E-Services in a Developing Country: E-Profile-Based Distribution and Awareness Generation Approaches

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E-Services in a Developing Country: E-Profile-Based Distribution and Awareness Generation Approaches

Alternative Approaches to Information System Development

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Abstract

Numerous developing countries have embarked on major e-service delivery programs. These countries grapple with the initiatives and are confronted by many problems that are unique to developing countries. A major problem is the lack of methodical approaches that can guide their efforts. There is also not much in the literature on the issues that face these countries as they struggle to provide e-government services. Drawing from the Cape Gateway Project (CGP) of South Africa, this paper outlines a methodical approach that can be adopted by developing countries to provide e-services, especially to their underserved and mostly rural communities. The proposed approach integrates the strategies for modelling, design, development, implementation awareness generation (or marketing) and distribution (or access) as a unified whole. Finally, key challenges confronting e-service provisioning in these countries are highlighted.

Keywords: E-service, e-government, methodology, e-profile, framework

Introduction

To perform their social contract on governance, governments collect, use, and disseminate huge amounts of information resources on individuals, the society, and the economy, and their information-sharing practices have major consequences for citizens, businesses, and the functioning of government institutions. Thus, information and communication technologies (ICTs) can be harnessed to transform how government services are delivered (Hanna, 2003) and, to a certain extent, even what services are delivered. ICT, therefore, enables governments to deliver services in more innovative and intelligent ways that facilitate economic and social development.

Countries (and cities) at different levels of development have begun to invest in ICT to harness its power as an enabling infrastructure for national development (Hanna, 2003). For example, in a recent report the World Bank notes that many of its client countries are in the process of designing and implementing e-government strategies, programs and projects, or have requested support for such projects (World Bank, 2005). Other developing countries such as Nigeria (Nigeria, 2004 and Nigeria, 2005) and Rwanda (Seed, 2005) have also launched e-government initiatives.
This embrace of ICT by governments portends well for citizen-government engagement, citizen inclusion in government, and the overall improvement in the effectiveness of the government function. As argued by Hanna (2003), “information and communication are vital to the lives and livelihoods of the poor, and how ICT could enhance their access to markets, institutions, services, education and skills. Lack of efficient information and communication processes makes public institutions slow and unresponsive, and shifts much of the burden of transactions onto citizens, particularly the poor. Poverty has multiple and mutually reinforcing causes, and lack of access to information and communication exacerbates all of them.” Due to low e-literacy levels, the poor lack access to information about job prospects, market opportunities for their goods, available health services, and their basic human rights, as well as public and welfare services. They lack access to knowledge, education, and skills to improve their livelihood. They lack voice in the political and development processes that shape their lives. With improved access to ICT, however, the poor can communicate with others, make informed decisions about their welfare and are able to articulate their interests, assert their human rights, engage in social learning, and have more power over their lives. But without such knowledge and skills, their voice in the political and development processes remains muted.

In this sense, therefore, ICT can be used to create what is described in (Eggleston, 2002) as “digital provide” and in (Onyejekwe, 2004) as the “digital promise”. National governments are not the only bodies harnessing ICT to improve their effectives. Provincial and city (or local) governments are also doing so. For example, a number of major cities around the globe are deploying ICT to provide virtual gateways to government services and city information. Cases include Singapore, which envisions its future role as an intelligent island or a regional hub for information-intensive services and provides one-stop access to services through its eCitizen; the “walled” cities of China are opening up to all kinds of information flows. Shanghai, for example, drew a “smart” growth strategy that would attract knowledge-based and information services industries, enhance access to information infrastructure, and enrich learning opportunities (Hanna, 2003). The Provincial Government of the Western Cape (PGWC) of South Africa has launched its “Cape Gateway Project” (CGP), which has as its primary aim the shift of government service delivery from traditional face-to-face toward more on-line provisioning of and access to provincial government information.

**Motivation and Contribution**

Although the use of ICT in government in various innovative ways can be said to be in its infancy, results from early implementations and from pilots appear to be promising. But as Hanna further argued, given this promise (and opportunities), the challenge for developing countries that are endeavoring to harness the ICT revolution is to embed ICT strategies in their overall development (Hanna, 2003). To avoid further divides and marginalization of segments of society, the harnessing of ICT by governments calls for strategic intent (Hanna, 2003) and must be grounded on a sound framework. In essence, then, this requires governments to adopt systematic (and innovative) approaches to the modeling, design, development, and deployment of e-government services. But it is just on this point that there appears to be a breakdown. While the various governments may have adopted different approaches, a search of the literature does not seem to indicate the existence of a universal approach. For developing countries that are eager to use e-government to facilitate national development, this absence constitutes a serious bottleneck, as they are then left to approach the task without much in the way of suitable methods to guide their efforts. It is this absence that motivates our study.

**Contribution**

The existence of a systematic, or methodical, approach has a number of advantages:

1. It can facilitate e-government service provisioning. For countries that are seeking to provide e-government services, the methodical guidance supported by a systematic approach can prove to be quite helpful.

2. It provides formal ways of analyzing and evaluating e-government services.

3. It enables the benchmarking of e-government service delivery endeavors.

4. It allows for the comparative analysis between e-government service delivery efforts.

In this paper, therefore, we use CGP as a case study to propose a systematic approach to modelling, designing, developing and implementing e-government services. Judging by e-government initiatives in South Africa and
Nigeria, these are important issues that e-government practitioners in developing countries are grappling with and about which they require better understanding. Moreover, there is a dearth of research in e-service delivery in Africa.

In Africa, South Africa in particular has embraced e-government and is rapidly transforming the delivery of government information and services1 at all three levels of government (i.e., national, provincial, and municipal). In the Western Cape Province (WCP), for example, CGP is the key driver of the e-government revolution. Given that South Africa is a dualistic economy characterised by a modern capitalist economy co-existing alongside low income, underserved poor communities, the ability to equitably deliver state of the art e-government information and services is a major concern for the marketing unit of the CGP. The problem is further complicated by the fact that the e-government initiative in South Africa, as with the effort in Nigeria, has to support multi-lingual and multi-cultural citizens. Therefore, as civil society, businesses, and other stakeholders anxiously await the widespread implementation of e-government, how the services will be distributed also requires a dedicated awareness generating (“marketing”) effort from policy makers. The aforementioned issues are not unique to South African and Nigeria, but confront other developing countries intending to provide e-government services. The study reported in this paper is aimed at addressing these issues.

The rest of the paper is structured as follows: In the next section, we examine the literature. Section 3 presents our methodical approach. Awareness generation strategies for e-service delivery are discussed in section 4. Section 5 focuses on the issues and challenges facing e-service provisioning in developing countries. The paper concludes in section 6 with a summary and a discussion of future research.

Literature Review

The delivery of quality e-government information and services on an equitable and sustainable basis remains a huge challenge for most African governments. Inherent difficulties lie on the road to universal access to digital government in these economies. In order to stimulate widespread adoption of e-government service, effective communication strategies are needed (Eechambadi, 1994; Galbi, 2001). Such strategies are essential to generating awareness about services provided by government.

In Africa, marketing e-government services is still a new phenomenon and there are no best practice models. Evidence from around the world shows that governments use different marketing approaches (Criado, 2003), although the benefits sought are generally common (i.e., to maximize citizen access to information and services and improve public sector performance). In China, spurring on e-government involves key dimensions such as putting the people first, addressing their needs, and requesting departments strongly involved with public welfare issues to drive the process of building a service-based government (Qiao, 2006). The Chinese approach is underpinned by flexibility within and across departments, and adapting information service channels to the characteristic of the information being requested (i.e., multi-channel approach).

Debate still rages on the merits of “top down”, or “supply-driven”, marketing approaches relative to “bottom-up”, or “demand-driven”, ones. Generally, the former is criticized mainly for ignoring or cannibalizing initiatives at provincial (or state) and municipal (or local) government levels. A typical “bottom-up” study conducted in Singapore suggests that perceived benefits, management readiness, access cost and social influences positively impact e-government service adoption among business communities (Tung and Rieck, 2005). Demand-side citizen interactions with e-government remain largely unexplored, however (Reddick, 2005).

In multi-cultural and multi-lingual societies like South Africa and Nigeria, successful e-service delivery requires clear understanding of the socio-economic and cultural factors that might confound its adoption. Researchers fear that e-government service delivery might progress without an assessment of feasibility of marketing channels, perceived user need and likely outcomes. Unless e-government marketing generates “e-value” for the citizens, its uptake might remain stunted.

Issues in E-Service Delivery

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1 A definition and clarification of terms is given in the appendix.
Generally, citizens’ encounter with e-government services depends on numerous factors including the stage of the adoption process (Curran and Meuter, 2005). In the early stages of adoption, not only do citizens require awareness about available e-services, government workers need to be encouraged through training to deploy such services well. Without question, the effective deployment of e-services will lead to reductions in labour costs and frustrations with slow pace of government service provisioning.

In providing, managing and promoting government e-services, (1) quality of e-services (2) speed of diffusion and adoption, (3) equality in service provision (i.e., responding to different users), 4) technological complexity (i.e., quality of the medium), and (5) e-service content are all critical pillars for the creation of sustainable architecture for the supply and demand for the services (Ancarani, 2005). Moreover, the author argues that e-service quality should be perceived as two dimensional – the “technical or process quality”, which deals with how the service is delivered and the “functional quality”, which addresses the outcome quality.

Risks in e-government service delivery include unintended lag time in adoption of new services as customers learn the new service delivery formats (Curran and Meuter, 2005). Slow adoption in developing countries is driven by citizens’ inadequate ICT skills, low Internet penetration due to low incomes, and poor conceptualization of security risks. In this regard, Ancarani (2005) suggests a three-stage e-public service analysis trajectory that relates the need to meet certain preconditions to the intensity of use and level of impact. Clearly, a flawed approach would be to expect e-service awareness, distribution and access in developing countries to follow a predetermined path of e-government development as observed in developed countries (Alexander et al., 2005). Given the similarity in the profile of the citizens of developing countries, with respect to ICT, it may be more appropriate to adopt e-government provisioning approaches that have worked in other developing countries.

South Africa’s “Batho Pele” principles underpin e-service provision to its citizens (South Africa White Paper, 2006). Embedded in these principles are the service quality dimensions of reliability, efficiency, responsiveness, equal access, ease-of-use, citizen-centricity, and security. Success of e-government penetration in the country depends on the degree of patronage of the new service delivery format by all the citizens. These are important issues for e-service success.

Traditionally, the service revolution is synonymous with the information revolution (Santos, 2003). Therefore, understanding what specific e-services (i.e., general information, technical and policy information, interactive complaint handling information, transactional bill payment, procurement, etc) are available could reduce the burden of low e-service uptake by poor citizens. Sadly, Africa has limited research that is directed toward the conceptualization of e-services by ordinary citizens. In unbundling e-service delivery in Africa, critical public sector management issues of transparency, efficiency, and effectiveness should be tackled (Umez, 2000).

**Branding and Advertising of Government Services**

Given that governments have many ways to communicate their policies, contrasting viewpoints can easily filter through to citizens if communications channels are not refined. The need for governments to develop marketing brands is now viewed as a key part of an effective communication strategy (Galbi, 2001). Also, managers faced with declining budgets are forced to justify their choice of advertising strategies (Woodside and Soni, 1990).

The provision of tailored advertising is a growing trend, especially in diverse societies. Emerging advertising technologies include the Internet, digital signage (as opposed to static messaging), email and personal digital assistants, among others (Harrison and Angrusiewicz, 2004). A number of organizations have deployed digital signage renown for its low cost and effectiveness. CGP uses it as part of its external marketing strategy.

The marketing theme or slogan for CGP is “easy access to government information and services.” The extent to which the message creates the expected awareness levels is still an empirical question. Putting the CGP message on air for years could perhaps attract greater recognition and awareness of its brand from citizens, but the question of cost will also arise. While it is true that awareness comes before actual use, it is brand imagery (i.e., attribute ratings) and brand salience (i.e., mental ranking of brands) that determine citizens-customers’ use of the CGP e-government brand (Miller and Berry, 1998). This suggests that the CGP should strive for sustained use of e-services by adopting an advertising strategy that is cost-effective and reinforcing, rather than merely persuasive.
A study comparing relative performance of different advertising media showed that newspapers outperformed magazines in advertising effectiveness (Woodside and Ronkainen, 1982). Much recent evidence shows that the youth niche market is relatively more responsive to digital media as an advertising strategy (Montgomery, 2000). A study on how adolescents process advertisements reveals that visual advertisements rank higher than verbal advertisements in elicitation of more facts from memory, inferences and emotional responses (Edens, 2000). Moreover, the study identifies adult males as being relatively poor in processing advertising information compared to females. All these differences justify and call for the use of different targeted awareness generating approaches for e-services.

In the rest of the paper, we discuss our methodical approach that unifies awareness generation, modelling, design, development and implementation of e-services under a single framework.

**Methodology**

Governments tend to operate in traditional organizational silo structures, with each silo producing and providing a large number of services. For example, the PGWC alone is believed to provide no less than 500 different services through its numerous departments. Typically, there is little or no coordination among the silos as far as service production or provision is concerned. This renders the function of government e-service delivery a huge and complex problem.

To further complicate the problem, governments are expected to provide service to different categories of service users, or consumers. Additionally, the services usually have to be made available to users through numerous access channels. Government service providing units are, therefore, confronted by the challenge of providing a myriad of services through many access channels to various categories of service-users, with each category possessing a set of profiles that differentiate it from the other categories. To render the problem tractable, a methodical approach to systems development needs to be adopted.

Our approach is shown in Figure 1. In developing and providing e-services (defined here as the provision of a satisfying unique customer-centred service experience using cyberspace), the use of underlying formal mechanisms that guide the process is crucial. In this section, therefore, we present a methodical approach to the provisioning of e-services by government agencies. The proposed approach was influenced primarily by our investigation of and experience with the Cape Gateway Project in South Africa and secondarily by our examination of the Nigerian e-Government Strategy (NeGST) project (Nigeria, 2004 and Nigeria, 2005). As can be gleaned from our foregoing discussion, we also examined some e-government initiatives in Asian countries to ascertain that the proposed approach is sound in a general sense.

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2 The silos could be ministries, departments, agencies, or some other functional unit.
As can be seen in Figure 1, the approach indicates four major activity phases: modelling, design, development, and implementation. The framework, preceding the modelling phase is not an activity per se. It is, however, an essential aspect of the entire provisioning endeavour. It shows the key aspects in providing e-government services, while a detailed model expands on the framework to provide a description of internal organizational structure, key partners, service providers, e-government channels and users of e-government. The model considers the relationships among key stakeholders involved in the delivery of market-led e-government service platforms. Detailed modelling produces a lay of the land, as it were, or an illumination of the e-service delivery landscape or intended landscape. In South Africa, for example, the concept of forging partnership with the private sector, non-governmental organizations (NGOs), and community-based organizations (CBOs) to provide more effective service delivery has long been mooted in the literature (SA White Paper, 1997).

Frameworks and models of the types presented here are usually abstractions that lack specificity. To make them relevant to a particular e-service delivery scenario, the variables and features specific to the context must be determined and instantiated with values that apply to the particular context. This is done in the design phase shown in Figure 1. It is here that choices have to be made as to the specific e-services to be provided and the access (or distribution) and awareness generation means to adopt. Design, therefore, entails making suitable and appropriate choices from the landscape revealed in the modelling phase. Design leads to development, as shown in Figure 1. As with design, the development phase deals with the actual construction of the chosen e-services, access channels, and lasting “marketing”, i.e., awareness generation, programs.

As also shown in Figure 1, awareness generation programs can be either focused or generic. Focused endeavours are lasting and targeted at specific consumers. Therefore, they are informed by specific context values and occur only after the context values have been determined. On the other hand, generic efforts are not aimed at any specific consuming groups. For this reason, they can occur before and after the context design stage. We suggest in our approach that, in developing countries in particular, they are made to be ongoing throughout the entire life-cycle of the e-service delivery endeavour. Usually, generic efforts take the form of branding messages and public service announcements aimed at the masses. They are particularly useful in raising awareness in advance of the existence of the e-services. They serve the same or similar purpose as movie previews (“Coming Soon” and “Now Showing”). Lastly, after the development of the e-services and the access and awareness generation mechanisms, provision of service to consumers is implemented. This last phase marks the actual initiation of e-service provision.
The approach we propose in this paper is intended to serve as a guide or roadmap for policy-makers, e-service developers, and providers. It also enables the identification of the essential issues in distributing government e-services to consumers and in generating public awareness of the services. The paper also reveals a number of issues that should interest researchers.

Next, we delve into the details of the approach we propose by discussing the different phases portrayed in Figure 1. Specifically, we focus on the modelling and design phases, with much greater emphasis on the later. Due to space constraints, we have excluded further discussions on the development and implementation phases. We consider those to be beyond the scope of this paper. Furthermore, while this paper is not concerned with the technical aspects of the design, development, and implementation of e-services, technology issues are important in developing countries. For this reason, we touch briefly on the issue of technology challenges later in the paper.

**Overall Conceptual Framework**

Our overall framework is shown on Table 1. Typically, a government unit (e.g. the Center for e-Innovation in the case of the CGP) charged with the e-service project (e.g. the Cape Gateway Project) intended to provide e-services to consumers produces the services either itself (in-house) or with the involvement and assistance of third parties (“partners”). The services are then made available to users, who normally access the services through multiple distribution channels (e.g. Web sites and portals, e-mails, radio, call-in centers, walk-in centers, etc.). Additionally, strategies are developed and used to market the services to various categories of service consumers.

<table>
<thead>
<tr>
<th>Government Unit variables: {unit_name}</th>
</tr>
</thead>
<tbody>
<tr>
<td>Partner variables: {partner: name list}</td>
</tr>
<tr>
<td>E-service project variables: {project_name}</td>
</tr>
<tr>
<td>E-service variables: {information, information-based service}</td>
</tr>
<tr>
<td>User variables: {e-profile}</td>
</tr>
<tr>
<td>Marketing channel variables: {web portal, walk-in centers, call centers, digital handhelds, e-forums, traditional}</td>
</tr>
<tr>
<td>Marketing strategy variables: {distribution strategy, access strategy}</td>
</tr>
<tr>
<td>Consumer variables: {[(external user-type:{name_list}), (internal user-type: {name_list})]}</td>
</tr>
</tbody>
</table>

Note that the framework essentially identifies two crucial aspects of the project: (1) the relevant and necessary types of entities and (2) the descriptors, i.e., variables, of each entity type. In developing e-services, these two aspects define two of the main constructs for modelling the context of service.

**Modeling Phase**

**Contextual Model**

As the name suggests, the contextual model is a model of a particular context of interest, and is derived from the framework of Table 1. It shows the e-service entity types and descriptive variables for the specific context being modelled, and the connections between entities. Our study indicates that, at the barest minimum, service provisioning is that of matching many services to many consumer-categories, with the transport of e-services to consumers mediated by many access channels. Our contextual model for the CGP is shown in Figure 2.

For the particular context described by Figure 2, the Center for e-Innovation, with the participation of its partners, develops the Cape Gateway Project through which government services and public service information can be made available to consumers. The methods and channels through which e-services are distributed to and accessed by consumers are determined by the type of service and the electronic profile (e-profile), which we take as the capability of users to consume and benefit from ICT-enabled services.
The e-services that are transported to and ultimately used by consumers depend on a number of factors: the services, the marketing, distribution and access mechanisms, and the consumers. For example, for the CGP, tax-filing information can be provided online via the portal and at the walk-in centers. Thus, a user who can browse the portal and possesses the cognitive ability to fill the tax form can do so himself or herself unassisted. On the other hand, consumers who lack one or both of these abilities can walk into a walk-in center and be assisted with filing their taxes.

The figure further shows that the strategies for marketing, distributing, i.e., providing access to, e-services are determined by, or must be aligned with, the e-services themselves, the e-profiles of users, and the types of channels. A strategy that calls for the use of the Internet in a society where the far larger fraction of the population is computer illiterate is bound to result in failure due to incongruence between the e-profile of the citizens and the set of skills required to be able to consume what is marketed and distributed. For example, in the Western Cape Province where a very high proportion of individuals in the advantaged communities and the disadvantaged communities possess and use mobile phones, the CGP uses call-in centers to provide information services. This brings into view the issue of user accessibility to e-services.

From the perspective of consumers, accessibility is of paramount importance. Since services are provided for users to consume, the success of e-service delivery initiatives depends largely on the ability of users to access the services. This is a key point in developing countries that are typically characterized by low computer and technology skills and low literacy levels. E-service delivery initiatives in these countries must, therefore, pay close attention to those factors that influence user-accessibility and design the access, or distribution, channels accordingly. We draw from our different investigations and examinations to provide a brief guidance.

**Factors Influencing e-Service Accessibility**
As argued by Bridges.org (2006), real access to services is not about users’ ability to reach services, but in an expanded sense it includes consumers’ ability to actually use the services effectively and benefit from them. Real access is defined in terms of the following 12 factors:

- Physical access to technology
- Appropriateness of technology (including the often-cited issue of available bandwidth)
- Affordability of technology and technology use
- Human capacity and training
- Locally relevant content, applications, and services
- Integration into daily routines
- Socio-cultural factors
- Trust in technology
- Local economic environment
- Macro-economic environment
- Legal and regulatory framework
- Political will and public support

At a higher level, these factors can be grouped under three broad categories: Demand Factors, Supply Factors and Societal Infrastructure Factors (Ifinedo, 2005).

Demand for access, for example, is influenced by culture, and understanding and effectiveness of the services; also by knowledge on the part of citizens. Supply is influenced by industry competitiveness, access to and availability of skilled workforce, and willingness and ability to invest. Societal infrastructure is influenced by cost of living and pricing, access to advanced infrastructure, and the macro-economic environment. Ifinedo’s classification is well suited to policy-makers and government officials who are accustomed to thinking in the macro-sense on socio-economic issues.

In using these factors, the overall aim is, or should be, to develop an accessibility profile of the intended consumers of the e-services to be provided. In developing countries, the profile can then be used to determine the ease-of-access of the services. The outcome of this exercise is what we term as the “e-profile of e-service consumers”. To illustrate, we briefly discuss the idea and use of e-profiling next.

**The e-Service Delivery e-Profiling Framework**

The drive behind the CGP initiative is the belief, expressed as the CGP brand mantra, that migrating government services and information to an electronic platform would provide “easy access to government information and services”. This is a common justification for e-government projects in both developing and developed countries. The issue of “easy access” is important and crucial for the success of e-services delivery, especially in developing countries where typically the greater proportion of their citizens resides in either rural or remote areas.

It is, however, necessary for developing countries to realize that implementing an e-services platform does not automatically guarantee easy access. Conscious effort has to be made by policy-makers to bring into being those conditions that support easy access. We present a framework here that can guide e-service developers and providers in ascertaining if the e-profiles of the expected users of the services are such as would allow for easy access.

Our e-profile framework is shown in Figure 3, and is an adaptation from the “Networked Readiness Index (NRI) Framework” of Dutta, et al. (2003). In the context of our study, the environment component index of the NRI Framework does not apply. It is, therefore, excluded from our framework. In that sense, the proposed e-profile framework deals with a narrower scope than that of the NRI Framework.
According to Figure 3, our e-profile is a composite of two components: (1) the readiness (including capability) of the different categories of targeted service consumers to use and benefit from e-services, and (2) the usage of government services by these consumers. The figure indicates that the e-profile is an aggregate of the readiness and usage component profiles, which are in turn aggregated from sub-profiles. Each sub-profile comprises of a set of variables. An explanation of how the chain of aggregation is computed to derive the e-profile can be found in (Dutta, et al., 2003).

For our use, we are not interested in the computed numerical indexes of the profiles, but in the component variables of the sub-profiles. From the set of variables defined by Dutta et al., we select applicable subsets that are relevant to our context and then augment them, where necessary, with additional variables. Table 2 and Table 3 show our applicable subsets of variables.

**Table 2. Readiness Profile Variables**

<table>
<thead>
<tr>
<th>READINESS VARIABLES</th>
<th>Individual readiness</th>
<th>Business readiness</th>
<th>Provider readiness</th>
</tr>
</thead>
<tbody>
<tr>
<td>Availability of private Internet access</td>
<td>Firm-level technology adoption</td>
<td>Prioritization of ICT</td>
<td></td>
</tr>
<tr>
<td>Availability of public Internet access</td>
<td>Capacity for innovation</td>
<td>Procurement of technology advanced products</td>
<td></td>
</tr>
<tr>
<td>Availability of broadband access</td>
<td>Appreciation for innovation</td>
<td>ICT competence of staff</td>
<td></td>
</tr>
<tr>
<td>Literacy</td>
<td>Quality of ICT training programs</td>
<td>Content creation skills</td>
<td></td>
</tr>
<tr>
<td>Availability of private phones</td>
<td>Cost of business phone subscription</td>
<td>Technology appreciation</td>
<td></td>
</tr>
<tr>
<td>Availability of public phones</td>
<td>ICT skills of staff</td>
<td>Existence of online presence</td>
<td></td>
</tr>
<tr>
<td>Cost of local phone calls</td>
<td>Internet sophistication of staff</td>
<td>Hours of operation (24/7?)</td>
<td></td>
</tr>
</tbody>
</table>
Knowledge of the e-profiles of consumers helps e-service providers employ distribution, or access, and awareness generation approaches that are aligned with the e-profiles. For example, to support use by the digital-haves and the digital-have-nots of the historically disadvantage class, CGP makes use of multiple distribution and access channels. Web portals and sites normally support multimedia content. Therefore, the CGP Web portal is targeted at consumers who are familiar with browsing the Web and possess the cognitive ability to process and consume services and information offered in text and other multimedia form. On the other hand, the huge proportion of historically discriminated and disadvantage group of consumers belonging in the so-called “second economy” rely primarily on more traditional channels, such as radio, community publications, word-of-mouth and, to a certain extent, walk-in centers to be served and to receive government information. Between the two extremes of Web portals and traditional channels lie a number of other avenues. Some of these currently find limited or no use.

### Table 3. Usage Profile Variables

<table>
<thead>
<tr>
<th>Individual usage</th>
<th>Business usage</th>
<th>Provider usage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Uses online systems</td>
<td>Uses the Internet for business purposes</td>
<td>Uses online services</td>
</tr>
<tr>
<td>Listens to radio</td>
<td>Uses an Intranet</td>
<td>Offers services online</td>
</tr>
<tr>
<td>Watches TV</td>
<td>Has e-commerce or e-business operations</td>
<td>ICT budget</td>
</tr>
<tr>
<td>Owns mobile phone</td>
<td>ICT budget</td>
<td>Offers staff training in ICT</td>
</tr>
<tr>
<td>Uses email</td>
<td>Offers staff training in ICT</td>
<td>ICT staff training and skills upgrade budget</td>
</tr>
<tr>
<td>Belongs to e-forums</td>
<td>ICT staff training and skills upgrade budget</td>
<td>Rewards ICT use</td>
</tr>
<tr>
<td>Subscribes to broadband service</td>
<td></td>
<td>Has ICT representation in top management</td>
</tr>
<tr>
<td>Spends on ICT products and services</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Reads newspapers</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Reads community magazines or local language publications</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Listens to community or local leaders</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
**Design Phase**

**Contextual Design**

In the contextual modelling stage, no instance values are assigned to the variables captured in the model. Before services can be provided and targeted marketing conducted, the variables must be instantiated with actual values. This is done in the context design step. This task of variable instantiation builds on the context model and consists of identifying the possible values of variables, choosing the values that are suitable or applicable for the context and then assigning the values to the variables.

**Distribution Channels**

Context design also serves an additional purpose. It indicates gaps in the distribution and marketing endeavour. In the case of CGP, it indicates that, although there are consumers who possess and use handheld digital devices like mobile phones, they are currently not being served through this channel. The service provider may purposely create this situation. In any case, teasing out information on the gaps in the current distribution and marketing efforts brings potential or unintended omissions to the attention of the service provider. Figure 4 illustrates the case for the Cape Gateway context.

Figure 4 shows the main channels used to market each specific e-service to consumers possessing a specific set of e-profiles. E-services in the CGP are grouped into five categories (PMO1035). On close examination, these can be further condensed into two broad classes: informational and service, as we have done on Figure 4. In the WCP, the citizens access digital government services via three main channels: the walk-in centers, call-center and a web-based portal. The information in Figure 4 is presented in the form of a tree-like structure that can be used for choosing access channels for given sets of e-profiles.
Awareness Generation Channels

As in the case of distribution and access, the types of service and the e-profile of consumers determine the awareness generation channels. Figure 5 shows the matching. The matching noted for Figure 4 also holds here. In addition, the huge historically disadvantage groups rely to a large extent on more traditional channels, such as events exhibition, community publications, word-of-mouth, etc., and on walk-in centers and call centers to receive awareness information. Figure 5, too, is a partial tree, as it does not exhaust all the possible choices.

Radios are also used to target users who have access to and listen to radio. These consumers may or may not have access to the other types of channels. In the Western Cape, this is an effective means of reaching the poor and the disadvantaged citizens in peri-urban, rural, and remote communities. On the other extreme, urban residents with access to and browse the Internet are targeted through the Web portal.

Awareness Generation Strategies

The effort to make e-services available to and accessible by users and get them to actually utilize the services requires extensive and effective marketing. This calls for strategies that target users according to specific e-profiles to create awareness of the services and, where an e-service need exists, to render the service accessible.

To be effective, marketing must be considered in a given context. Effective strategies can be developed when distribution and access channels, i.e., marketing channels, the specific e-profiles of users, and the specific e-services that exist in the context are taken into consideration. For example, marketing the CGP involves understanding the key functions of its three main channels of information dissemination and service provision (i.e., the Walk-in

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**Figure 5: Channels for Marketing the CGP**

- **Type of E-service Supported**
  - Informational
  - Informational and Service

- **Consumer e-profile**
  - Owns and able to use phones (fixed or mobile)
  - Able to read
  - Able to read, speak and understand indigenous language
  - Have access to the Internet and able to browse the Web

- **Suitable marketing channel**
  - Call Centers
    - phone lines
  - Signage
    - dynamic messaging
    - static messaging
  - Traditional
    - event exhibition
    - community and special publications
    - third party testimonials
  - Internet
    - websites
    - e-Forums

**Type of E-service Supported**

<table>
<thead>
<tr>
<th>Type of E-service Supported</th>
<th>Consumer e-profile</th>
<th>Suitable marketing channel</th>
</tr>
</thead>
<tbody>
<tr>
<td>Informational</td>
<td></td>
<td>Call Centers</td>
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<tr>
<td>Informational and Service</td>
<td></td>
<td>Signage</td>
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<tr>
<td></td>
<td>Owns and able to use phones (fixed or mobile)</td>
<td>- phone lines</td>
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<tr>
<td></td>
<td>Able to read</td>
<td>- dynamic messaging</td>
</tr>
<tr>
<td></td>
<td>Able to read, speak and understand indigenous language</td>
<td>- static messaging</td>
</tr>
<tr>
<td></td>
<td>Have access to the Internet and able to browse the Web</td>
<td>- event exhibition</td>
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<tr>
<td></td>
<td></td>
<td>- community and special publications</td>
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<td></td>
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<td>- third party testimonials</td>
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<td></td>
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<td>Internet</td>
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<td></td>
<td></td>
<td>- websites</td>
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<td></td>
<td></td>
<td>- e-Forums</td>
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</tbody>
</table>
Centre, Call Centre and Web-based Portal), the profiles of the different classes of users, and the nature of the services to be provided. The primary aim of the marketing effort is to build the CGP brand and raise its awareness among all the citizens of the WCP. The marketing strategies revolve around four critical goals of CGP (1) to promote the development of e-government services, (2) to enhance internal departmental efficiencies, (3) to improve the competitiveness of the province and (4) to ensure equitable and easy access to e-services.

The choice of viable e-government marketing strategies depends on a number of factors including (1) cost effectiveness (2) taste and preferences of citizen customers (3) ability to penetrate a given target market, (4) internal capacity to implement e-government services, and (5) results from linkage advertising that identifies those strategies that convert citizens into actual users of e-services. In our experience we found it necessary to classify our users as either “external users” or “internal users”, as shown earlier in Figure 2. Our marketing strategies (discussed next) had to be designed accordingly. Internal marketing strategy focuses on government employees while the outward looking or external marketing strategy focuses on civil society, community organizations, and businesses.

**Internal Marketing Strategies**

**Roadshow**

The essence of internal marketing is buy-in from management. If management adopted and internalized CGP they will automatically become advocates not only for CGP, but also for e-government. This was done by means of “roadshows” at all departmental management meetings, where CGP was showcased as a product and more importantly as an essential tool for delivering effective services to the end-user, the citizen.

**Desk-side coaching**

Following the “roadshow”, desk-side coaching was done with the Premier of the PGWC and all his ministers. This constituency serves as an important mouthpiece of the Provincial Government, and once they realize the value of CGP as users themselves, it empowers them to market the service in their speeches, budgets, stationery, and annual reports.

**Evangelization-by-proxy**

In order to obtain the necessary support from both government and political leadership, departmental communication officers were targeted, as they are the “evangelists” of the department and often in a position of influence. Thorough focused-training about the CGP brand gave the officers a sense of ownership of the brand and confidence to advocate e-government service on behalf of all the citizens.

**Targeted general-purpose advertisements**

While the above methods employed specific marketing to targeted groups or individuals, the rest of the staff of PGWC (i.e., a group of about 68,000 employees) was targeted through various media, including intranet, e-newsletters, posters in public buildings and promotional material like mouse-pads, stress balls, pens and coasters.

**External Marketing Strategies**

**Education**

A significant dimension of the external marketing campaign was that it was not only designed to create awareness and as a call to action for the brand, but that it had an educational focus. A study conducted by Webcheck (2003) suggests that citizens know very little of government services or who renders which government service. Therefore, brand awareness alone was not going to encourage a citizen to pick up a phone, log in or walk in. They needed to be educated in terms of the exact services government has on offer. The educational campaign was mainly run in newspapers (especially community newspapers – free to citizens) and interviews on community radio stations. Similar campaigns were channeled through conventional newspaper and radio advertisements, with a stronger focus on the brand itself.

**Call to corporate social responsibility**

Another significant aspect of the external marketing strategy was private sector participation. The high cost of advertising suggests the need to adopt innovative uses of limited budgetary resources. Therefore, the CGP explored
the opportunity to use a third of the triple bottom-line for private enterprises, namely social responsibility. The motivation to secure corporate support was that the CGP message was in the interest of all the citizens of WCP and not for commercial gain. The media, therefore, had an obligation to educate the readers and empower them by increasing awareness about e-government services that enhance livelihoods. As a result, strategic partnership agreements were established with two top media owners for a discounted advertising rate and value-add in terms of widespread exposure (e.g. presence on their Internet site).

**Discussion on Marketing Strategies**

**Cost-Effectiveness of e-Services Marketing Channels**

In the case of CGP, the marketing strategy uses diverse approaches, such as digital billboards, exhibitions, printed brochures, information pamphlets, radio shows, newspaper advertisement in local press and community newspapers, listening lunches, testimonies from users and training of government information officers, etc. The different approaches are used to target specific audiences, such as school children, university communities, informal settlements, and other groups. Table 4 shows the cost and effectiveness of the various approaches that have been deployed in the CGP. It is seen that radio and newspapers have high penetration and low cost, suggesting that these should drive the marketing effort, at least in the short run.

Cost-effectiveness and education level are critical factors in developing countries, because of the generally high levels of poverty, infrastructure costs and service prices, and low literacy rates. Poverty and cost affect service usage and, therefore, service penetration. Literacy has an impact on the cognitive ability of consumers to use and benefit from services. Both factors were taken into account in the CGP.

Cost-effectiveness also explains why the CGP does not utilize television advertisement – it is relatively more costly and less effective than radio and newspapers. Moreover, the fact that a large number of citizens do not have television sets in their homes makes it an illogical choice for equitable distribution of knowledge about e-government information and services. Local community newspapers are a preferred advertising option because they have a wider circulation than daily papers. Community newspapers are free and are published weekly, thereby exposing individuals to the advertisements for a prolonged period. Similarly, radio is by far the most powerful source of information in developing countries (Kenny, 2002) and most people listen to radio in their homes, offices and even in cars while travelling. With purposeful effort and coherent policies across the various channels, policymakers can leverage the use of these channels to reduce the gap between the ICT-literate and -advantaged and the ICT-illiterate and -disadvantaged groups of citizen-consumers. In line with this, it is important to ask the question: What are the specific challenges facing PGWC in designing and implementing their marketing strategies and providing e-services? We dwell on this question in the next section, since other developing countries are likely to benefit from the PGWC experience.
Table 4. Cost-Effectiveness of Selected Cape Gateway Marketing Channels (2005 Levels)

<table>
<thead>
<tr>
<th>Marketing Channel</th>
<th>Marketing Outlet/Source</th>
<th>Effectiveness/Penetration</th>
<th>Costliness</th>
</tr>
</thead>
<tbody>
<tr>
<td>Newspapers</td>
<td>Local Daily &amp; Weekly</td>
<td>High</td>
<td>Low</td>
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<tr>
<td></td>
<td>Die Burger</td>
<td></td>
<td></td>
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<tr>
<td></td>
<td>The Argus</td>
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<td></td>
<td>Community Newsletter</td>
<td></td>
<td></td>
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<tr>
<td>Radios</td>
<td>Radio Kfm</td>
<td>Very High</td>
<td>Low</td>
</tr>
<tr>
<td></td>
<td>Cape Talk</td>
<td></td>
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<td></td>
<td>Bush Radio</td>
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<td></td>
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<tr>
<td></td>
<td>Radio Tyger</td>
<td></td>
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<tr>
<td></td>
<td>Radio Helderberg</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Events Exhibitions</td>
<td>National Festival (CLF)</td>
<td>Medium</td>
<td>High</td>
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<tr>
<td></td>
<td>Career Exhibition (UWC)</td>
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<td></td>
<td>Disability Indaba</td>
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<td></td>
<td>Imbizo’s</td>
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<td></td>
<td>Premier’ Milestones</td>
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<tr>
<td>Cape Access</td>
<td>E-Community Forums</td>
<td>High</td>
<td>High</td>
</tr>
<tr>
<td></td>
<td>Urban Libraries</td>
<td></td>
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<td></td>
<td>Peri-urban Libraries</td>
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<td></td>
<td>Rural Libraries</td>
<td></td>
<td></td>
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<tr>
<td>Promotional Materials</td>
<td>CGP Carrier Bags</td>
<td>Low</td>
<td>Medium</td>
</tr>
<tr>
<td></td>
<td>Office Equipment (Mouse-pads, Pens, Stressballs etc.)</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Clothing (T-shirts, Caps etc.)</td>
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<tr>
<td></td>
<td>Brochures</td>
<td></td>
<td></td>
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<tr>
<td>Signage</td>
<td>CGP Walk-in Centre</td>
<td>Low</td>
<td>Medium</td>
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<tr>
<td></td>
<td>Moving Billboards</td>
<td></td>
<td></td>
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<tr>
<td>Special Publications</td>
<td>Future Choice (University student magazine)</td>
<td>Medium</td>
<td>Medium</td>
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<td></td>
<td>Telkom Directories</td>
<td></td>
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<tr>
<td>Third Party Testimonies</td>
<td>Premier’s Office</td>
<td>High</td>
<td>Low</td>
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<td></td>
<td>MEC’s and Heads of Department</td>
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<td></td>
<td>Parliamentarians</td>
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<tr>
<td></td>
<td>Community Leaders</td>
<td></td>
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<tr>
<td>Internet</td>
<td>Kfm/Cape Talk Web site</td>
<td>Medium</td>
<td>Medium</td>
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<tr>
<td></td>
<td>Women 24</td>
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Issues and Challenges Facing e-Service Provisioning in Developing Countries

Our examination and study of the CGP revealed a number of critical issues and challenges that face e-government initiatives in developing countries. We have grouped them under non-technical and technical issues and challenges, and discuss only the main ones here. Although the first set of issues and challenges is framed in the context of the CGP, they are nonetheless common to developing countries. The second set deals with issues that are particularly relevant to the question of sustainability, namely, project financing through public-private partnerships (PPP) and official buy-in. For PPP models, we have drawn examples from Nigeria, Asia and the US.

Non-Technical Issues and Challenges

As to be expected, a plethora of non-technical issues and challenges confront e-services delivery initiatives in developing countries. The main ones are discussed here.

Branding the Cape Gateway Project

The CGP brand has been positioned to provide a given set of attributes, benefits, values, and personality. The ‘brand character’ of the CGP conveys multifaceted dimensions, including (i) maturity and credibility, (ii) politeness and friendliness, (iii) efficiency and reliability, (iv) people-centredness, (v) easy access and convenience, and (vi) simple but professional. These attributes serve as a positioning platform in projecting the overall image of the PGWC. One of the challenges is to develop and project a coherent, deep, long-lasting, and meaningful image that imprints on the minds of citizen-customers.

Public Sector versus Private Sector Marketing Challenges

Marketing has long been viewed as a private sector concept driven by profit motives and desire to stimulate product demand (Kotler, 1997; Markin, 1982). Public sector marketing presents unique challenges to most practitioners. For instance, branding government information services is perceived as one way of raising awareness among citizens. But while such branding efforts consume resources, they do not translate to profit accumulation, since government is not about making profit. A number of issues and challenges, including the following, arise from this:

- The ability to deliver on the “social agenda” defined by equitable and easy access to government services by all citizens.
- Given the three-tier system of government in many countries, with each tier advancing its information society goals and objectives, crafting a unique communication strategy or developing a unified voice about government e-service offering is challenging. The risk of conveying mixed messages or sending conflicting images or signals to the citizens is very real.

These and other challenges present obstacles in building a reputable brand.

Multicultural and Multi-lingual Racial Composition

The CGP recognizes the importance of empowering all the citizens of the WCP through easy access to government information and services. Multi-lingual content available in English, Afrikaans, and Xhosa helps to promote equitable access to services. The challenge comes in balancing the width and depth of the content for each language group. The provision of e-government content based on user needs and frequently requested information and services sounds rational. However, the approach fails to address the dilemma paused by “unconscious ignorance” among certain groups. Due to ignorance, some population groups may end up with less available content, because they demand less information services or because they are simply not aware of what is available. On the other hand, other population groups might have more information, because they demand more services arising from higher levels of awareness and knowledge about government services.
Marketing E-government through Multi-Channels

The three channels currently in operation, namely the Call Centre, the Walk-in Centre, and the Web-based Portal, are all engaged in facilitating citizen access to information and services. Marketing e-government services through these three channels inevitably requires a unique tailor-made communication strategy. Arguably, the Call Centre and Walk-in Centre share most of the burden of advancing the politeness, friendliness and/or personality attributes of the CGP brand. On the other hand, the web-based portal does not necessarily display politeness, but is expected to deliver efficiency and other non-people-based attributes, benefits, and values. Recognizing these differences in communication potential is critical in crafting a coherent marketing strategy. Poor coordination among the managers of the three existing channels could easily create clutter in the “marketing voice.”

Customer Relationship Management in the Public Sector

In providing e-government services, customer care is a critical success factor. Like all customers, citizens develop a certain level of service expectation from their government. The challenge for the CGP is to offer a uniform and consistent service to all citizens and businesses. Difficulties associated with access to e-services, unavailability of relevant content or services, poor people skills and slow response to citizen requests combine to raise frustration levels and thereby erode the CGP brand equity. The tracking of perceptions of citizen customers is therefore vital in building a citizen-focussed CGP brand.

Measurement Challenges and Implications for Designing e-Government Marketing Strategies

Measurement of usage rates and patterns of use (preferred channel by age, gender, educational levels, etc.) and the recording of problems encountered are critical for designing a coherent e-government marketing strategy. In addition to quantitative usage rates, it is important that detailed qualitative information is also captured (and analyzed) about user needs, expectations, information-seeking behavior, satisfaction levels, technical preferences (i.e., navigate-ability of Web sites), staff willingness to help, and degree of friendliness. Knowledge of these critical factors is essential in order to be able to respond better to the specific demands of users, adjust service levels, enhance quality dimensions, and make e-government relevant to diverse users. The tracking of user needs, satisfaction levels and perceptions about service offering requires the implementation of comprehensive market research studies focusing on all three channels. When appropriate care is taken in conducting market research studies, analysis and interpretation, useful diagnostic information for policy makers and those approving budgetary allocations can be obtained (Siegel and Ziff-Levine, 1990). Moreover, advertising managers under increasing pressure to become more accountable will benefit from the evaluations. It is expected that advertising effectiveness measurement studies will inject the necessary confidence to guide spending decisions and thus help orient the allocation of scarce resources toward better marketing campaigns (Eechambadi, 1994).

Reconciling Parallel e-Government Initiatives

A number of prominent e-government initiatives have sprung up in the WCP, e.g. the Red Door program and the Smart City Project. The question for PGWC is how to ensure that these programs yield positive results for the province without cannibalizing each other. Although serious policy debate on how to link these sister-programs has not started, it is nonetheless essential to explore mutual areas like joint marketing, evaluations and research to inform the overall decision making process on how to effectively market e-government to citizens of the WCP.

Public-Private Partnerships

A search of the literature seems to indicate that the preferred option for financing and operating e-government services is public-private partnerships (PPP) (Wescott, 2005 and Peinel et al., 2006). Alexander et al. (2006) advocate across-sector partnerships. The overarching concern of the authors is that of ensuring the sustainability of the initiatives.
As the name indicates, PPPs involve stakeholders from government and from industry. Broadly speaking, in PPP, government agencies provide data and service to a specified interface. Commercial enterprises then pick it up from there, process and sometimes revalue them and then render them to the ultimate consumers (Peinel et al., 2006).

A number of cases adopting different PPP business models exist to guide other developing countries as they grapple with the issue of financing. For example, in the Electronic Service Delivery (ESD) Scheme of Hong Kong, the private operator develops, finances, operates and maintains the system; the government pays the operator transaction fees only after the transaction level reaches or surpasses a pre-agreed volume. The advantage in this approach is that incentives are included to motivate the operator to promote wider usage. Another advantage is that the business risk to government is low (Peinel et al., 2006 and Wescott, 2005).

NIC (www.nicusa.com) operates about 18 US state portals. In its model (termed the “self-funded model”), NIC builds and operates the system, and charges the consumers for using the e-services. Peinel et al. (2006) propose a simpler model in which a mobile services operator that has just won a government bid might be required to provide the government the possibility of offering e-services to the public for free. The build-operate-transfer model is used by Commerce Dot Com Sdn Bhd for the Malaysian Government’s e-Perolehan procurement scheme (Westcott, 2005).

NeGST, the e-government Nigeria initiative, too, is based on a PPP model. In this model, government would spend no money to put it in place. The private sector operators, including reputable financial institutions, multinational IT companies and their local counterparts, pick up the bill for the project. The financial partners to the project would provide financial expertise and support the entire project lifecycle from planning to analyzing, designing, building, testing, deployment, management and continuous improvement. The private ICT companies would provide the hub of ICT services on quality and architecture, project management, and focus on front-end service delivery, backend integration, deployment, operation and maintenance (Nigeria, 2004 and Nigeria, 2005).

In adopting the PPP approach, developing countries must examine the different models and evaluate them against national policies, cultural practices and the socio-economic contexts of their countries. Only those adjudged to be suitable should be adopted and possibly adapted to local conditions.

**Official Buy-in**

Government agencies are not known for being proactive. On the contrary, they are generally characterized by inertia (slow or unwilling to change) and non-responsiveness (Chen 2002). Bureaucracy that tends to impede progress can compound this problem. Lack of official support or buy-in may contribute to this problem. To be successful, e-service delivery projects have to be cognizant of this potential stumbling block and device means of resolving it. Possible methods that have been proposed in the literature include securing management support (Wescott, 2005) and the use of an “e-champion” who has the necessary vision and gravitas to place the project on government agenda and to “smash through operational barriers” (Heeks, 2001). It should also be added that in developing countries in particular, “political heavyweights” play crucial roles and can influence the projects that government executes. The support of such individuals might also be “key” to obtaining buy-in from official quarters.

**Technical Issues and Challenges**

E-service initiatives face a number of technical challenges. In developing countries, they are especially intense and unique. We highlight some of the main ones here.

Security and Privacy: Users expect their personal information to be secure and viewed as a private matter. Government agencies providing e-services therefore assume the task and responsibility of ensuring security and privacy for citizen-consumers. With the shortage of technical expertise and funds in developing countries, building and retaining the needed information security capacity is a huge challenge for these countries.

Technology infrastructure: Due to a number of reasons, including lack of IT standards and policy and budget shortfalls, it is not uncommon to find that government agencies in developing countries are hampered by disparate and out-dated systems that are not interoperable across agencies and cannot be used in an easy way to process data...
to provide good quality information. This poses serious problems for e-services initiatives that aim at providing users with unified, one-stop “shopping” for government services.

Shortage of IT funds and skills: Funding for IT projects is usually not viewed to be of high priority in developing countries. This further exacerbates the skills shortage and infrastructure problems. Consequently, IT projects tend to take too long to complete or just fail. Developing countries that want to provide e-services must seek ways to overcome these IT infrastructure and skills barriers (Basu, 2004).

Cultural impact on technology use: Kline and Pinch (1999) note that technological artifacts are subject to what is described as context-dependent “interpretative flexibility”. Heeks (2002) and Bonham et al. (2001) essentially state the same theme. There are reasons to believe that IT-use practices that are accepted and entrenched in Western societies are mediated by culture and may not hold in developing countries (Berman and Tettey, 2001). Berman and Tettey cite experiences with the introduction of computer technologies into certain African countries where users simply found ways to circumnavigate the technology.

Lack of IT standards: Borrowing from experiences in Asia, the lack of IT standards in IT project implementation, data collection systems, benchmarking, and IT management impact negatively on the success of e-service initiatives (Wescott, 2005).

Irani, A-Sebie and Elliman (2006) summarize the core technical challenges confronting developing countries in e-service delivery quite well. In explaining the necessary vertical integration across different governmental organizations to support advanced stages of e-service delivery, they state: “Success … requires implementation of sophisticated technology infrastructure that is scalable, built on open standards, and focused on integrating existing legacy systems. In addition, it requires a sufficient number of qualified IT staff to implement applications’ integration of heterogeneous databases located in different sites and resolving conflicting system requirements across different functions and organizations. As well as providing adequate technology tools to maintain security of transactions and privacy of personal data, such as encryption/decryption technique, digital signature and online certificate.” It is our view that the generality of developing countries, especially those in Africa, are a long way from achieving this.

Conclusions

E-government service delivery is a relatively new concept in developing countries. Based on a case study of the Cape Gateway Project in South Africa, this paper presented a methodical approach that can guide e-service provisioning initiatives in developing countries. We discussed strategies and approaches to modeling, designing, developing and implementing e-services. Development and implementation were, however, mentioned only in passing because they were outside the scope of this paper. The main thrust of the discussion was on distribution, or access, and awareness generation, or marketing.

Future Research

The ability to successfully deliver citizen-centric e-government services requires a systematic evaluation of the performance of the initiative and how it is responding to the demands of citizens. If the performance is sub-optimum, alternative strategies should be investigated to ensure successful implementation. The critical questions about the effectiveness of e-service delivery require comprehensive research. This is a study that we have slated for the future. For developing countries, strategies for and approaches to the development and implementation of e-services are critically important. We would also like to take up this study in the future.

Appendix

The term “service”, as used in the context of e-government and e-service delivery, is different from its commonly understood sense. We adopt the sense in which it is defined in (PMO1035): A “service” as an action or process of providing service, as opposed to the context of “I received great service from the account manager.” The latter is a
commentary on the attitude and manner of the account manager providing a service. It reflects the experiential perception of the recipient of the service.

In this paper, we are concerned with government information and services provided through e-government functions for public consumption. We use the term “e-service” to collectively refer to both. This excludes secret government information.

We use the terms “user” and “consumer” interchangeably. Others (PMO1035) prefer to use the term “beneficiary” to mean the same thing. These terms are used to refer to the person or organization that uses or consumes e-services and, as such, benefits from them.

References


