United Nations
University

WIDER

World Institute for Development Economics Research

Discussion Paper No. 2002/116

Emergent Global Information Infrastructure/Global Information Society

Regime Formation and the Impact on Africa

Derrick L. Cogburn*

December 2002

Abstract

This paper combines a theoretical perspective on globalization and the information society with a critical usage of international regime theory in order to contribute to a better understanding of the current historical period of transition from an international telecommunications regime to a new and complex regime aimed at providing governance for the global information infrastructure and global information society. The paper employs a case-study approach to explore some of the specific national responses (i.e. South Africa) to this regime transition, with an analysis of potential best practices and lessons learned for other emerging economies.

* School of Information and Center for Afroamerican and African Studies, University of Michigan; email: dcogburn@umich.edu

Acknowledgement

UNU World Institute for Development Economics Research (UNU/WIDER) was established by the United Nations University as its first research and training centre and started work in Helsinki, Finland in 1985. The purpose of the Institute is to undertake applied research and policy analysis on structural changes affecting the developing and transitional economies, to provide a forum for the advocacy of policies leading to robust, equitable and environmentally sustainable growth, and to promote capacity strengthening and training in the field of economic and social policy making. Its work is carried out by staff researchers and visiting scholars in Helsinki and through networks of collaborating scholars and institutions around the world.

1   Introduction

For more than three decades, international relations scholars have grappled with the question of how global governance and cooperation can occur in a world-system of 'sovereign and equal' national states, and in the absence of a global government to make and enforce rules. This question, sometimes called the 'anarchy problematique', focuses on the evolution of cooperation at national, regional and global levels (see, *inter alia*, Keohane and Nye 1989; Krasner 1983; Keohane 1984; Axelrod 1985). International regime theory has been one of the most resilient mental models for addressing this problem, and has been formulated from a wide variety of epistemological and scholarly traditions.

In 1983, Stephen Krasner attempted to build a consensus around the theoretical and applied approaches to international regime theory in a special issue of the journal *International Organization*. Here, Krasner (1983) and his colleagues defined regimes as 'sets of implicit or explicit principles, norms, rules and decision-making procedures around which actors' expectations converge in given areas of international relations'. *Principles* are seen as beliefs of fact, causation or rectitude; *norms* are seen as standards of behavior defined in terms of rights and obligations; *rules* are specific prescriptions or proscriptions for action; and *decision-making procedures* are the prevailing practices for making and implementing collective choice (Krasner 1983). More directly, international regimes are the 'rules of the game' for a specific issue area within the world system, and the mechanisms for collective decision-making and enforcement of those rules.

Further, Rittberger (1995) argues that international regime theory, while once thought to be a 'passing fad', has maintained exceptional stability and integrative capabilities within the discipline of international relations, and included insights from international political economy, security experts, comparative politics, and other areas in world affairs. He asserts that regime theory has become an increasingly important intellectual tool in European scholarly circles, especially in Germany and Scandinavia, and attempts in his work to 'enhance integration and communication' amongst scholars of international regimes (Rittberger 1995).

Over these several decades, scholars around the world have documented the emergence and efficacy of international regimes in a wide variety of issue areas within the world system, including: (i) international shipping; (ii) international air transport; (iii) international post; (iv) international atomic energy and weapons; (v) international environmental issues; (vi) the global 'commons' (e.g., the high seas and outer space); and (vii) even for commodities (e.g. diamonds). However, one of the oldest and most successful international regimes has been the international telecommunications regime (Cowhey 1990).

Based on the International Telecommunication Union (ITU) and an epistemological community that supported the concepts of the preferred natural monopoly for telecommunications, and the 'clubby' and 'cartelized' relationships between ministries and officials of monopoly post, telegraph and telephone entities (PTTs), ITU officials (many of whom are former PTT officials), and a limited number of upstream suppliers to the PTT in the national capitals, the international telecommunications regime (ITR) was highly successful (Cowhey 1990; Freiden 1996). So successful was this regime, that it emerged before international regime theory was in vogue and has been largely unchallenged until recent times.

2   The problem

However, as the historical processes of globalization and an information age continue to unfold and the demands of global electronic commerce continue to expand, the international telecommunications regime is facing tremendous transformative pressures. A wide range of social, political, economic, cultural, and technological factors are challenging this regime and pressing for the emergence of a new one, that might be called the *global information infrastructure/global information society regime* (GII/GIS).

2.1   Research questions

What are the emerging 'principles, values, and norms', of this new regime, and what stakeholder interests are best represented by them? What will be the rules of this new regime, and how will they be decided upon and enforced? Who wins and who loses from this emerging regime, and how are developing countries, particularly South Africa and others in Africa, responding to the opportunities and challenges? And, what can be done to influence the direction of this regime to ensure the development of a more just, and equitable global information society? These are the research questions that this paper seeks to address.

2.2   Theoretical framework

There are three dominant schools in international regime theory: (i) liberal/neoliberal; (ii) realist/neorealists and Marxist/neo-Marxist; (iii) and what might be called postmodernist. In the liberal/neoliberal school, there is a focus on the importance of functions. Theorists working in this school, focus on the impact that international regimes have in the creation of peace and in reducing transaction costs. These scholars argue that while regime actors to have self-interests, they are able to see the possibility of creating a global environment where the majority of good can be created for the majority of actors through cooperation. In this approach, no single actor would get the exact regime that it wants, but that through interdependent cooperation, it can achieve enough of its aims, while allowing other actors to achieve a sufficient amount of their aims. This approach is designed to create an international regime based on peace and stability.

Those theorists working within the realist/neorealist and Marxist/neo-Marxist schools tend to focus on the importance of power in the formation and maintenance of international regimes. These global power dynamics can take the form of hegemonic states against weaker ones, or of global power-wielding corporate elite against the unorganized global working class.

Finally, there is a school of regime theory that might be considered postmodernist. Theorists working in this tradition focus on the formation of cognitive frameworks and the ability to set global agendas through the use of media and other tools. These scholars see the regime formation dynamics as based on what forces can influence the acceptable forms of problem definition and solution. These forces form the 'epistemic community' for the particular issue in international affairs, and create its 'accepted' belief system.

While the international regime theory provides a very useful theoretical framework to help us understand this period of rapid transformation, there are some problems with its

use. In some cases, those that have used regime theory have approached the state as a unitary actor, and ignored domestic contestation to the regime formation processes. Also, in most cases, there is a very heavy focus on state actors, at national, regional and global levels. This focus ignores the increasingly important role played by non-state actors, at each of these levels, particularly by global non-governmental organizations representing the interest of the private sector. Also, there are often insufficient linkages between the processes of global economic restructuring and its influence on domestic actors and political-economic processes. Finally, there is often insufficient attention paid to the factors that affect 'state autonomy', or the ability of the state to exercise *de facto* sovereignty. In this study, we have primarily adopted the Krasner (1983) approach to international regimes. This causes us to look at the issues of regime transformation, and the emergence of consensus in four critical areas: (i) principles and values; (ii) norms; (iii) rules; and (iv) enforcement mechanisms. However, in our use of the regime theory, we will also have an important focus on the impact of non-state actors in the regime formation process.

2.3   Methodology and data

The methodology adopted in this study is qualitative in nature and uses a theory-driven case-study approach. After defining our terms, theoretical framework and research questions, all of which are grounded in the extant literature, multiple qualitative data collection techniques were employed, including (i) participant-observation; (ii) observer-observation; (iii) in-depth interviews; and (iv) content analysis of primary and secondary sources. Data collection was focused primarily on developing a thick-narrative case study of the impact of regime transformation on an emerging economy. The case selected for analysis was the Republic of South Africa. South Africa was chosen for a number of reasons, including (i) in 1996 it implemented a fairly wide-ranging restructuring of its telecommunications sector (see, *inter alia*, Cogburn 1998); (ii) it was a founding member of the World Trade Organization (WTO); (iii) it plays a strong political and economic leadership role in the African region, and within the broader developing country context; (iv) it participated in, and made an acceptable offer to, the WTO Agreement on Basic Telecommunications; (v) it has developed a merged telecommunications and broadcasting independent regulatory body; (vi) it is currently in the process of a 'green/white paper' process to develop an electronic commerce policy; and finally (vii) there has been significant activity from non-state actors in South Africa, at both the national, regional, and global levels.

3   Findings and discussion

3.1.1 The emerging GII/GIS regime and its principles, values, and norms

Our theoretical framework would suggest that evidence of an emergent regime would come initially from the development of a global consensus on the principles, values, and norms around a particular issue area of international affairs. In this case, we are looking for this consensus on the principles, values, and norms of global information and communications policy and the development of an information society.

Table 1
An applications-driven global information society

General applications	Specific examples	Global epistemic support
Education, research & training	– Distance-education – Collaboratories – Asynchronous training	– WTDC – G8 Conference – ISAD
Digital libraries	– Library of Congress – UMDL – IPL – J-Stor	– WTDC – G8 Conference
Electronic museums and galleries	– Louvre	– WTDC – G8 Conference
Environment management	– GIS applications	– WTDC – G8 Conference
Emergency management	– EMS	– WTDC – G8 Conference
SMMEs, employment creation and e-commerce	– PeopLink – African crafts market	– WTDC – G8 Conference – ISAD
Maritime information	– Early warning systems	– WTDC – G8 Conference
Electronic government services	– E-passports – Sharing and re-use of records	– WTDC – G8 Conference
Debt management and financial services	– Debt management systems – Electronic bill payment	– WTDC – G8 Conference
Tourism	– Hotel and package booking – Promotion and data mining	– WTDC – G8 Conference
Health care	– Tele-medicine – Health education and information	– WTDC – G8 Conference
Legislation and legal services	– Parliament information systems – Legal database access	– WTDC – G8 Conference
Transportation of people and goods	– Transportation system management	– WTDC – G8 Conference
Business development and trade efficiency	– Trade promotion – B-2-B e-commerce	– WTDC – G8 Conference
Universal access	– Community information centres – Public Internet terminals	– WTDC – G8 Conference – ISAD
National systems of innovation	– Collaboratories – Geographically-distributed research teams	– WTDC – G8 Conference
Entertainment and leisure	– On-line gaming – Adult-oriented material	– WTDC – G8 Conference

One of the most successful international regimes in history was the international telecommunications regime (Cowhey 1990). This regime was based primarily on a specialized agency of the United Nations, the International Telecommunication Union (ITU). However, due to various social, political, economic, and technological factors,

this regime is being eroded and new regimes are emerging, the broadest of which might be called the global information infrastructure/global information society (GII/GIS) regime. The ideas around the development of a GII/GIS were given global prominence in 1994 when US Vice President Al Gore made a keynote address on the global information infrastructure to the First World Telecommunications Development Conference, held in Buenos Aires, Argentina. This event was followed closely by the European Commission's release of its report entitled 'Recommendations to the European Council: Europe and the Global Information Society', known more popularly as the *Bangeman Report*, in reference to the chair of the high-level commission that produced the analysis set of strategic recommendations. Following these meetings, the European Commission hosted in February 1995 a ministerial meeting of the Group of Seven (G7) on the information society. South African Deputy President Thabo Mbeki was the only significant participant from the developing world, and he urged the G7 leaders to take a more inclusive approach to the GII/GIS. He offered South Africa as host to such an initiative. The resultant initiative, known as the Information Society and Development (ISAD) Conference, was held in South Africa in June 1996.

Out of these various global and regional initiatives, there are a number of issue areas around which primary norms, principles and values are emerging around information and communications policy to promote the GII/GIS. Table 1 illustrates the broad spectrum of application areas driving the global information infrastructure and global information society.

This broadly based, applications-driven, approach to the global information infrastructure/global information society holds tremendous hope for the countries of the developing world. They hope to enhance the quality of life of their citizens and to meet these strategic challenges through a range of initiatives such as the African Information Society Initiative (AISI) developed by the United Nations Economic Commission for Africa (ECA). The process of developing a GII/GIS based on this diversity of applications and the movement towards a global knowledge-based economy is unleashing tremendous transformative pressures on the existing international telecommunications regime. The international telecommunications regime was highly suited for the industrial economy. However, the mechanisms to govern this new

Table 2
Comparison of the international telecommunications regime (ITR)
and the global information infrastructure/global information society regime (GII/GIS)

ITR regime	GII/GIS regime
Limited competition: Natural monopoly for telecommunications	High competition: Liberalization and privatization for telecommunications
Single issue: Telecommunications	Multiple issues: Telecommunications, broadcasting, health, education, SMMEs, debt management, etc.
Single ministry: Telecommunications, PTT	Multiple ministries: broadcasting, education, health, trade and industry, finance, etc.
Single industry: Telecommunications and equipment suppliers	Multiple industries: Content providers, ASPs, ISPs, e-commerce, etc.
Limited stakeholders: Telecommunications employees and experts	Multiple stakeholders: Nurses, educators, small-business owners, etc.
Epistemic community: Narrow	Epistemic community: Wide

economy and a GII/GIS will be qualitatively different. Table 2 presents a comparison of some of the key elements of the 'old' international telecommunications regime and the 'emerging' GII/GIS regime.

However, there is a high-level of tension at play in the transition to this new regime. The transition is not easy. A significant degree of contestation is occurring, and being fought primarily over whether or not the principles, values, and norms of the GII/GIS will represent the broad perspectives articulated by the information society approach or represent those of a narrow and somewhat more limited interests of global electronic commerce.

At present, it appears that the latter is occurring. The momentum towards a truly global information society appears to be waning, with a somewhat hopeful attempt by ITU to regain its central role by organizing a world summit on the information society, scheduled for Geneva in December 2003. Nonetheless, those stakeholders having an interests in the development of global electronic commerce are working to develop a global consensus on the key issues of a new regime that will facilitate the more rapid development and potential of electronic commerce.

Some of these key norms, principles, and values include the following:

1) Telecommunications and information infrastructure: the importance of liberalization, privatization and a pro-competitive environment;

2) Customs/taxation: that the Internet and e-commerce should continue to be a 'tax free' zone;

3) Electronic payments: that multiple options should continue to emerge (both inside and outside money) that are inter-operable and allowing for both anonymous, pseudonymous, and traceable methods;

4) Commercial code: that a common global commercial code should emerge to provide for the global rule of law and protection for contracts and private property;

5) Intellectual property protection: that IPR regulation needs to be revised to reflect the realities of the digital economy, while still providing an incentive for the production of information goods;

6) Domain names: are an important and contested commercial asset, and famous marks should be protected while not allowing them to abuse smaller enterprises, and that Internet Corporation for Assigned Names and Numbers (ICANN) is the legitimate body charged with the responsibility to deal with domain name issues;

7) Personal data: should be protected, while at the same time allowing for legitimate corporate uses of data profiling and targeted advertising;

8) Security and encryption: are an important national and personal security concern that has to be balanced with personal privacy concerns;

9) Awareness/trust: is a limiting factor for the growth of e-commerce;

10) Trust: might be enhanced with the widespread use of authentication and digital signatures;

11) Technical standards: should be technology neutral and industry driven to the fullest extent possible;

12) Local content: should be promoted and protected, if e-commerce is going to reach its full potential;

13) Labour and society: will be affected by the move towards a digital economy and we should work to minimize the negative impact, while harnessing the potential;

14) Universal service/access: or lack thereof, as characterized by the 'digital divide' is one of the most potentially limiting factors for global e-commerce; and finally

15) Human resources and capacity: require immediate global attention.

3.2   Decision-making, rules and enforcement of a new GII/GIS regime

If we now agree that the old regime is being transformed, and a new regime is emerging, complete with its own set of principles, values, and norms, a key question surfaces. What are the rules of this newly emerging regime and what international body will enforce these rules?

Table 3
GII/GIS regime enforcement organizations

Organization	Organization type	Regime component(s)
WTO	Inter-governmental (global)	Principles, values, norms, rules, **Enforcement**
WIPO	Inter-governmental (global)	Principles, values, norms, rules, **Enforcement**
OECD	Inter-governmental (regional)	Principles, values, norms
ICANN	Global non-governmental	Principles, values, norms, rules, **Enforcement**
GIIC/GBD	Global non-governmental	Principles, values, norms
G8	Inter-governmental	Principles, values, norms
WEF	Global non-governmental	Principles, values, norms
World Bank Group	Inter-governmental (global)	Principles, values, norms, rules, **Enforcement**
European Commission	Inter-governmental (regional)	Principles, values, norms
ITU	Inter-governmental (Global)	Principles, values, norms
Bi-lateral aid agencies	Governmental	Principles, values, norms, rules, **Enforcement**

To answer the second question first, there is little doubt that the centrepiece organization of a new GII/GIS regime will be the World Trade Organization. However, unlike the international telecommunications regime that was based primarily on a single intergovernmental organization, the ITU, the emerging regime will rely on a host of governmental and non-governmental organizations to enforce its rules. Thus, in addition to the WTO, the ten most important organizations for the 'governance' of this emerging regime will be the following: (i) World Intellectual Property Organization; (ii) Organization for Economic Cooperation and Development; (iii) Internet Corporation for Assigned Names and Numbers; (iv) Global Information Infrastructure Commission/Global Business Dialogue; (v) Group of 8 Industrialized Countries; (vi) World Economic Forum; (vii) World Bank Group; (viii) European Commission; (ix) International Telecommunication Union; and (x) bi-lateral aid agencies. Table 3 illustrates several aspects of these organizations, including their organizational type and primary function within the regime.

These organizations are working together formally, and informally to formulate global information and communications policy, to make decisions, and to formulate rules for the new GII/GIS regime, and seek to enforce them. To illustrate this point, we take the example of South Africa, as it attempts to develop its new e-commerce policy.

3.3 South African responses to the emergent GII/GIS regime

As this new GII/GIS regime emerges, who wins and who loses, and how are developing countries, particularly South Africa and others in Africa, responding to its opportunities and challenges?

Global e-commerce is being driven in many ways by the leadership of the private sector. However, there are very important information policy issues that will facilitate its optimal growth, both within South Africa and around the world. This reality presents a fascinating and challenging paradox. While the scope of electronic commerce is clearly global, national regulation continues to provide the legal and regulatory basis for its operation.

The South African government has taken these responsibilities very seriously. As a major response, the department of communications (DoC) has launched an important national 'green/white paper' process on electronic commerce that will lead to specific national legislation by the 3rd or 4th quarter of 2001 (South African Department of Communications [SADoC] 2000). This legislation is designed to build on the progress already made in restructuring the telecommunications policy, both in 1996, and again in 2001.

The process of developing and conducting these information and communications policies has been highly consultative. The government has tried to include the voices of as many relevant stakeholders as possible (Groenewald and Lehlokoe 1999). This section will briefly examine the policy perspectives that are emerging in South Africa's movement towards an e-commerce regime. Our primary data source for this section is the national *Green Paper on Electronic Commerce*, the background papers commissioned by the DoC, the papers of the working groups, other published government documents, academic literature, and news accounts.

Of significant interest for our analysis, is the fact that the *Green Paper* makes constant reference to the need to harmonize its emerging national e-commerce regime with the growing global consensus and in line with its extant commitments to the World Trade Organization:

> In embarking on a national policy development initiative on e-commerce it is imperative that SA take cognizance of its WTO commitments, firstly, to ensure that such policy is compatible with the relevant WTO rules and regulations, and secondly, to determine the impact of e-commerce on those commitments (SADoC 2000: 48).

The WTO has worked to review the impact of e-commerce on its structure and planning. At its last ministerial meeting in Seattle, the US and other developed countries wanted to explore the possibilities of a more comprehensive involvement for the WTO in e-commerce issues:

> In the Seattle Ministerial Conference, South Africa, together with the Southern African Development Community (SADC), supported the extension of the moratorium until the next Ministerial Conference when it would be reviewed' (SADoC 2000: 49).

The current policy perspective recognizes that 'any regulatory regime that South Africa adopts must be consistent and compatible with international frameworks' (SADoC 2000: 18).

3.3.1 General principles on electronic commerce

Consensus on general principles around issues of international import is a key indicator of the emergence of a new regime. In terms of the e-commerce policy formulation process, South Africa's approach is based on eight key principles, which are: (i) quality of life; (ii) international benchmarking; (iii) consultative process; (iv) flexibility; (v) technology neutrality; (vi) supporting private-sector led and technology-based solutions and initiatives; (vii) establishing and supporting public-private partnerships, and supporting small, medium and micro-sized enterprises (SADoC 2000: 18).

In terms of the substantive principles, South Africa believes the following: (i) the recognition that there is a need for legislation to support the national implementation of e-commerce transactions, within a framework of international standards; (ii) that commercial transactions should be able to be effected through both paper and electronic means, without creating uncertainty about the latter; (iii) promoting a framework that increases the efficiency of South African commercial transactions, without being overly cumbersome; (iv) the framework should be technology neutral; (v) to develop a uniform commercial framework that conforms to international standards; (vi) that South Africa should build on the work of others and not reinvent the wheel; and that (vii) South Africa should strive to maintain its sovereignty and independence, and meet its strategic national socioeconomic development objectives (SADoC 2000).

3.3.2 Telecommunications and information infrastructure

Without increased access to information and communications infrastructure, e-commerce will not be able to meet its full potential (SADoC 2000). Since the restructuring of the telecommunications sector in South Africa in 1996, there have been

a number of information infrastructure initiatives in the country (Cogburn 1998). The DoC has been at the forefront of this effort, particularly with its *Info.Com 2025 Strategy*, public information terminals, public key infrastructure pilot, and numerous other e-commerce and e-government initiatives. As these infrastructure initiatives unfold, the strategy should be to develop an infrastructure that is capable of handling a wide variety of applications and services. From the South African policy perspective, 'the challenge confronting South Africa is to create an ideal market structure for e-commerce that will stimulate and modernise network development and infrastructure; accelerate universal access; support affordable access; encourage investment and innovation' (SADoC 2000: 82). There is a realization in the *Green Paper* that the infrastructure for e-commerce will consist of a range of networks, including 'backbone networks, end-user equipment and access services'.

> The success of e-commerce will depend on the available of speedy access infrastructure; high quality of service within the backbone networks; and affordable prices. Access will not only be through fixed networks (terrestrial, wireline and cable TV) but also through wireless networks (cellular, satellite, and digital broadcast spectrum) (SADoC 2000: 83).

Perhaps one of the most important emerging regime principles is the importance of liberalization, privatization and a pro-competitive environment for telecommunications and information infrastructure. South Africa is proudly a founding member of the WTO, and has been working actively to promote the multilateral trading system (Manuel 2000).

At the moment, Telkom, the commercialized public telecommunications operator has a monopoly on the provision of basic fixed telephony services. While the government chose to adopt this strategic equity partnership (SBC and Telkom Malaysia) for Telkom, the *Green Paper* recognizes that 'Telkom's efforts alone are not sufficient to achieve all of the infrastructure needs for e-commerce [in South Africa]' (SADoC 2000: 85). As such, South Africa submitted an accepted offer in the WTO's Agreement on Basic Telecommunications, and is now bound by the terms of that agreement to liberalize and privatize its telecommunications sector by 2002 (WTO 1997). South Africa has still not signed the WTO Information Technology Agreement (ITA). However, in August 2002, it did adopt the South African Electronic communications and Transactions Act which has addressed a number of issues raised in this paper.

3.3.3 Universal service/access

As stated above, there is a significant recognition that all of the potential benefits of global electronic commerce for South Africa will not be realized without sufficient attention to increased access to information and communications technologies for a wider portion of South African society. Often characterized as the 'digital divide', this disparity of access both within countries and between them is one of the most potentially limiting factors for global e-commerce.

In order to combat the digital divide and try to meet its universal service goals, the DoC has promoted a number of public access initiatives such as the development of multi-purpose community information centres, the universal service agency, and public information terminals to help South Africa to reach provide access for larger numbers of its citizens to the benefits and opportunities of global electronic commerce.

3.3.4 Customs/taxation

South Africa recognizes that the transition to a digital economy engenders new ways of doing business, and new products and services. Many of these products and services are presenting tremendous challenges to the taxation regimes of governments around the world. 'There is a legitimate concern by certain governments that the development of the Internet may have the effect of shrinking the tax base and hence reducing fiscal revenue' (SADoC 2000: 36). In addition, South Africa recognizes that there are significant difficulties in defining jurisdiction in electronic commerce, and to administer and enforce any kind of taxation scheme.

The South African Revenue Service believes that the global consensus that is emerging around taxation principles, being led by OECD, does not conflict with its views. The important basic principles of this emerging regime are: (i) neutrality; (ii) efficiency; (iii) certainty and simplicity; and (iv) flexibility. Of particular interest, there is apparently no opposition in the South African approach to the idea of 'no need for a special new tax such as a 'flat rate' or a 'bit' tax, and that the Internet and e-commerce should continue to be a 'tax free' zone (SADoC 2000: 37).

However, South Africa wants to promote the idea of 'indirect taxes', being at the place of consumption. 'Indirect taxes should apply where consumption taxes place, and an international consensus should be sought on the identification of the place of consumption. Consensus is important to avoid double taxation or unintentional non-taxation' (SADoC 2000: 40).

There is concern in South Africa that the development of electronic money, that is 'unaccounted', and 'network' or 'outside' money, will lead to additional challenges in terms of tax monitoring, collection and enforcement. However, it believes that there is significant cultural conservatism that will limit the impact of these new forms of money. In order to promote compliance, South Africa believes that it should require that certain information should be a part of South African e-commerce.

The following information should be furnished on any commercial website owned by a South African resident, company, close corporation or trust: trading name of the business; the physical as well as the postal address for the business; and e-mail address; telephone or other contact information and statutory registration number in respect of companies; close corporations and trusts (SADoC 2000: 44).

The emerging tax perspective recognizes that there are additional complications that reduce storage and transmission costs, and that storing information overseas is becoming easier and cheaper. As a result, South Africa believes that there is the need for a 'greater degree of international cooperation in revenue collection than currently exists' (SADoC 2000: 45). It appears that South Africa supports the role of the OECD, as a leader for this aspect of the regime, especially with its model tax conventions.

3.3.4 Electronic payment systems

The emerging policy perspective in South Africa is that multiple options should continue to emerge (both inside and outside money) that are inter-operable and could allow for anonymous, pseudonymous, and traceable methods. There is particular concern about the 'threat of cybercash' and the impact of unaccounted money on the South African economy (both in the form of network-based money and stored value

cards). Both of these methods have the potential to exchange value without identifying the user and without linking to specific bank accounts (SADoC 2000: 99). South Africa sees this as a 'make-or-break' issue for electronic commerce in South Africa. Another major challenge for South Africa, given its history of racial oppression and segregation, is the ability for the 'unbanked' have access to electronic payment systems.

South Africa has a well-developed financial system, and the South African Reserve Bank (SARB) has taken the lead on these e-payment issues. In 1998, it developed the South African multiple option settlement system that allows real-time settlement between banks. The SARB has also published a position paper on e-money in April 1999. The Reserve Bank is pushing hard for the principle that 'only banks would be allowed to issue electronic money', although there is the recognition that 'the issuance of electronic money may fall outside the definition of [the] 'business of a bank', as defined in the Banks Act 94 of 1990 (SADoC 2000: 102). The goal is to protect users, who, the Reserve Bank feels, may find themselves 'unprotected' in the event that the issuers of electronic money remain unregulated. The Reserve Bank feels strongly that 'primary and intermediary issuers of electronic value will therefore be subject to regulation and supervision by the South African Reserve Bank' (SADoC 2000: 102).

3.3.5 Global commercial code

South Africa recognizes that global electronic commerce is posing a challenge to its national legal systems that support commercial transactions. The current legal framework in South Africa, like in most countries, was developed for an era of paper-based commerce, and thus contains words such as: document, writing, signature, original, copy, stamp, seal, register, file, deliver, etc. (SADoC 2000: 28). The South African Law Commission found that the Computer Evidence Act 57 of 1983 was insufficient to address the admissibility of 'computer evidence' in civil proceedings, and this will have to be addressed in an emerging e-commerce regime.

Also important is the ability to determine the attribution of electronic documents. Given the existing law in South Africa, this issue has to be addressed.

However, in terms of the doctrine of 'estoppel' in South African law, a purported originator who never sent nor authorized a communication to be sent, may nevertheless be held bound in law if his negligent conduct, whether by action or commission, induced a reasonable belief of authenticity in the mind of the addressee, which caused the latter to act thereon to his/her peril (SADoC 2000: 32).

Additionally, it is important to ascertain the time and place of an e-commerce contract, in order to determine whether or not South African courts have 'jurisdiction to adjudicate a dispute involving both local and foreign nationals and, if so, which country's laws or courts would apply' (SADoC 2000: 32). How to effect a signature in cyberspace is another important issue for the South African policy environment. A framework for understanding electronic signatures (and the more specific subset 'digital signatures') must be put into place, and a common global commercial code should emerge to provide for the global rule of law and protection for contracts and private property. As the leading regime component in this area, South Africa strongly supports the United Nations Conference on International Trade Law and its model law on electronic commerce.

3.3.7 Intellectual property protection

The South African policy approach recognizes that the transition to a digital economy presents new challenges for intellectual property protection. Digital goods can be copied and distributed around the world with relative ease, putting additional pressure on the system of intellectual property protection in South Africa, and countries around the world. Intellectual property regulation needs to be revised to reflect the realities of the digital economy, while still providing an incentive for the production of information goods, and thus balancing the needs of the individual with the needs of society.

> South African intellectual property law is not fully equipped to deal with the implications of the Internet, convergence, multimedia, digital technology and hence e-commerce. The advent of the Internet has changed the underlying assumptions of the original copyright laws entailed in the Copyrights Act 98 of 1978 (SADoC 2000: 57).

South Africa has already made an attempt to comply with the WTO's Agreement on the Trade-Related Aspects of Intellectual Property (TRIPS) by amending its Intellectual Property Laws Amendment Act (Act 38 of 1997).

In order to try to help move the development of a global e-commerce regime forward, the World Intellectual Property Organization (WIPO) has developed its 'digital agenda' to guide its work in this area over the course of the next two years. The South African department of trade and industry convened a consultative meeting in South Africa to discuss South Africa's accession to these WIPO treaties and processes. 'The majority of stakeholders cautioned that before acceding to them, South Africa should analyse the benefits which accrue to small and medium enterprises' (SADoC 2000: 60).

3.3.8 Domain names

Currently, there are no direct linkages between domain names and trademark holders. This area, perhaps better than any other, highlights the significant contradictions that are at play in the development of global electronic commerce, and an environment of national-based legislation. As the South African *Green Paper* argues:

> Trademarks are territorial in nature, i.e. their registration applies to a particular country or jurisdiction. There is a general discrepancy between the national scope of trademark and the international nature of electronic commerce, particularly since e-commerce is borderless and instantaneous in nature (SADoC 2000: 63).

South Africa recognizes that domain names are an important and contested commercial asset, and famous marks should be protected while not allowing them to abuse smaller enterprises. There is some concern that the ICANN has not yet achieve complete legitimacy as the body charged with the responsibility to deal with domain name issues. South Africa is questioning whether or not it should support these structures, as well as structures such as AfriNIC, which has been formed to try to better represent the interests of Africa within ICANN (SADoC 2000: 97).

South Africa does, however, support the role of WIPO in its dispute resolution activities. It also supports the idea that in an information economy, the so-called 'country code top level domains' should be managed by national governments as a

national asset (SADoC 2000: 94). The South African Department of Communications has proposed the creation of an independent domain name authority to represent all relevant stakeholders (private sector, public sector, and civil society) and to manage the domain name issues for South Africa.

3.3.9 Personal data and consumer protection

In order to enhance trust in the digital economy, South Africa recognizes that personal date should be protected. The challenge is to what degree the South African policy perspective will allow for legitimate corporate uses of data mining and profiling, targeted advertising, and the use of other customer relationship management tools. As fundamental principles, South Africa believes that consumers should be protected against the following dangers:

- Unsolicited goods and communication;

- Illegal or harmful goods, services and content (e.g. pornographic material)

- Dangers resulting from the ease and convenience of buying on-line;

- Insufficient information about goods or about their supplier; since, the buyer is not in a position to physically examine the goods offered;

- The abundantly accessible nature of a website;

- The dangers of invasion of privacy;

- The risk of being deprived of protection through the unfamiliar, inadequate or conflicting law of a foreign country being applicable to the contract, and finally

- Cyber fraud (SADoC 2000).

South Africa also recognizes that when moving into electronic commerce, suppliers also face new dangers, especially in exposing themselves to new liabilities. The South African policy process would like to ensure that South African digital enterprises are an attractive competitor in the cyber world. The DoC sees this as 'an opportunity [for South African businesses] to establish a reputation for sound e-commercial practices, not only locally or within the SADC but also worldwide' (SADoC 2000: 78).

Of particular importance to South Africa is the impact that its privacy and consumer protection policies may have on its relationships with its trading partners, especially the European Union which has a very stringent privacy policy and consumer protection perspectives. There is a recommendation in the *Green Paper* that 'a combined government and industry database be set up to enable South African businesses to establish practices in any EU member country from which they may acquire personal data, for example, to establish profiles of their customers in that country' (SADoC 2000: 80).

3.3.10 Security, encryption and trust

South African believes that 'security measures used in conventional commerce may not be adequate to provide trust in the electronic economy' (SADoC 2000: 68). At the same

time, it is important that national and personal security concerns are balanced with personal privacy concerns. Four key elements are seen as crucial to ensuring that transactions in the digital economy can take place securely. These elements are: (i) authentication; (ii) confidentiality; (iii) integrity; and (iv) non-repudiation. From South Africa's perspective, achieving this level of security for the digital economy 'requires active partnership between government and the private sector' (SADoC 2000: 66).

These technologies are seen as critical to promoting trust in the digital economy, amongst both consumers and producers. It appears that South Africa is comfortable with the leading role being played by the OECD in promoting a regime consensus in this area.

3.3.11 Awareness

In South Africa, as in many other parts of the world, low levels of awareness about the potential benefits and opportunities in electronic commerce, is a limiting factor for its growth. South Africa is developing a strategy to promote these opportunities, both to consumers and amongst the SMME sector.

> Central to this issue is educating the wider population about both the opportunities and potential threats of e-commerce. Coupled with that is the need to popularize or publicize and e-commerce policy process so as to invite participation. The creation of awareness and other related initiatives by government and its partners from the academic and business sectors to promote technological development should be done on an integrated approach. We need to build a new e-community that can take effective advantage of the e-commerce opportunities (SADoC 2000: 112).

Within the South African public, private and civil society sectors, there are many bodies working to promote this level of awareness. Within the government, the department of communications is playing a leading role. Numerous private sector enterprises and bodies such as the Electronic Commerce Association of South Africa and the African Connection are also contributing in this area. In the civil society, the University of the Watersrand's Learning, Information, Networks, and Knowledge (LINK) Center is engaged in promoting an enhanced intellectual understanding of these issues, and the Internet Society of South Africa is building technical and user awareness.

3.3.12 Technical standards

The emerging South African perspective on technical standards is that they are of critical importance to the development and proper functioning of the Internet and global electronic commerce:

> Standards are rules, and serve as a basis for comparison and a form of order. The major objective for standardization is to achieve inter-operability between networks and services and ensure compatibility.
>
> Standards are needed for long-term commercial success of the Internet since they can allow products, services and applications from different

firms to work hand in hand. Standards encourage competition and reduce stress or uncertainty in the market place (SADoC 2000: 91).

However, there is also a recognition that 'Standards can also be employed as de-facto non-tariff trade barriers to 'lockout' non-indigenous business from a particular national market' (SADoC 2000: 92).

Further, there are also the tremendous challenges of developing standards in 'an environment in which technology is developing rapidly may be counterproductive at this stage of e-commerce' (SADoC 2000: 92). There is the recognition that these standards should be technologically neutral and industry-driven to the fullest extent possible.

South Africa supports the international organizations playing the leading role in developing this component of the global e-commerce regime, especially the role of the International Standards Organization and the International Telecommunication Union (SADoC 2000: 92).

3.3.13 Local content

There are numerous possibilities for promoting local content in the digital economy. In South Africa, there is a growing recognition that perhaps the primary source of this local content will be the growth and development of the small-, medium- and micro-sized enterprises (SMMEs) sector. SMMEs will be looked to increasingly to create employment opportunities for South Africa.

Several international organizations, both governmental and non-governmental, including the United Nations Conference on Trade and Development (UNCTAD), the World Intellectual Property Organization (WIPO), the International Chambers of Commerce and others are working to promote the impact of both developing countries and SMMEs on the digital economy.

3.3.14 Labour and society

As South Africa moves towards a digital economy, it is important to work to minimize the negative impact of e-commerce, while harnessing its potential. It is clear that both of these aspects are real possibilities in South Africa. On the one hand, new growth and new types of employment are indeed possible, while on the other hand, 'many workers could be come displaced, temporarily or permanently as a result of this transformation' (SADoC 2000: 112):

> Clearly there is need for research in this area to evaluate the nature and number of jobs that could be created by e-commerce and lost or displaced due to efficiencies brought about by new ways of doing business and consumers, a new breed of e-commerce firm 'the informediary' is being created to exploit the Internet (SADoC 2000: 112).

Globally, many of the high-technology workers, who have sought fame and fortune in the digital economy, are now becoming highly disillusioned (see Lessard and Baldwin 1999). Recently, high technology workers at one of the most widely know e-commerce companies, Amazon.com, have attempted to unionize in the Washington Area

Technology Workers, a union structure within the Communications Workers of America.

Currently, the ILO is reasserting itself as an important player in the international regime formation process for e-commerce, with a focus on understanding the impact on labour issues.

3.3.15 Human resources and capacity

While the shortage of human resources with the requisite skills in information and communications technologies requires immediate global attention, this situation is particularly problematic in South Africa. In South Africa, the Human Science Research Council states that, 'there is a chronic shortage of highly skilled human resources in various segments of the market. The scarcity of technical expertise and skills in the country is further exacerbated by the brain drain (SADoC 2000: 111).

South Africa further recognizes that human development must occur on at least five different levels: (i) skills and human resources; (ii) digital literacy; (iii) digital skills for all South Africans; (iv) skills for business; and (v) skills for the future (SADoC 2000: 111). Remote education and virtual campuses are seen as important elements of this strategy, and should be supported and developed in South Africa. Examples of the possibilities for developing human capacity can be seen through fields studies of geographically distributed collaborative learning (Cogburn, forthcoming).

3.4   Implications of regime transformation for Africa and the developing world

As we can see from this case study of South Africa, this newly emerging regime will be wide ranging, and have a tremendous impact on nearly every area of how we 'live, work, and play', as the evolving mantra goes. If this is so, it means that this regime involves perhaps the most important set of principles, norms, and values that we have seen in an international regime. What can be done to influence the direction of the emerging regime so that it might be more just and equitable for a wider grouping of the world's citizens?

This new regime requires countries, organizations, and individuals to engage in strategic policy initiatives designed to stimulate and harness the full potential of their research capacity (including, public, private, and academic sector resources). Developing countries need to work towards 'effective access' to the mechanisms and levers of regime formation. By effective access, I mean the ability to maximize the 'seat at the table' within the organizations of power and decision-making for information and communications policy.

4   Conclusions and future research

Globalization is a reality that is helping to fuel the development of an information society. Efforts at global regime formation in this area are taking place in both developed and developing countries. Interestingly, there is a significant level of information society activity in the Africa region and other parts of the developing world. However, the existing infrastructure gap in Africa between urban and rural areas, and

further between the developed and developing countries may hinder their ability to harness the potential of the information society. Additional research should focus on the strategies of other countries to respond to these global pressures and attempts to influence the development of an emerging regime for information and communications policy that benefits a majority of humankind.

References

Axelrod, R. (1985). *The Evolution of Cooperation*. New York: Basic Books.

Cogburn, D. L. (1998). 'Globalization and State Autonomy in the Information Age: Telecommunications Sector restructuring in South Africa'. *Journal of International Affairs*, 51 (2): 583-604.

Cogburn, D. L. (forthcoming). 'Globalization and Human Capacity in the Knowledge Economy: Understanding Geographically Distributed Collaborative Learning Between Developed and Developing Countries', in Derek Mulenga (ed.), *Globalization and Lifelong Learning: Critical Perspectives*. Mahwah, NJ: Lawrence Erlbaum Associates.

Cowhey, P. F. (1990). 'The International Telecommunications Regime: The Political Roots of Regimes for High Technology'. *International Organization,* 45 (2): 169-99.

Freiden. R. (1996). *International Telecommunications Handbook*. Boston: Artech House

Groenewald, M., and D. Lehlokoe (1998). 'Towards an Electronic Commerce Policy for South Africa'. Proceedings of the INET '99, Annual Meeting of the Internet Society. Available at: www.isoc.org/inet99/1g/1g_4.htm.

Krasner, S. (1983). *International Regimes*. Ithaca: Cornell University Press.

Keohane, R. O. (1984). *After Hegemony*. Princeton: Princeton University Press.

Keohane R. O., and J. S. Nye (1989). *Power and Interdependence*. Boston: Addison-Wesley.

Lessard, B., and S. Baldwin (1999). *Net Slaves: True Tales of Working the Web*. New York: McGraw-Hill.

Manuel, T. (2000). 'Concluding Remarks by the Chairman, Hon. Trevor Manuel, Governor of the Fund and Bank for South Africa, at the Closing Joint Session'. Paper presented at the 2000 Annual Meetings of the International Monetary Fund and World Bank Group, held in Prague, Czech Republic. Available at: www.imf.org/external/am/2000/speeches/pr68e.pdf.

Rittberger, V. (1995). *Regime Theory and International Relations*. Oxford, Clarendon Press.

SADoC (South African Department of Communications) (2000). *Green Paper on Electronic Commerce for South Africa*. Pretoria: South African Department of Communications

WTO (World Trade Organization) (1997). 'South Africa, Schedule of Specific Commitments'. Paper presented at the Committee on Trade in Services [Telecommunications], Geneva, 11 April.