

# Introduction of E-Government and its Implications for Developing Countries



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## Abstract

*It is evident that globalization and information technology is impacting on how developing countries, conduct their business and how these governments, implement their day-to-day activities. Globalization suggests, that developing countries should be linked to the international community and to the degree to which companies can interact productively with the global community. The maxim of having to be 'worldly-wise' in a global village, has now become a reality for many developing countries. E-Government is about competing in an electronically enabled world, which creates fundamental shifts in existing markets and creates new industry opportunities. The electronic model, is also the key element in helping developing governments', to provide better services to the citizens. However, in examining developing governments' in the SADC region, it becomes obvious that they face a number of challenges, in transforming conventional government into electronic government. It is within this confine, that this paper is forced to examine the introduction and implications of the electronic model for governments in developing countries.*

**Keywords:** e-Government, Electronic model of service delivery, Internet, Developing countries

## 1. Introduction

The information revolution is affecting how governments, including developing countries respond to the needs of their clients in the public sector. It has opened up new possibilities for the delivery of programs and services in their government ministries. E-Government has also presents new opportunities for economic growth in developing countries. The Internet makes it possible for governments' to streamline their interaction with business people, private citizens and government agencies, while at the same time, ensuring an improved public access to government information and services. It also provides for an improved quality and cost-effectiveness of government services, through the utilization of effective information sharing mechanism and communication with its citizens. This mode of communication further allows the development and growth of an improved set of opportunities, for participation in democratic institutions. By so doing, it cultivates an environment, which stimulates and promotes better relationships with the business community and private citizens. New information technologies thus offer the possibility of close and ongoing interaction between government and citizens. More importantly, online forms of governance are replicable and empowering. Hence, the legitimacy and relevance of governments in developing countries can actually be enhanced. This paper presents an overview of e-Government. The benefits and the challenges that e-Government presents for developing countries, are also reflected in this paper. A number of suggestions are put forward, to ensure the successful entrance of e-Government in developing countries.

According to Shilubane, (2001) electronic government or e-Government "is the continuous optimization of government service delivery, constituency participation and governance by transforming internal and external relationships through technology, the Internet and new media". This implies the transformation of how citizens, be they legal or natural persons, perceive and experience government. It is the investigation and formulation of new methods, to enable the public to access government services. The electronic model entails a shift to the customer, where citizens must be able to access more public services online, at their convenience hence at 'anytime' and 'at any place' (A Framework for Global Electronic Commerce, 1997). Thus, metrics must be clearly defined and continuous and accurate measurement implemented. The *critical metrics to measure the*

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*effectiveness of e-Government* are application and service relevance; citizen and business satisfaction; and preservation of trust (Heeks, 2001). There are a number of benefits in implementing e-government in developing countries. A general overview of e-government and its benefits are summarized in Table 1.

**Table 1** General overview of e-government for developing countries

Overview of e-government	Remarks
New possibilities for delivery of programs and services	Public institutions can provide services such as health with respect to tele-medicine especially to disadvantaged rural communities.
Provides improved access to government information and services	Citizens will be able to instantly access more services online, anytime, anywhere.
ICT lessens the need for large physical infrastructure	Efficiencies can be achieved through the sharing of data and the provision of a single-window of service delivery.
ICT is a catalyst for economic growth	ICT allows for low-cost international trade, investment, and market expansion. SMME is vital for economic growth in developing countries.
ICT allows developing countries to leapfrog into the knowledge paradigm	ICT can be used for education training, knowledge exchanges between developed and developing countries.

(Adapted from Discussion)

The vision is ultimately about inclusion, that is, the ability of all people to take part in the economy. If customer satisfaction is not ensured, the systems will fall into disrepute (Czerniawska & Potter, 1998) and (Johnson, 2000). The medium-term goal should be to implement an e-Government strategy, which allows citizens instant access to information and services, through efficient process and which will fundamentally change the relationship between the government and the citizens (Liebenberg, 2000). This is the arena in which it will ultimately be decided whether e-Government succeeds or fails in developing countries. The information revolution thus lessens the need for a large physical infrastructure to deliver programs and services to the public. Efficiencies can be achieved through the sharing of data among departments, and the provision of a "single-window" of service delivery. New information technologies allow for integrated databases and common program delivery. With the use of networks and information sharing, organizational boundaries should not serve as impediments to public service delivery, as is the case with traditional organizational models (Realizing electronic model of service delivery, 2001). Clients will be able to face a "seamless" government, in their daily interactions for programs and services (Murray, 2000).

## 2. Overview of E-Government in Developing Countries

It is increasingly clear that electronic technology will be a major force driving in public sectors in developing countries, over the next few decades. Globalization, environmental pressures and business drivers in developing countries necessitate transformation to the electronic model of service delivery. In this regard, the impact of the electronic model has confronted governments in developing countries with an 'adapt or die' scenario. Electronic technology has created a new marketplace, in which governments in developing countries must operate. It has therefore become a major issue on policy agendas in developing countries, such as those in the SADC region (U.S. Government Working Group on Electronic Commerce-First Annual Report, 1998). For developing countries, such as those in the SADC region, to fall behind in technology and innovation, would increase the gap between it and wealthier and more advanced economies. The world of electronic technology demands that governments in developing countries rethink their roles, as catalysts for economic and social growth (Liebenberg, 2000). In this regard, Keen & McDonald, (2000) argue that the electronic model of service delivery is an opportunity not to be missed by developing countries.

The electronic model presents many opportunities for developing countries. As a catalyst for economic growth, governments in developing countries simultaneously face demands to make services more accessible, responsive and affordable to the public. Governments in developing countries see the value of the electronic



model, as efficient means to deliver public services, such as education and health care, to the broader population. In this regard, the fact that many services can now be delivered electronically, has implications for these governments' and their service commitments, since many of these commitments were made without considering electronic service delivery (Green Paper on E-Commerce, 2000). According to the Business Day, (2000) e-Government could be a great advantage for developing countries, especially to those citizens that were denied basic services, as in the case of disadvantaged rural communities in South Africa, Namibia and Botswana. An important feature of the electronic model is that it expands the size of any organizational entity, from its immediate geographic area to a potentially worldwide area. The electronic model can also be an important strategy in building a country's comparative or competitive advantage. The Internet and other technologies may allow for low-cost international trade, even for small local businesses. Hence, rural areas may become the focus for investment and market expansion and also for relocating corporate offices (Discussion Paper on Electronic Commerce Policy, 1999). This expansion into other markets and opportunities for existing and new businesses has created a potential for accelerating economic growth in developing countries.

The international scenario indicates that small medium and micro enterprise (SMME) sector is vital to the economic success of developing countries. This is because the contribution of the SMME's to stimulating economic growth and job creation is unparalleled in terms of speed-to-market, financial flow, informal channels, sources of innovation and countrywide reach (Business 2.0, May 2000). The electronic model also presents an opportunity for the expansion of developing countries businesses, into new markets. The electronic model, diminishes existing advantages of cost, communication, and information and can create huge markets for indigenous products and services (Business 2.0, May 2000). The electronic model is, therefore, the indispensable prerequisite for sustainable economic development, for job creation, promoting social equality, improving service delivery and overcoming poverty in developing countries. Hence, marginalized communities may gain affordable access to amongst other, government services and financial services, and may participate in all aspects of the economy. One of the most important benefits of the electronic model for developing countries, is the opportunity to 'leapfrog' into the knowledge paradigm (Africa's Internet Newspaper, October 2000). In this respect, the electronic model will have an impact on all aspects of society, not just the commercial or public sector. The advances in technology hold great potential for helping developing governments' respond to its challenges.

However, at their core, all are driven by an architecture and an infrastructure that allow for information to be seamlessly moved across government, between its various programs and ultimately, to citizens and businesses. By providing online access to information and services through phones, faxes, self-service kiosks and world-wide-web home pages, governments can provide higher quality, faster service to the public (Czernaiwska & Potter, 1998) and (Africa's Internet Newspaper, 2000). According to Heeks, (2001) the communication between business, citizens, and different government departments and functions will undoubtedly be improved, so that people do not have to be asked repeatedly for the same information, by different service providers. By linking governments at all levels within and across department lines, and by improving citizen access, convenient and efficient methods of conducting government business are enabled (The U.S. Government group on electronic commerce, 1999).

It is therefore important for developing countries to examine the crucial elements that will promote the success of the electronic model. In this regard, cognizance must be taken of the fact that the business drivers of e-Government, are somewhat different from the standard e-Business drivers. There are a *number of key business drivers*, which are both internally and externally focused, in relation to the government departments, namely e-enabling citizens; information management; channel expansion; social inclusion; universal access; accessibility; empowerment of citizens, the enhancement of government image, and leverage of emerging technologies and economic service delivery (A tall order for FirstGov, 2000). The key is to find technology platforms and applications that can drive the transition, towards a new model for doing business in government in developing countries (Keen & McDonald, 2000). E-Government initiatives will help transform many industries both in the



public and private sectors, but governments must understand the factors that will inhibit and those that will stimulate this change, especially in developing countries, where the challenges for the entrance of e-Government are insurmountable.

Governments, such as South Africa are striving not only to improve the efficiency and quality of services, but also to ensure that services are delivered at the most convenient times and locations via electronic media. By using the model applications in service delivery, for example, in the area of procurement, the impact on operation and service delivery will be tremendous. In this regard, in South Africa, the government is the largest purchaser of products and services, amounting to approximately R65 billion a year (Approximately \$8.7). Internet based e-procurement has therefore presented tremendous opportunities for the South African government namely, (Green Paper on E-Commerce, 2001) 'reduced prices of materials, shortened acquisition and fulfillment cycles, decreased administration burdens and cost and improved inventory practices; and increased control over purchases.'

However, while developing countries such as those in the SADC region are beginning to take advantage of the potential of electronic technology, critical challenges remain to be overcome before its potential can be fully realized for the benefit all. Governments, in developing countries therefore, have important roles to play, in that they must establish policy for improving the quality of life of all citizens through equitable development, and, thereby set new precedents for the role of the electronic model in their countries. It must, however, adhere closely to international principles, while nevertheless maintaining the broad focus on fostering widespread economic growth, opportunity, and global integration (Discussion Paper on Electronic Commerce Policy, 1999) and (Africa's Internet Newspaper, 2000).

Progress with respect to the electronic model has been mainly evident in the private sector in developing countries, namely in countries such as South Africa and Botswana. Nevertheless, governments' in developing countries should play an important role in examining the opportunities that the electronic model can offer for their countries, such as the economic and social advantages of the electronic model (Liebenberg, 2000). It is therefore necessary to examine the implications of e-government for developing countries.

An e-delivery strategy in Public Management, is not only about the automation of the current way of doing business. At the heart of the e-delivery strategy is the recognition that e-Government, is not about technology, it is about changing the way in which organizations operate. Business processes in governments, need to be changed or re-aligned, to be able to take advantage of electronic model of service delivery. It is about re-engineering the current way of doing business, by using collaborative transactions and processes, required by government departments to function effectively and economically, thus improving the quality of life for citizens and promoting competition and innovation.

As governments' progresses on its journey towards e-Government in these countries, it must select specific applications, promote them to the citizens and define auditable security and privacy policies. In this way, the Information Communication Technology (ICT) return on investment will be more rapid for these governments, while the value creation for their citizens will be maximized and visible. Governments must integrate vertical operations with virtual integration. The scope of the electronic model in government will extend to what it can do, to a network of stakeholders (such as the public/customer, a network of suppliers, intermediaries and others (Liebenberg, 2000). In the digital world, value creation will no longer be cordoned off, within the boundaries of a single corporation. The extended enterprise will become the essential element and way of transacting business. It is necessary to take cognizance of this fact, when designing the elements of e-Government for institutions in developing countries (Toward Digital equality-2nd Annual Report, 1999), (Africa's Internet Newspaper, 2000) and (Blundell & Murdock, 1997).



The *challenges* facing developing countries in transforming conventional government into electronic government are tremendous. These are summarized in Table 2 and are thereafter expanded.

**Table 2** Challenges facing developing countries with the implementation of electronic government

Challenges	Remarks
Technophobia	Organizations are generally afraid of technology. There is a lack of understanding on important role that the Internet can play in terms of the provision of services and goods.
Lack of financial resources & developing countries are not willing to finance Internet approach	There are other basic needs in developing countries, such as the alleviation of poverty, provision of housing and health. Financial impediments are a reality in developing countries such as South Africa.
Human resource constrains	Lack of technical skills and expertise.
Lack of predicable legal environment	There are concerns around enforcement of contracts, liability, intellectual property protection, privacy, security and other matters such as international and national global trading legislation. There are concerns around taxation with respect to electronic transactions and of import duties, when they cross international boundaries.
Socio-economic impact/Short-term risks	Job losses, current skills may become obsolete, and workers maybe displaced. There is a huge need for training in the electronic model applications such as state-of-art-web design and interactive media.
Lack of leadership	There is a lack of effective leadership in developing countries both at a political and administrative level to drive the whole e-government initiative.
High-illiteracy rate	High-illiteracy is a reality that would impact on the usage of information and Communication technology and the success of e-government.
Diversity of languages	There are various ethnic languages in developing countries. Developing countries would have to cater for this language diversity, when embarking on an electronic approach to service delivery. Most of the software are imported and is in English.
Fragmented systems and procedures	The provision of seamless services is hampered by fragmented information systems. All these fragmented systems would take a while to inter-operate.
Lack of trust in electronic transactions	Computer fraud and abuse are on the increase. The use of the Internet has raised concerns about the confidentiality of records, in terms of access to personal details, jurisdiction over storage and use of data and protection of financial information disclosed in electronic transactions.
Weak or lack of infrastructure	There is a lack of infrastructure mainly in rural areas where the majority of citizens live. The basic services such as telephones and electricity are none-existent or barely existent in rural communities. Moreover, there is a huge problem with affordability of these services.

(Adapted from discussion)

Although it is agreed that the Internet is a great way to do research and establish customer contact, government departments, as well as businesses in many developing countries are generally afraid of the technology. Many organizations in developing countries are not willing to spend a lot of money on the Internet approach. They are also reluctant as the human element and financial constraints are lacking with this approach. More importantly, there are other more urgent issues in these countries to address and focus on such as deprivation, poverty, and lack of basic services to communities.

Many government departments, businesses and consumers are still wary of conducting extensive business over the Internet, because of the lack of a predictable legal environment governing transactions. Furthermore, most sites in developing countries, on governments are no more than electronic brochures in these countries. There is a dire lack of understanding in these countries of the powerful role the web can fulfill. For example, South African, Brazil, and Namibian governments' sites on the web, look electronically enabled but generally are not.



From an on-line strategy point of view, there is no consideration of the customer. Furthermore, there is no effort to market these sites on-line. Thus, very few government departments in developing countries are employing the electronic model, despite claims that it's the online element of the web that is the key to entrepreneurial government based on business like principles, and cost savings.

With respect to job opportunities, the electronic model should lead to increased employment opportunities both in the private and public sector. There could however be a short-term risk to workers whose current jobs and skills may become obsolete (Igbaria & Siegel 1992). Initially workers could be displaced, as a direct result of transformation as the skills and experience required for the electronic model could be significantly different from traditional employment skills. The counterpoint to this argument is that there should be considerable long-term opportunities (The Discussion Paper on Electronic Commerce Policy, 1999).

Governments in developing countries are confronted with numerous challenges with negative socio-economic impacts, lack of finances, and lack of strong leadership to drive the process. It is therefore, of crucial importance to examine these challenges and draw up policy initiatives, to address these issues to allow for the successful entrance of e-governance in developing countries. With the application of advanced network technology and the deployment of multiple service delivery points, governments in developing countries can overcome these barriers of time and distance and be better positioned to serve society, especially rural communities.

Other challenges are (Liebenberg, 2000) and (Business 2.0., October 2000): ensuring effective methods of protecting privacy over the Internet; identifying possible legal barriers to the development of the electronic model; providing education and training on the usage of the electronic model; addressing the lack of preparedness by government institutions, consumers, companies and SMME's; the high rate of illiteracy of citizens and managing the negative socio-economic impacts, for example, job losses and other associated risks.

There are also concerns centering on issues such as enforcement of contracts, liability, intellectual property protection, privacy, security and other matters, have caused government departments, businesses and consumers in developing countries to be cautious. These are major drawbacks that developing governments must address (Johnson, 2000). Governments in these countries will need to consider the development of a national policy to support and expand the electronic model in the public sector and industry. Another area on which the electronic model will have an impact is the area of international and national global trading legislation, which will have to be aligned in the context of global trading on the Internet (Have you Heard-No.031:2001), .

There will be a huge need for business development support program's and for training in the electronic model applications such as the state-of-the-art web design, interactive media, different languages and other training. There is also a need for sharing of information and experience among web-based businesses, as market opportunities, strategic advantages, and unique approaches could be of value to all counterparts in South Africa (The Discussion Paper on Electronic Commerce Policy, 1999).

Shilubane, (2001) observed that public service organizations have less and shorter experience in using ICT, consequently resulting in time consumption in the offering of a more comprehensive range of services leveraging ICT capabilities. Shilubane, (2001) further suggested that information sharing is not common among the public service organizations in developing countries, and sometimes, even within an organization itself in these countries. The provision of seamless services is usually hampered by fragmented information systems. All of these fragmented systems will take a while to inter-operate. The e-Government readiness strategy varies significantly between country to country amongst developing countries (Have you Heard, No.134:2002) The gap between the ICT development in various developing countries is huge and financial impediments is a reality. Moreover, governments in developing countries find it difficult to recruit and retain competent ICT professionals (Have you Heard, No. 012:2001); (Green Paper on E-Commerce, 2000).



Governments will need to secure networks, access points and business-critical applications against theft, fraud, electronic abuse and misuse. This is generally a huge problem in developing countries (Have you Heard, No.214:2000). Therefore, a number of countermeasures are to be undertaken to ensure that the electronic model is as secure as traditional forms of transaction. These governments must develop policies that build trust in electronic transactions, as there has been an increase in fraud and abuse with transactions online in these countries. There must be confidence that electronically based purchases, fund transfers and business deals are valid as traditional practices (Roodt, 2001).

There must be accountability for the quality, reliability and legality of products and services. This also raises issues, mainly for government, such as national security and facilitating law enforcement, protection of citizens' privacy, encouraging economic well being, and maintaining public safety (Discussion Paper on E-Commerce Policy, 1999). The use of the Internet has also raised new issues concerning confidentiality of records, in terms of access to personal details, jurisdiction over storage and use of data, and protection of financial information disclosed in electronic transactions. Government regulation could play an important role through specific legislation, to require website operators and database owners to conform to certain standards regarding the use of data (Green Paper on E-Commerce, 2000).

One of the major difficulties that all governments face as the electronic model grows, is the question of taxation with respect to electronic transactions, and of import duties, when they cross international boundaries. Specific new taxes called 'bit taxes' may have to be applied to digital transmissions, separate from ordinary taxes, for products and services purchased electronically. With respect to tax collection under the electronic model, there are complications around issues of jurisdiction and institutional roles (The Discussion Paper on Electronic Commerce Policy, 1999).

Other issues of concern are intellectual property rights and domain names. The future development of the electronic model in developing countries is dependent on the protection of copyrights and related rights and the protection and equitable allocation of trademarks and domain names. Laws must conform to treaties with respect to intellectual property rights, including software, recordings and technical designs, against illegal pirating and from unfair use of such as those countries in the SADC region trademarks (Business Day, 2000); (Green Paper on E-Commerce, 2000).

Initiatives in developing countries will have to contend with the ensuing issues, which Shilubane, (2001) categorizes as an ICT infrastructure, which is weak in geographical areas, mainly rural areas in which the majority of citizens live. The key concern is, does government in developing countries have the capacity to co-ordinate and understand the various issues and initiatives, especially in the area of infrastructure, which must underlie electronic service delivery (Roodt, 2001) and (Babcock, 2000). The lack of infrastructure in developing countries, has impeded the progress of the electronic model, both in the public and private sectors (Have you Heard, No.061:2001). According to Roodt, (2001) for the vast section of the population in these countries, infrastructure is often limited or non-existent, and is unaffordable. The basic services such as telephones and electricity are none-existent or barely existent in rural areas in these countries. Moreover, access to computers and data services are even lower or non-existent (Liebenberg, 2000), (Green Paper on E-Commerce, 2000). Hence, one of the major concerns for these governments is the need to enhance the national infrastructure to support the electronic model in these countries.,

It is also not enough to assume that the SMME entrepreneurs will take advantage of available technologies in developing countries. There needs to be a clear definition of this environment, in terms of e-Government initiatives, which require that the respective government departments are knowledgeable about e-Government and that the required functionality is available with minimum requirements for financial or technological input from the SMME's (The Definitive Business Ecosystem-Computing SA, 2000). It is, therefore, important that suitable e-Government structures, are in place to assist the SMME marketplace (ITWeb Sabinet Online (Pty)



Ltd, 2001). Nevertheless, there are a number of initiatives that should be undertaken to ensure that e-government is successful. These are summarized in Table 3.

**Table 3** Initiatives/steps to be undertaken to ensure the successful entrance of e-government

Initiatives/steps	Remarks
Strong and high-ranking leadership	Competent leadership is required to drive the whole e-government initiative. Bureaucratic leadership should be well trained to implement the whole e-government initiative.
Strategic and operational Issues	There should be a strategic fit between government rules, capabilities and technology. There is a need for the transformation of core business processes.
Development of Partnership	Collaboration with the business sector and civic organization is essential.
Regulation of Telecommunication Industry	It is necessary to support fair competition and to oversee appropriate pricing and service responsibilities.
Institute appropriate policy	Institutions should become familiar with rules, regulations, frameworks and vague pointers.
Sufficient Resources should be made available	Financial, human resources and time should be made available.
Education and Training	Education and training is crucial for recipients of the services. Education and training is crucial for implementers of the e-strategy. Ongoing education and training of ICT specialists is essential.
Provision of Infrastructure	The provision of basic infrastructure is essential for the success of e-government, for example electricity, telephones, computer hardware and software.

(Adapted from Discussion)

The success of the electronic model initiatives also requires, strong and high-ranking political and bureaucratic leadership. Equally important, is vast amounts of time, as well as capital. Government and business must debate and address issues and initiatives required to create an enabling framework for the electronic model both in the private and public sectors in these countries. Moreover, efforts must be speedily made to ensure that policies and processes are put in place, that addresses the needs of society.

Governments in developing countries can thus refocus its attention to customers and value network relationships. Governments should also take the necessary steps to ensure that its public managers understand the electronic model, for ensuring its effective implementation. Managers must understand approaches for implementing the electronic model that will span multiple network players and channels. Governments should look at what it means to establish the electronic model, that involves embedded rules and regulations, application program interfaces and the accelerating move to component-based technologies and approaches. It means designing and operating the business from the public perspective (the customer) and recognizing that all aspects of governmental operation will affect the public. The new fit will entail understanding the fit between government rules, capabilities and technology. The implications of integrating technology into public sector departments in developing countries will be far reaching.

Broadly speaking, a suitable four-step program for e-Government for developing countries, should entail the transformation of the core business processes, organizations changing their work processes and have a vision of how such a transformation will improve their operations, and the building of a new generation of e-business applications, which will allow governments to build the required functionality, without reinventing the wheel. Such an approach will allow the systems and applications that they already have in place to become more functional, with the appropriate emphasis on application are non-existent or that integration. The adoption of such an 'electronic architecture' that is scalable, open and secure is essential, and finally, it is also suggested that governments should establish a hardware infrastructure, that can grow easily, as requirements and demand increases. Hardware and software alternatives should also be made available, in such a manner that they can provide for high levels of security. Such a mammoth task requires a well-strategised, thoroughly planned and carefully coordinated approach to ICT and electronic government.



The implementation of an e-Government approach in developing countries, will require a sustained effort, as well as collaboration with the business sector and civic organizations. The success of the electronic model in developing countries will require an effective partnership between the private and public sectors. Partnerships between governments and industries will be required, not only to develop the actual strategies, but also to become involved in the integration of the existing, future and newly created digital world entities.

Regulation of the telecommunication industry is an important public responsibility, to support fair competition and to oversee appropriate pricing and service responsibilities (Electronic model of service delivery, e-gov examples shine abroad, 2000). The prices charged by telecommunications operators for access to crucial services, can be an important factor in determining the effectiveness and affordability of the electronic model opportunities on the whole in developing countries. It is extremely difficult for smaller entrepreneurs, ISPs, and public operators such as tele-centres, to afford to connect itself (Have you Heard, No.174:2000); (Discussion Paper on Electronic Commerce Policy, 1999).

Governments in developing countries, together with businesses, can therefore play a vital role in promoting the growth of the electronic model, by instituting appropriate policies with respect to education, industry, technology, the economy, technical assistance and human resource development programs, to enable their countries to move from traditional to information societies. Thus, governments must become familiar with rules, frameworks, vague pointers, to assist in understanding and dealing with the electronic model (Liebenburg, 2000). The critical challenge for governments will center on how it sources its capabilities, how to ensure implementation of rules, and how to manage its networks, both within and outside the public sector. Other important issues include, the fact that sufficient resources must be made available to ensure successful policy implementation in developing countries. Accordingly, governments in developing countries must encourage and promote the electronic model by creating the necessary conditions in this regard namely, consumer protection and privacy and establishing and enhancing the necessary infrastructure.

Finally, with the new tools of a networked society, governments in developing countries must completely rethink and re-engineer itself as new and innovative issues of government, become central players in the new global economy. Developing countries should set the climate for wealth creation which is vitally important in these economies. It can act as a deadening hand on change or be a catalyst for creativity. They can cause economic stagnation through runaway deficits, or they can set a climate for growth. The ultimate goal for innovation, is not fear but the ability to reform and transform in the electronic era. There is a major quest in developing countries to attempt to address the electronic divide in the information age.

### **3. Concluding Remarks**

The electronic model will have far reaching implications and impact in developing countries. In an era where the communication of information has become so vital for generation of knowledge, it most apparent that developing countries utilize the expediency of faster and reliable means of the transportation of these data bases and deliver services. Governments in developing countries should thus see their role as an enabler, facilitator, educator and law enforcer to prevent cyber crimes, as well as a model user of the electronic model of service delivery. The government influence must take on new dimensions. Governments participation in developing countries must be coherent and cautious, avoiding the contradictions and confusion, that can sometimes arise when different organizations, assert their authority too vigorously and operate without co-ordination. There is undoubtedly a great opportunity, on the Internet and other ICT media for developing countries. If private sector and government in developing countries act appropriately, this opportunity can be realized for the benefit of all countries. However, without a cohesive outlook and attitude to such a challenge, the anticipated benefits may not accrue.



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## About the Author

Goonasagree Naidoo is currently employed by the University of Pretoria in the School of Public Management and Administration, as a lecturer. She has also worked for the Department of Education as an Educator, whilst pursuing her Honors degree (1991). On completion of her MA Degree, she joined the South African Public Service in 1994, whereby she was actively involved in transformation of provincial and national departments. In September 1998, she was employed by the Department of Trade and Industry (STI) as a Trade Executive, for African Affairs, to promote international trade from the United Kingdom to Southern Africa (SADC). She has successfully undertaken various international projects during her stay with STI, namely international trade, trade missions, joint ventures and public private partnerships (the areas of focus were education, tourism, optoelectronics and finance). She has been appointed on the Scottish International Research Programme (SIRP) from 1998 to present, whereby she undertakes various international projects, jointly with the British Council and the Department of Trade and Industry in the United Kingdom.