

The Four Models of Public Relations (press agency or publicity; public information; two-way asymmetric; and two-way symmetric) proposed by Grunig and Hunt (1984), provides a theoretical paradigm for explicating how public relations should be managed in an organization.

When applied to web sites in this study, findings show that 72.6% of the sample was more likely to disseminate reports, policies, and regulations as opposed to encouraging two-way communication between the ministry/department and stakeholders. Of the total number of ministries/departments 83.9 % have both traditional and online options for communicating with officials.

However, only 6.5 % of all web sites actively encourage stakeholders to comment on policy documents or regulations. Although 83.9 % of all web sites had some mechanism for filing complaints this resulted in a significant difference between the two variables, chi square = 46.729, df 12 (p< 0.001).
Chapter 5: Discussion

Although this study is framed by several research questions and hypotheses it was necessary to weave together the discourse by focusing on two elements of e-government practices. The first strand of this analysis focuses on how governments in the developed as well as the developing world are failing to capitalize on the interactive nature of the Internet thus negating opportunities to build participatory models of democracy. The second strand extends this analysis by arguing that e-government web sites function more as public relations tools that are directed at legitimizing and enhancing the image and reputation of governments.

Underpinning both of these concerns are more questions about the current state of e-government practice, and the level of participation and interactivity that is engendered by government web sites. More importantly, this paper argues for a clear theoretical model that would explicate the role of citizens and government in building participatory and more democratic forms of government.

This study’s multidimensional examination of e-government practices points to the challenges of addressing one element of this practice without also addressing others. Content analyzing web sites also has its own inherent challenges including coding and interpretation. A small but significant number of web sites fell outside this study because of problems related to the use of some web browsers, missing or broken URLs, as well as the closure of web sites due to hacking or other malicious attempts to disable the site.
Although the issue of cyber security remains outside the scope of this study, it has some implications for the types of transactional services that could be offered online. More importantly, it raises questions about the privacy, protection, and citizen rights.

The diffusion and adoption of websites by governments in this study clearly indicates that governments see this medium as a viable option for reaching different stakeholder groups. However, the challenge of coding 9.7% of all websites in this study because the content appeared in a foreign language suggests the need to make websites globally accessible, given the nature of the Internet.

A significant observation emerging from the study is the huge disparity between information products and transactional services offered on all government websites in Africa, Asia, and Europe. This universal condition signals in some ways a philosophical approach to engaging audiences in this new web-oriented environment and also a lack of understanding of the inherent interactive nature of websites. Fundamentally, it also points to the technical and infrastructural challenges associated with the implementation and practice of e-government.

Overall, there were more similarities rather than differences in the structure and design of government websites across all countries in the study. Differences were present in the way that each ministry/department graphically represented itself to constituents, as well as the level of interactivity mechanisms present on each website. Countries in Africa demonstrated the highest level of interactivity across websites, followed by Asia and Europe respectively.

Usability and accessibility are important determinants of user experience. Although there are clear distinctions in the use of these terms, the common concern is
related to how users experience a web site or web portal. This experience is hindered or augmented by the various features of a web site which enable users to do the things they visit the web site to do. Elements or features of all government web sites that were rated highly in this area included: site identification, layout of home page, availability of site map, menu and index, site construction, the legibility of text and the ability to navigate freely. The absence of accessibility, usability and privacy statements on more than 60% of all web sites in Africa and Europe demonstrate that overall user experience and protection of site users has to be addressed in a fundamental way.

Interactivity and citizen participation also emerged as important points of analysis in this study. In many ways, citizen participation or e-participation is premised on the availability of interactive mechanisms that allow for users to interact with self, the content and the content provider both as user as co-creators.

For many government web sites, the interactivity dimensions offered by Ha and James were present to varying degrees. Choice emerged as one of the most significant dimensions on web sites in Europe and Asia. Connectedness was prevalent at 80.6% on all web sites compared to information collection at 66.2%. Reciprocal communication was evident on 83.9% of all web sites and included a mix of tradition and online options. However, it has to be noted that this figure does not represent options for citizens to provide input on government policies and programs prior to its development.

Three dimensions of participation were included in this analysis because it was useful to examine the extent to which opportunities for e-participation was present. That is the extent to which citizens were actively encouraged to provide input on government policies and programmes. The significantly low occurrence of this practice (6.5%) points
to the need for a reassessment of how citizens participate in democratic practices. Already, there are a number of other factors that mitigate citizen participation including digital literacy, the digital divide and a lack of interest among local citizenry.

While it remains beyond the scope of this study to explore these mitigating factors, overall the findings emerging from this analysis reflects a larger pattern or practice that goes to issues of technological and infrastructural difficulties as well as organizational attitudes.

A key assumption of this study was the existence of direct and linear relationship between democratic openness of a country and the level of interactivity on government web sites. While it was proposed that governments from highly democratic countries would naturally encourage higher levels of interaction and participation using e-government sites as a medium for such interaction and involvement, it has been demonstrated that there is no relationship between these variable.

One of the challenges of this proposition was related to the definition and operationalization of the term “democratic openness”. This study drew on available literature to operationalize democratic openness as espousing three main ideas: government accountability, transparency and citizen participation. More importantly, openness describes a process of two-way communication whereby governments adopt a consultative approach to interacting with citizens. Indicators and measure of democratic openness in this study were also derived from the 2010 democracy index compiled by the Economist Intelligence.
In general, web sites are created to provide both visual and textual information about the hosts/owners. Visuals and texts also function as persuasive devices that are intended to convince users to accept the legitimacy of the site as well as its contents. Government web sites share these objectives as well but are also political communicative spaces intended to structure our perception of government including policies and programs.

A visual rhetorical perspective was used to explore the interplay of text and visuals on each homepage. While the communicative importance of text has often been underscored, such analyses often either limit or ignore the communicative importance of visual imagery and the ways in which these images construct and create meaning for the audience.

Efforts to explore the visual rhetoric of each web site included an analysis of all elements on the web site that had some publicity value and functioned well because of their attention grabbing characteristics as well as their informative nature.

A summation of scores across ministries and departments shows high levels of activity, (88.7%), in relation to the use of symbols such as the country’s coat of arms and the flag. This type of content is meant to make identification easier but it also speaks to issues of sovereignty and national pride. In almost all of these cases the colors of the web site were reflected in the flag and/or the country’s coat of arms. Although there was sufficient evidence of the use of videos and photographs, average use only amounted to 58.1%. In many instances these images were prominently placed (79%) and featured engagement between ministry officials and stakeholders. The usefulness of this kind of imagery is that it gives the impression of a ministry or government in touch with ordinary
citizens. Even if this kind of interaction is not fostered through the site, at least the idea is being projected.

The overall thrust of ministry/department web sites is to cast government in an agreeable light. This was achieved largely through the use of symbolic content, government reports and some visual imagery. Special effects such as blinking, flashing and scrolling text and images add to the overall appeal of the homepage and direct the user’s attention to specific content. However, the preponderance of publications is not matched by opportunities for users to comment or actively participate in any discussion of the content.

A key proposition of this paper is that e-government practices across the region reflect a public information model of public relations as opposed to a two-way symmetric model. This proposition is premised on the theoretical paradigm advanced by Grunig and Hunt (1984) which illustrated four models of public relations (press agentry or publicity; public information; two-way asymmetric; and two-way symmetric) in relation to communication management.

The model operates on a continuum with communication on the far end oriented towards propaganda or publicity while at the other end both sender and receiver operate on the basis of respect, mutual understanding and open communication. The other two models at the center of the continuum privilege the sender or source of the information while placing responsibility for change on the recipient.

The Four Models of Public Relations provided a useful tool for explicating the functioning of government web sites in this study. It was concluded that most web sites operate in a manner consistent with the two-way asymmetric model. That is, while the
dissemination of reports, policies, and regulations appear to be a major priority (72.6%), attempts are also being made to encourage two-way communication between the ministry/department and stakeholders. Of the total number of ministries/departments 83.9 % have both traditional and online options for communicating with officials. However, only 6.5 % of all web sites actively encourage stakeholders to comment on policy documents or regulations.

The two-way symmetric model represents the ideal state of relationship between an organization and its stakeholders. It is clear that more needs to be done before government web sites in this study could be seen as operating in this sphere. Findings suggest that the relationship is highly unbalanced with government in the privileged position of providing information while also dictating the terms of any interaction. The continued existence of this type of arrangement raises doubts about the long term prospect for stakeholder engagement in the democratic process via e-government.

**Towards A Model of Participatory Audience/Stakeholder Engagement**

The need for timely and convenient access to government services and for greater citizen involvement in democratic processes must be seen as a key consideration in the implementation and practice of e-government. Findings of this study show that while the practice of e-government is still in a nascent stage, there is evidence of a high rate of diffusion and adoption of web sites, web portals and to a lesser extent mobile technology for delivery of government. Albeit some levels of disparity are evident in the rates of adoption between developed and developing countries (Stoltzfus, 2004; Assar et al, 2011; Kumar et al, 2007).
The conceptual challenges associated with use of the term “e-government” has resulted in a variation in usage across research literature (Stoltzfus, 2004; Leith and Morrison, 2003; Kaaya, 2001). A major limitation of some definitions is the failure to acknowledge and operationalize the interactive capacity of e-government which includes building strategic relationships between government and stakeholders.

One useful definition that has emerged from the research literature, and which served as the overarching framework for this study, illustrates the process of e-government as “the continuous optimization of service delivery, constituency participation, and governance by transforming internal and external relationships through technology, the Internet and new media” (Gartner Group, 2002).

A careful deconstruction of this definition highlights the role of new media technologies in facilitating the transformation of relationships between government and key stakeholders with the specific outcome being optimized service delivery, constituency participation and governance. These variables provide key indicators of how e-government should be practiced and will provide a useful framework for explicating this theoretical model of citizen-government interaction in participatory democracies.

**Description of Model**

The model presented in this paper (see Appendix D) is premised on the notion of participatory democracy and therefore attempts to illustrate a process of communication/engagement between government and stakeholders through the medium of the Internet with the outcome being better government-citizen relations, broadened
public discourse between and among citizens, and improved accountability and transparency in the practice of government.

Central to this model is the idea that citizens/stakeholders will not only be consumers of government products/services but that they will also be integrally involved in providing feedback on the quality of those products/services. Taken a step further, it is proposed that citizens/stakeholders will also be able to offer some input into the creation of new products and services to be offered by government. Feedback and input are therefore key pillars of this model and are also intended to work for both government and citizens in the process.

In this model, the process of participatory engagement is illustrated on a horizontal level to denote the flattening of relationships in this communicative transaction. Government's position at the head of the model is largely symbolic but also necessary since it has responsibility for providing key social products/services.

To create access to and publicity and awareness around its products/services governments can adopt and or expand the use of web sites and other social media platforms to reach stakeholders. These groups may be categorized as intended and unintended audiences with the former being the specific target of the planners and the latter an incidental user. Literature on e-government also suggests that stakeholders could be further categorized based on whether they are local, regional or international. Local audiences would be those in the country named by the web site while regional audiences would be those in close geographical proximity. International audiences would be located much further away from the country and/or the region.
Interaction between government and stakeholders/audiences would be facilitated through a single medium or several types of media. In this case, it is proposed that government web sites and social media platforms would serve as the primary conduits. Although they appear as separate entities, it is proposed that social media platforms be integrated into government web sites through icons and hyperlinks. The significance of these platforms is that they provide another means for audiences to reach and interact with government. Here the opportunity exists for stakeholders to provide feedback on the performance of government products/services and also to make suggestions or provide input on proposed products, services and/or ideas.

The feedback generated through this mechanism also forms the basis for measurement and evaluation of government output by the Ministries/Departments involved. Here, it becomes necessary to assess public opinion and online traffic, as well as usability and accessibility of the site. Although each department/ministry would choose what metrics to use for measurement and evaluation, some options could include Google analytics, online surveys, and feedback forums.

Once the feedback has been assessed, the result could be the modification or creation of existing products, services and/or ideas. Information that is fed back into the loop results in a process of participatory engagement. Once this process is underway, it is thought that better interactions between government and citizens will occur, as well as among and between citizens. Other expected outcomes would be improved accountability and transparency which over time could also lead to improved governance.

The interplay of factors illustrated in this model of participatory stakeholder engagement point to a holistic process of communication that privileges both government...
and stakeholders as major players in the communicative transaction. Admittedly, there are intervening factors that could impact almost any stage of the process. However, the feedback structures implicit in the model would provide opportunities for correcting and modifying content or actions where needed so that the process can evolve as demonstrated.

**Justification/Application**

A number of theoretical propositions have been advanced to explicate the concept of audience participation. The point of departure in this paper is the emphasis on democratic participation through the use of new media technologies including web sites, social media and to some extent mobile technology.

The paucity of literature on theoretical models related to this issue makes this an interesting starting point for demonstrating the process of how governments can use web sites and other social media to foster citizen participation and interaction. It also demonstrates a shift from Arnstein (1996) who posited a “Ladder of Citizen Participation” which emphasized a typology of eight levels of audience participation within the context of hospital care. Other models of audience participation focus on entertainment media as opposed to alternative uses of new media as demonstrated here. More importantly, this model offers a proposition for moving beyond current e-government practices of providing publicity, awareness and access while limiting opportunities for interaction and feedback.

In concluding, it has to be noted that this model is largely descriptive. It makes no pretenses of predicting the outcome of government-citizen/stakeholder interaction.
Rather, it hypothesizes that there is a relationship between the structure of government web sites and stakeholder involvement in the democratic process. It also illustrates the major elements of the process while explaining their interrelatedness.

This model does not address the question of what motivates stakeholder’s interaction and/or adoption of government web sites. Similarly, the model does not attempt to explain which type of media audiences/stakeholders are more likely to use in their interaction with government. Although feedback is seen as a key component of the participatory model, no attempt is made to position this element as the most important factor in the model. By making this relationship explicit, the model can serve as the basis for developing a theory about participatory democracy and the wider involvement of citizens and other stakeholders in the democratic process.

Conclusion and Recommendations

Although the study of e-government has generated a significant body of work, there remains a scarcity of studies that have provided comparative perspectives on e-government practices in Africa, Asia and Europe in relation to citizen engagement and participatory democracy.

The results of this study revealed that government web sites in these regions have adopted an approach that privileges the provision of information products rather than transactional services. While some level of interactivity exists on government web sites only 6.5% of all sites actively encourage citizen participation prior to the development of government policies and programmes. Opportunities for building citizen engagement and engender a participatory model of democracy is thus negated.
The study also shows that most web sites operate in a manner consistent with the two-way asymmetric model of public relations. That while the dissemination of reports, policies, and regulations appear to be a major priority, attempts are also being made to encourage two-way communication between the ministry/department and stakeholders through traditional and online methods for reciprocal communication.

The proposition that countries with higher levels of democracy ranking would correlate with higher levels of interactivity of those web sites was proven incorrect. Findings of a Pearson product-moment correlation coefficient indicated that there was no correlation $r(60) = .006$, $p = 0.961$ between democracy rank and interactivity. Increases in the democracy rank of a country were not correlated with increases in the level of interactivity seen on government web sites.

Based on the theoretical model emerging out of this research, it is proposed that government web sites must have a built in mechanism for allowing greater input from citizens and stakeholders. Feedback from these groups would enable government to modify or adjust policies, programmes, product and services. Ultimately this approach would also create greater levels of transparency, accountability and citizen-government engagement.

Recommendation for future research is to build on this body of work by expanding the number of countries that are included for analysis. A broader sample might shed new light on some of the issues raised in this study including citizen participation and government citizen relations in the context of participatory democracy.

Future studies can also examine the issue of cyber security in relation to the rights and protection of those using government websites to transact business? What are the
issues to consider? What form and level of security? How can security features be implemented without trampling the rights of citizens or other users of the web site?

Future research should also focus on the experience of those using government web sites? What kind of access do they need? Is the web site helping or hindering access to government officials? All of the issues identified here would shed new light on the many unanswered questions that continue to prompt deeper analysis of e-government both as a product and as a process.
References


Appendix A: Definition of Key Terms

Throughout this research report the following terms have been conceptualized as follows:

**E-Government** is operationalized as “the continuous optimization of service delivery, constituency participation, and governance by transforming internal and external relationships through technology, the Internet, and new media”. This definition was proffered by the Gartner Group and serves as the overarching framework for this study.

**Government web sites** – refer to any site or portal that is managed by a government agency/department for the specific purpose of providing key public services, engaging citizens and for raising awareness of sector related developments within a country.

When used in this report, **Interactivity** refers to a process in which two or more communication parties can act on each other, on the communication medium and on the messages and the degree to which such influences are synchronized. It is derived from the work of Ha and James (2002) and offers a useful lens for exploring citizen-government interaction.

**E-participation**, borrowed from Macintosh (2004), refers to the use of information communication technologies to support information provision and “top-down” engagement. This suggests government-led initiatives, or “ground-up” efforts to empower citizens, civil society organizations and other democratically constituted groups to gain the support of their elected representatives.
**Cyber-democracy**, as defined by Ferber, Filtz and Pergliese (2004), is operationalized as the interactive nature of web sites which allow for interaction with government officials and for input into the decision making process.

**E-Democracy**, offered by Macintosh (2004), is sometimes used interchangeably with cyber-democracy. It explains the use of information and communication technologies to engage citizens, supports the democratic decision-making processes and strengthens representative democracy.

**Information Communication Technology (ICT)**, when used in this study, refers to the application of modern communications and computing technologies to the creation, management and use of information; ICT also refers to any equipment or machinery that is used in the collection, storage and manipulation of data.

**Stakeholders** are defined as citizens and businesses as well as other governments within the borders of nation states and those beyond who are direct or indirect beneficiaries of government policies and programs. (Stoltzfus, 2005).

**Convergence** is used to explain the way in which computing, telecommunications and, more recently, television are moving towards a common technological basis, characterized by the use of digital systems.

**Cyberspace** is popular term for the Internet, coined by William Gibson in his novel Necromancer, published in 1984.

**Internet**, also known as the “net”, is the inter-communicating computer networks which host and provide access to the World Wide Web, file transfer, e-mail, news and other services.
The term “democratic openness” lacks a universal definition. However, where it appears in this study, the term espouses the notion of government accountability, transparency and citizen participation. That is, openness is characterized by the extent to which government is accountable and transparent and the extent to which citizens are allowed to participate in the larger democratic processes.
Appendix B: Grunig & Hunt’s Four Models of Public Relations

<table>
<thead>
<tr>
<th>Characteristics</th>
<th>Press Agentry/Publicity</th>
<th>Public Information</th>
<th>Two-Way Asymmetric</th>
<th>Two-Way Symmetric</th>
</tr>
</thead>
<tbody>
<tr>
<td>Purpose</td>
<td>Propaganda</td>
<td>Dissemination of Information</td>
<td>Scientific Persuasion</td>
<td>Mutual Understanding</td>
</tr>
<tr>
<td>Nature of Communication</td>
<td>One-way; complete truth not essential</td>
<td>One-way; truth important</td>
<td>Two-way; imbalanced effects</td>
<td>Two-way; balanced effects</td>
</tr>
<tr>
<td>Communication Model</td>
<td>Source ➔ Receiver</td>
<td>Source ➔ Receiver</td>
<td>Source ➔ receiver ⇐</td>
<td>Group ➔ Group ⇐</td>
</tr>
<tr>
<td>Nature of Research</td>
<td>Little; “counting house”</td>
<td>Little; Readability, readership</td>
<td>Feedback Formative; evaluation of attitudes</td>
<td>Formative evaluation of understanding</td>
</tr>
<tr>
<td>Typical Users</td>
<td>Sports, theater, product promotion</td>
<td>Government, nonprofit associations, business</td>
<td>Competitive business; agencies</td>
<td>Regulated business; agencies</td>
</tr>
</tbody>
</table>

Appendix C: Coding Sheet

E-Government Web site Evaluation

1. Case No. ...........................................
2. Date: ...............................................
3. URL: ..........................................................................................................................
4. Portal [ ] Web site [ ]
5. Country & Region: ...........................................................
6. Ministry/Department: ...........................................................
7. Democracy Type: ...........................................................
8. Democracy Rating: ...........................................................
9. Language Used: English only [ ] English + Other language(s) [ ]
Other Language only ______________________________________ (Please state)

ACCESS TO INFORMATION

1. Information about the ministry/department’s role in society or country (select one)
   (1) A full range of information is provided ...........
   (2) Only limited information is provided.............
   (3) No information is available.................

2. Mechanisms for communicating with officials of the ministry/department (select all that apply)
   (1) Name(s)............. (3) E-mail address.............
   (2) Phone number(s)............. (4) Mailing address .............
   (5) No contact information .........................

3. Contact with other government officials/ministries/departments/agencies (select one)
(1) Links/addresses for a number of officials/ministries/departments/agencies are available ….
(2) Links/addresses for a few officials/ministries/departments/agencies are available…………
(3) No links/addresses …………….

4. Links to relevant agencies (Local and international) (select one)
   (1) A full range of links are provided………………
   (2) A few links are available……………………
   (3) No links………………
   (4) Other……………………

5. Information about the site and how to use it (Site ownership/web host, establishment date and date the site was last revised). (Select one)
   (1) All information provided on the web site……………...
   (2) Limited information provided on the web site……………
   (3) No information……………………

6. Access to other information (tick all that apply)
   (1) Calendar of events……… (3) Both………………
   (2) Work Schedule……………… (4) None……………

SERVICES

6. Labor/employment opportunities / information (select one)
   (1) Job postings………. (2) Job related information………..
   (3) Both…………….. (4) None………….

7. Notices of Tenders/ Contracts/Procurement (select one)
   (1) Contracts………… (2) Tenders/Procurement…………
   (3) All………… (4) None…………
8. Links to banks, chamber of commerce or other business organizations (select one)
   (1) Links to a wider range of commercial/business organizations ………………..
   (2) Links to a few commercial/business organizations………………
   (3) None……………….

9. Support for online financial and other transactions (license renewal, permit applications, pay fines/utilities etc.) (select one)
   (1) A full range of services exist…………  3) No services…………..
   (2) Some services exist………………

INTERACTIVE
1. Site interactivity (select one)
   (1) A number of mechanisms exist for interacting with site owner or webmaster
   (2) Few mechanisms exist for interacting with site owner or webmaster ………
   (3) No mechanisms exist……………….

2. Choice available to users of the site (select one)
   (1) Users are able to customize some aspects of the site including color, language and text size ……………………
   (2) Limited opportunities exist for customizing the site………………………
   (3) No opportunities………………….

3. Connectedness available to users? (Tick all that apply)
   (1) All internal hyperlinks work………………
   (2) All external hyperlinks work…………..  
   (3) Some internal hyperlinks work………..
   (4) Some external links work……………..
   (5) None of the links work…………………

4. Information collection (Tick all that apply)
(1) Hit Counters
(2) Registration (news/newsletters)
(3) Opinion poll
(4) No mechanisms available for collecting information
(5) Other

5. Reciprocal communication (*tick all that apply*)
   (1) E-mail links
   (2) Phone numbers
   (3) Chat sessions
   (4) Discussion forums
   (5) Feedback/Complaint options
   (6) Links to social media
   (7) None

6. Access to policy papers, regulations etc. (*tick all that apply*)
   (1) Users have access to a wide range of government documents
   (2) Documents are available for download
   (3) Users are encouraged to comment on government documents (draft policies etc.)

**PUBLIC PARTICIPATION**
Stakeholders are actively encouraged to participate and to provide feedback as well as input on government policies and programs.

(1) Stakeholders are encouraged to provide feedback/complaints.
(2) Stakeholders have access to information but do not have options for contacting officials of the ministry/department

**TARGET AUDIENCE** (Intended Audience) (*tick all that apply*)
(1) International Community
(2) Regional governments/citizens
(3) Domestic

*Place a mark (✓) in the box to indicate the presence or absence of the features listed below.*
<table>
<thead>
<tr>
<th>Category/Element</th>
<th>Yes</th>
<th>No</th>
<th>Undetermined</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>SITE STRUCTURE/DESIGN</strong></td>
<td></td>
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<tr>
<td>1. Web site is immediately recognizable (Name of country and Ministry/Department are clearly visible)</td>
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<td>2. Homepage is crowded with graphics and text</td>
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<td>3. Index/menu and/or site map available</td>
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<td>4. Size and color of text makes it legible</td>
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<td>5. Text information can be found easily (Navigation)</td>
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<tr>
<td>6. Site includes an accessibility statement</td>
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<td>7. Site includes a usability statement</td>
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<td>8. Site includes a privacy statement</td>
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<td>9. All or most of the site is fully constructed</td>
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<td>10. Links for multiple languages</td>
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<td>11. Need for translation of site content</td>
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<td>12. Comprehensive information provided after translation</td>
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<td>13. Layout of site is consistent in each language</td>
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<tr>
<td>Category/Element</td>
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<tr>
<td><strong>VISUAL RHETORIC/ PUBLICITY/PROMOTION</strong></td>
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<tr>
<td>1. National Symbols (Coat of Arms, country flag, cultural artifacts)</td>
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<td>2. Video /Photo gallery (government officials, citizens/stakeholders)</td>
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<td>3. Press releases /News</td>
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<td>4. Speeches, Reports</td>
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<td>5. reports</td>
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<td>6. Purpose and intention of site (About)?</td>
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<td>7. Mission statement</td>
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<td>8. Prominently placed images/videos</td>
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<tr>
<td>9. Highlighted content (&quot;Alerts&quot;, &quot;News&quot; etc.)</td>
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<tr>
<td>10. Active content (scrolling or blinking text, images or video)</td>
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-----END-----
Appendix D: A Model of Participatory Audience/Stakeholder Engagement

Government Websites

Government

Ideas Products & Services

Publicity Awareness Access

Audiences/Citizens (Stakeholders)

Social Media Platforms

Measurement/Evaluation

Feedback/Input

Feedback

Feedback

Feedback

Feedback

Outcome

(Participatory Engagement)
Citizen-Government Interaction
Citizen-Citizen Interaction
Accountability Transparency

Feedback

Feedback

Feedback

Feedback

Feedback

Feedback

Feedback

Feedback