E-Government and Digital Divide in Developing Countries

Udo Richard Averweg
eThekwini Municipality and University of KwaZulu-Natal, South Africa

INTRODUCTION

The transition of the global economy from an industrial focus to one based on knowledge and information presents numerous opportunities and challenges to countries, especially those in the developing world (Cape IT Initiative, 2003). The government sector (and especially the local government sector) needs to embrace information and communication technologies (ICTs) that enable it to operate more efficiently and communicate better with its citizens.

ICTs encompass all technologies that facilitate the processing and transfer of information and communication services (United Nations, 2002). Many factors affect how local governments (i.e., municipalities) in developing countries access ICTs. In order to bridge the digital divide—which separates the technology 'haves' from the technology 'have nots'—it is necessary to gauge where citizens are in terms of ICT adoption, that is, their e-readiness. E-readiness can be defined in terms of availability of ICT infrastructure, the accessibility of ICT to the general citizen population, and the effect of the legal and regulatory framework on ICT use in, for example, an e-government strategy.

eThekwini Municipality (2003), in the city of Durban in the developing country of South Africa, sees the e-government strategy and its Web site at *http://www.durban.gov.za* as important management tools for improved citizen service delivery and communication. The objective of this article is to report, as an example, on the survey of ICT and information needs of a selected metropolitan municipal area (eThekwini Municipality in South Africa). Such a report maybe useful to other municipalities in developing countries for their e-government strategies.

This article is organized as follows. The background to e-government and the digital divide are discussed. eThekwini Municipality in South Africa is then described. The research goals are outlined, the research method and data gathering are discussed, the survey results and discussion are given, and future trends for implementing an e-government strategy in municipalities in developing countries are suggested. Finally, a conclusion is given.

BACKGROUND TO E-GOVERNMENT AND THE DIGITAL DIVIDE

Nowadays governments around the world are embracing electronic government. In a broad sense, e-government can be defined as the process by which government communication and administration processes are made available using ICTs. All such technologies can improve service and output in the same way that they have revolutionized work and leisure of lives—the main difference being that e-government programs recognize that not all citizens have equal access to technology and need to be implemented accordingly. In the literature it is also recognized that e-government in the developing world must accommodate certain unique conditions, needs, and obstacles. E-government gives citizens access to relevant information and makes government more accountable to its citizens. Ultimately, e-government aims to enhance access to and delivery of government services to benefit citizens (Pascual, 2003).

In the same way that there are social and economic divides between poor and rich countries, in the field of ICTs there are also divides between those who can access and use ICT to gain the associated benefits and those who do not have access to the technology or cannot use it for one reason or another (Bridges.org, 2002). These digital divides exist between countries ('international divide') and between groups within countries ('domestic divide'). In looking at the difference in access between developed and developing countries, Gumucio-Dagron (2003) notes that the "divide has never been only a 'digital' or technological divide. It is a social, economic and political fracture." The divide between technology 'haves' and technology 'have nots' is significantly wide.

eTheKwini MUNICIPALITY IN SOUTH AFRICA

eThekwini Municipality's population is 3.09 million citizens (Statistics South Africa, 2001) within the eThekwini Municipal Area (EMA). The population is an amalgamation of racial and cultural diversity. The Black African community comprises 68.3%, Coloured citizens 2.8%, Asian citizens

19.9%, and White citizens 9.0% (Statistics South Africa, 2001). In the EMA 51.9% of the population are female and 48.1% are male.

eThekwini Municipality's Long Term Development Framework (LTDF) maps out the strategic vision for eThekwini Municipality during the next 20 years. The essence of the LTDF "is to achieve a balance between meeting basic needs, strengthening the economy and developing people skills and a technology base for the future" (eThekwini Municipality, 2007b). eThekwini Municipality has a capital budget of ZAR4.2 billion (approximately €0.42 billion) and an operating budget of ZAR12.90 billion (approximately €1.29 billion) for the 2007/2008 financial year (see *www.durban.gov.za*).

Durban is currently rationalizing its wide area network (WAN) infrastructure to streamline and enhance service delivery. Broadband access delivered via fiber optic, wireless, and power lines are leveraged by information and collaboration portals as well as offering EMA citizens services via fixed and mobile devices. The WAN's wireless component is being extended to offer access to municipal libraries, clinics, and other eThekwini Municipality facilities. ICT and Web sites can be seen as effective mechanisms to access municipal information and developmental information in general. South African Web sites which seek a local and global reach must cater for the digital divide that exists between the technological 'haves' and 'have nots' (Averweg, Barraclough, & Spencer, 2003). Bridging the digital divide in the EMA is not the end but the beginning to bring positive changes in the development of a municipal information society (MIS). An MIS is the innovative use of ICT to improve the internal operation of a municipality, as well as its communication and collaboration with citizens, the private sector, and civil society in a municipal area.

RESEARCH GOALS

eThekwini Municipality embarked on an initiative to understand the needs of its users and non-users in utilizing ICT as a tool to improve service delivery and establishing effective media communication between itself and its constituencies. This article reports on these initiatives and findings from two surveys conducted in the EMA.

Research Method and Data Gathering

Two survey instruments (hereinafter referred to as 'ICT Status Survey' and 'Library Survey') were developed to gauge EMA citizens' ICT and information needs. The first survey tool (ICT Status Survey) represents an attempt to obtain a snapshot of the ICT status of EMA citizens; the second tool (Library Survey) focused on citizens' ICT and information needs over a broad spectrum.

The ICT Status Survey and Library Survey instruments and their associated survey methods are now described.

ICT Status Survey Instrument and Survey Method

This survey instrument comprised two sections: (1) general information and (2) citizen's information needs. During May 2003, the survey instrument was administered face-to-face to 465 EMA citizens by seven temporary staff members under the auspices of an eThekwini Municipal official. The duration of each interview was approximately 10 minutes. The selected sample was on a random basis to gather quantitative data to develop qualitative information. Interviews were conducted at EMA customer service offices and municipal libraries. The requirement for effective e-government requires a good understanding of the cultural or social background of its end users (citizens in its communities). The citizen survey thus focused on the e-readiness of EMA citizens to 'tap' into the new methods of communication for e-government.

Library Survey Instrument and Survey Method

The Library Survey focused on library usage, citizens' needs and expectations of library services and facilities, and/or reasons for non-usage. This survey was undertaken by the research organization, Urban-Econ, based in Durban, South Africa. For the purpose of this article, the results of the ICT-related requirements of citizens' needs from the Library Survey are considered complementary to the ICT Status Survey.

During June 2002 the survey instrument was administered face-to-face by librarians to 471 library users in different age categories. This was undertaken at selected municipal libraries in the EMA in accordance with the established sample profile for the various socio-economic groups. Two experienced fieldworkers conducted 144 interviews at pre-

Table 1. Race grouping and gender of respondents surveyed

Race Grouping	Percentage (%) of Male Respondents	Percentage (%) of Female Respondents
Black	49.0%	51.0%
Asian	52.9%	47.1%
Coloured	42.9%	57.1%
White	36.8%	63.2%
Average	**48.2%**	**51.8%**