

**Influences on the Partial Liberalization of
Internet Service Provision in Ethiopia**

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Abstract

Ethiopia's Internet service provision industry is at a critical juncture between deepening competitive reforms and continuation of the status quo in its chosen path of partial liberalization. This paper will show how the introduction of peripheral competition will likely not change the nature or quality of Internet service provision in Ethiopia. The institutional framework of the Internet Service Provision sector can be modeled as a continuum of willingness to accept competitive reforms among the various actors. While there is consensus for reform, views of further liberalization and the rate of expanding competitive provision of services vary along this continuum. We find that in accordance with their institutional powers and perceptions, the stakeholders with the most influence generated ISP reform with barriers to effective partial liberalization.

Introduction

Declarations by the government of Ethiopia made the development, expansion, and access to Information and Communication Technologies (ICT) a national priority (EICTDA, Personal Communication, December 21, 2005). Carefully orchestrated deregulation and partial opening of the telecommunications industry to greater participation by the private sector, was intended to increase access and quality of service. Research has shown deregulation of state-owned industries and competitive provision of services to be a powerful boon to economic growth and expansion of the telecommunications industry (Wallsten, 2003). Such reformist moves are viewed with a mixture of excitement, skepticism or outright mistrust by the Ministry of Transport and Communication in Ethiopia, as well as the incumbent operator, regulatory agency and private sector actors in Ethiopia. We explored the potential for reform in the Internet service provision (ISP) sector, within telecommunications in Ethiopia. Perspectives on liberalization conflict among stakeholders, and those with the most power in terms of influence over development and implementation of telecommunications policy are also the most wary of further Internet service provision liberalization.

The first section of this paper briefly presents background on the country and our research methodology. Second, we discuss the historical relationship of the operator and the regulator. The third section discusses the current theories of liberalization, competition, monopoly provision and reform. Fourth, we present Galperin's theory of new institutionalism and model it for Ethiopia using a continuum of perceptions and influence. Fifth, we discuss the implications of ideology, interest groups and technology and show how these factors fail to account for the policy outcomes in Ethiopia. Sixth, we show how the continuum explains the influence and outcome of Internet policy in Ethiopia. We conclude with two illustrative short case studies of Ethiopian Universal Access policy and reform of both value-added service provision (VaSP) and virtual Internet service provision (VISP) before discussing the efficacy of current and potential Internet service reforms in Ethiopia.

Background and Methodology

As a country of 70.5 million, Ethiopia lags behind the rest of the world and even much of sub-Saharan Africa in its economic and technological development. Per capita income remains only \$116 per year (US Department of State, 2004). According to the Ethiopian Telecommunications Agency, there are now 171 licensed Internet cafes in Ethiopia of which no less than 75% are located in Addis Ababa. The Ethiopian Telecommunications Corporation reports that Internet network capacity exists for 100,000 connections in Addis Ababa, but less than 20,000 are in use ("ETC to make," 2005). Telephone and other ICT density rank among the lowest in Africa with .01% of the population having an Internet connection (Ethiopian Privatization Authority, 2003).

The national government plans to use an ICT-led development strategy to fight poverty and modernize the economy (EICTDA, personal communication, December 21, 2005). According to the International Telecommunications Union, as cited in Meso et al (2006), "Information and Communication Technologies have the potential to improve all aspects of our social, economic and cultural life." More specifically, Ethiopia's ICT-led development strategy hinges on creating an effective nationwide fiber-optic network and providing universal service to rural areas of the

country. This network will expand vital connectivity to rural areas while also improving the quality of domestic and international links within more developed cities. In the cities, the demand for faster, cheaper and more reliable Internet is undisputable. One surveyed entrepreneur said that the current unreliable levels of service cost him a 40% reduction in business in the last six months during the ETC's attempt to switch to broadband (Internet Café Entrepreneur, personal communication, December 14, 2005).

To gather information and perspectives on the Internet in Ethiopia for this paper, we conducted interviews and surveys in Addis Ababa. We concentrated on interviewing high level officials in the Ethiopian Telecommunications Corporation, the Ethiopian Telecommunications Agency, the Ethiopian Information and Communication Technology Development Authority (EICTDA), and the Ministry of Transport and Communications (see Appendix A for further information on the structure of telecommunications governance in Ethiopia). Our semi-structured interview instrument was based Irene Wu's 2004 survey of independent telecommunications regulators (Wu, 2004). We gained guidance about which actors to interview through interviews at the World Bank, the College of Telecommunications and Information Technology of Ethiopia, the US Agency for International Development and the United Nations Development Programme. The interviews were initiated based on interviewees' access to the policy development and implementation process.

We also conducted oral surveys of Internet Café entrepreneurs and employees in Addis Ababa on the main roads to enable us to survey a maximum number of cafes, given time constraints. The non-random nature of the survey may impact the results by introducing geographic or relational bias. However, the uniformity of participant indicates that the opinions gathered could be considered representative within the community of Internet Café operators in Addis Ababa.

Relationship of the ETC to the ETA

The Operator: Ethiopian Telecommunications Corporation (ETC)

Telecommunications reforms began with the 1996 establishment of the Ethiopian Telecommunications Corporation (ETC). Since then, the ETC has been a state-owned corporation operating for profit and without direct governmental budget assistance. It provides voice telephony and Internet connectivity to the almost all Ethiopian businesses, government actors and citizens. According to the United Nations Development Program office, the only exception is a license granted to operate a separate satellite Internet connection for UN affiliated offices (Personal Communication, December 19, 2005). The ETC receives a monopoly license from the Ethiopian Telecommunications Agency (ETA). In exchange for allowing the ETC to remain a monopoly, it must meet government requirements for efficiency, quality and infrastructure expansion targets (Ministry of Transport and Communication, personal communication, December 21, 2005). Each year the ETC must submit a performance and business report to the ETA and the ETC Board of Directors. The government does not directly intervene in the day-to-day operations of the ETC, but the ETC must implement all policies and planning targets initiated by the Ministry of Transport and Communication and drafted by the ETA.

There is no tradition of private or competitive provision in this sector. Under the monarchy, socialist and post-socialist regimes, the government has pursued a state-led development strategy. In 2002-2003, the Ethiopian government attempted a partial privatization of the ETC through offering a sale of 30% of ETC equity. Despite hiring an international consulting firm to assist in this privatization effort, the ETC received no suitable bids for partnership. Since this failed attempt at partial privatization, the national government's policy has been to make the ETC into an efficient and profitable state-owned corporation. They continue to proceed without introducing full-scale competition into the system. The ETC has begun a series of initiatives including forms of small-scale subcontracting and limited private resale of services in order to increase profitability and make greater use of its network infrastructure.

The government has intended to use the regulator in lieu of competition as a means of enforcing efficiency and quality of service targets. According to the Ministry of Transport and Communication, the purpose of the ETA and other regulatory bodies is to look at the constitutional goals and industry standards, and create regulations that would cause the operator to become more efficient. Essentially, the ETA acts to make the ETC internationally competitive (Personal communication, December 21, 2005). However, such an attempt cannot realize the same benefits as genuine competition. According to Levi-Faur (2003), the creation of independent regulatory authorities actually reinforces state control over the economy.

Ethiopian Telecommunications Agency (ETA)

The 1996 declaration that created the ETC also created an independent regulatory agency – the Ethiopian Telecommunications Agency (ETA). Its mission includes licensing of Internet service providers, monitoring and spectrum allocation, tariff approval, customer protection, adjudication of disputes, and assistance in drafting policy. During the first six years after its creation, the ETA concentrated on capacity building, acquisition of technology, and training of staff. Current initiatives with NetTel@Africa and the World Bank have secured two million dollars in financing and training assistance to build the capacity of the ETA (ETA, personal communication, December 14, 2005). A majority of government interviewees outside the ETA stated that the Agency should be ready to regulate a more complex market in two to three more years. The ETA, however, claims that the timeline for further opening of the sector and increased duties for the Agency could be much shorter.

Since 2002, the ETA has issued licenses to resell value added services (VaSP) and operate Internet Cafés. Another role the ETA fulfills is drafting new directives and policy documents for the Ministry of Transport and Communications. The Ministry creates a general framework for new policy directions and the ETA completes the drafts providing the detail and legal terminology to make the directives into binding policy statements. This process involves contact and consultation with the Ministry, the ETC, and the Ethiopian Information and Communication Technology Development Agency.

Defining Liberalization, Monopoly and Reform

Though there are many nuances to the definitions for competition and liberalization, we use David Souter's (2005) definition of competition as "a market in which different suppliers of a service compete to provide customers with the service they require – the normal circumstance for most products and services in most countries". Further, he describes liberalization as "the process of establishing a competitive market out of circumstances in which service was provided by a monopoly." These definitions do not include discussion of privatization, where ownership of a service provider and its assets are transferred to private parties through a variety of mechanisms (Savas, 1999).

Neither competition, and associated liberalization efforts, nor ownership transfers, and associated privatization endeavours truly exist as absolute ideals. Rather, they both exist along spectrums as elaborated by Figure 1 below. In this paper, the progression from the bottom left to top-left square is being discussed. However, a range of options exists in the space between no competition and full competition, and the discussion should not be limited between either extreme, but explore the possibilities for gains from the intermediate areas.

		Privatization / Ownership Spectrum	
		Public	Fully Private
Liberalization / Competition Spectrum	Full ↑ ↓ None	Incumbent operator exists, with competition from second or multiple network operators and service providers in all arenas within the sector.	Neo-classical market model, government does not own a player and does not interfere with actors entering or exiting the market
		Government monopoly operator exists unchallenged, dominates all sectors of industry	Monopolistic private actor – not government owned

Fig.1: Patterns of Liberalization and Privatization Matrix

Until the 1990's, it was common to view telecommunications in general as a natural monopoly, where only one operator could be supported at a market equilibrium. According to

Wolcott and Çağıltay (2001), the traditional arguments include the “economies of scale and capital investment requirements that make single centralized providers the most effective means of delivering a service.” It is believed that natural monopolies arise when there is a high fixed cost to providing a good and a negligible marginal cost. In competitive markets, price equals the marginal cost – making the price of each additional unit negligible. An initial market entrant might be able to set the price and recoup the investment expense of high fixed costs. However, other market entrants might drive down the price, and make the market unappealing for all actors. However, governments can choose to allow at least one firm to operate while excluding others from the market, and have the authority to set the price equal to average costs. The ability to set the price equal to average cost instead of marginal cost creates a potentially profitable situation. Governments frequently chose the option of operating these single firms themselves, and public infrastructure utilities are textbook examples of this practice. Utility or infrastructure monopoly rights are also frequently attached to universal service objectives. These are viewed as strategic assets for economic and national security as well (Urey (1995) cited in Wolcott and Çağıltay (2001)). As a monopoly that can set its price high enough to recover costs and turn a profit, it can also provide a source of revenue that governments are reluctant to lose, particularly without an obvious candidate for its replacement.

However, monopoly service provision does have significant weaknesses that many scholars and economists claim outweigh the arguments for it. Jerome (2004) notes that public utilities are vulnerable to market failures where

“public monopolies may allow cost to rise above efficient levels or offer services of inferior quality; information failures such that consumers are unable to assess the quality of the service they are paying for; externalities with implications for controlling environmental standards, public health and safety; and social concerns since many infrastructure services are considered essential to life.”

Wallsten (2004) agrees and states that “a monopoly provider, whether state-owned or private, faces fewer incentives to improve service and lower prices than firms operating in a competitive environment do.” Additionally, he asserts that a telecommunications sector which is not living up to its potential can create problems in the arena of economic development and growth. Quality and penetration of telecommunications infrastructure can serve as an engine of

economic growth, making the country more attractive to foreign investment (Wolcott and Çağıltay (2001)), and lack of these can also perpetuate low incomes (Wallsten (2004)). Milne (1998), in her discussion of stages of telecommunications network development, notes that the hope is that competition will allow “developing economies to condense or even jump a stage” of development. Evidence from India, another developing state, has also shown that ICT industries can provide a source of economic growth and modernization (Sachs, 2005).

In the last 25 years, states began to recognize the benefits of competition in the telecommunication sector, and many countries began full liberalization processes. Successes have further encouraged the move to the market model from state-led policies. According to Levy and Spiller (1996), “Competition can be a powerful spur to innovation and technical efficiency.” Further, they claim “When a country’s major telecommunications company fails to develop an adequate communications network, the normative case is strong for opening up the sector to competition.” In the local exchange section of the telecommunications sector, it has been confirmed that competition was a significant factor in causing the geographical penetration of the U.S. telephone market throughout early stages of the technology’s development (Jayakar, 1999).

Wallsten (2003) analyzes the efficacy of different telecommunications reform strategies by breaking them down into three components – regulatory capacity, competition and privatization. The best results involve increased regulatory capacity paired with competitive reforms and privatization of the incumbent. However, he also states that positive results occur when increased regulator capacity is included with increased competition, and that competition itself is the most significant factor affecting service.

Privatization is generally the most unappealing option to Ethiopian governmental stakeholders. The lack of political will for this prong of reform could stem from the lesson of the failed 2002-2003 effort, from the loss of control that privatization would necessitate, or from other less distinct causes. However, we concur with Wallsten’s assessment that even without privatization, significant gains could be realized in the Internet service provision sector. According to Wallsten (2001), in the telecommunication sector, “competition is associated with increased

mainline penetration, payphones, connection capacity and lower prices for local calls.

Privatization by itself, meanwhile is associated with few benefits.”

Ethiopian leadership intends to liberalize downstream services without having to first divest itself of ownership. In their view, the Ethiopian government could continue to operate the ETC and benefit from the stimulus of other entrants into the value-added market. They would not have to give up control of the network, backbone or connection to the international gateway to other market entrants. In the partial liberalization framework, these would remain the exclusive domain of the ETC. Research has thus shown both why governments opt for monopolies, and why they choose to reform them. This paper explores why the Ethiopian government prefers certain types of reform to others.

New Institutionalism and Ethiopia’s Partial Liberalization Continuum

Hernan Galperin (2004) begins to address the question of why certain policies are adopted through a framework of new institutionalism. He defines new institutionalism as a means of understanding “why certain stakeholders are consistently favored over others, why certain governments are capable of passing reforms and others are not, or why diffused interests are represented in some cases and not others, it is necessary to examine the institutional fabric that underlies the making of information and communication policies.” He proposes that the interest group, ideological, and technology-centered approaches cannot account for the outcomes of policy formulation. Galperin does not dismiss the assumptions and contributions of these frameworks, but rather combines their influence under the rubric of his general theory. Specifically, new institutionalism accounts for change by looking at multiple levels of institutional constraints from structure of the government itself down to individuals within given agencies.

At the most general level institutionalism explains how the form of the government itself such as parliamentary or presidential system, unitary or federal presents certain policy options (Peters, 2005). New institutionalism, however, looks at lower levels and informal channels such as procedures of review and influence as well as links between organizations. It thus has the ability to account for informal influence, institutional norms, and path dependency. Through this

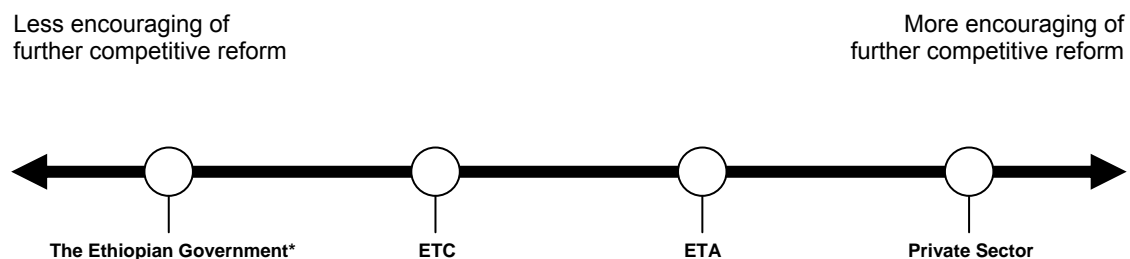
theoretical examination of the procedures by which policy is formulated and the actors who have significant influence over policy, new institutionalism is best able to explain the varieties of outcomes in ICT policy.

The new institutionalist framework is one of several models for how Ethiopia arrived at the decision to allow peripheral competition with certain caveats. The example of ISPs in Ethiopia is a perfect illustration of the new institutionalist framework in practice. To satisfy the demands and interests of more powerful actors, less influential stakeholders were forced to accept or initiate compromises regarding the extent and pace of reform.

Preferences Regarding Partial Liberalization in Ethiopia as a Continuum

The debate among stakeholders in Ethiopia is not a question of whether to reform. It is a question of how much reform and when. We discovered that perspectives on reform can be modeled along a continuum according to a new institutionalist framework. Each set of actors has a unified consensus within its own organization. However, despite the universal acceptance of the need for reform, different groups recommend different strategies and timelines.

Continuum of Perspectives on Competitive Reform in Internet Service Provision



*Those organizationally superior to the interviewed officials. Organizationally, this only includes the Council of Ministers and the Prime Minister.

To create this continuum, we arranged the stakeholders for liberalization efforts according to their preferences as stated during semi-structured interviews regarding:

- Speed of liberalization – we classified those with longer, indefinite timelines as less inclined to accept competitive reform.
- Type of liberalization – those organizations favoring tightly limited and specific peripheral sectors to be liberalized were classified as less inclined to accept competitive reform
- Increased role for regulator – organizations favoring a smaller or negligible policy role for the regulator, or expressing confidence in its capacity to regulate a more competitive sector were classified as less inclined to accept competitive reform
- Increased role for private sector – those groups opposing a more expansive role for the private sector in Internet provision were classified as less inclined to accept competitive reform

Using organizations as the unit of analysis, we found that as the stakeholder's influence increased, the less likely they were to encourage rapid and broad competitive reform in the Internet service provision sector. Resistance to reform directly correlates to power and influence with respect to policy design. Those with the greatest responsibility for reform implementation were also understandably more cautious about reforms. Though the distances between points on the continuum cannot be exactly fixed, the order of the stakeholders along the continuum illustrates their stated positions relative to each other.

Least Encouraging of Competitive Reform

High level interviewees frequently referred to "The Government" as the most powerful policy actor, and the entity responsible for determining the rate and nature of any potential reform. Organizationally, the superior levels to the interviewees only included the Council of Ministers and the Prime Minister, assuming that these actors accurately represent the attitudes of their respective government ministry and minister.

According to the interviewees, "The Government" favors largely preserving the state monopoly on telecommunications services. It does not favor allowing multiple telecommunications providers, and is particularly wary of potential foreign market entrants. However, in the interest of utilizing the full network capacity, they will allow limited competition in value-added areas of Internet Service Provision. As long as the supremacy and profitability of the

ETC is not challenged, The Government is comfortable choosing which downstream and peripheral services within the sector will be liberalized. However, it has not demonstrated any urgency or set timelines for further reform. Prime Minister Meles Zenawi has stated that full competition is not on the horizon at all (Internet Café Entrepreneur, personal communication, December 20, 2005 and USAID, personal communication, December 21, 2005,).

Limited Encouragement of Competitive Reform - Ethiopian Telecommunications Corporation

The ETC, while cognizant of its limitations and weaknesses in provision of certain services, seeks to retain its position within the sector. All officials we interviewed agreed that the ETC is too burdened with other responsibilities to offer exceptional quality service or to handle customer service, web hosting, email, and other Internet-related value-added services. They also agreed that provision of these services would be an excellent entry point for the private sector into Ethiopian telecommunications. They did not agree on the time-frame for the introduction of private sector actors. As the next most influential actor in Ethiopian Internet service provision and policy, the ETC has an interest in continuing its established dominance. It favors a competitive reform policy that grants it sufficient time to increase efficiency and quality of service under the supervision of the ETA. The timeline given by an ETC official for allowing fully open, totally market-driven, competition in the telecommunications sector was five to ten years (ETC, December 16, 2005).

In the long run, the ETC plans to divest itself of all value-added and downstream services and serve as an infrastructure and network operator. They do recognize and prepare for a situation that would include a second network provider at some indefinite point in the future. For the time being the ETC seeks to maintain the cross-subsidies and monopoly privileges it enjoys.

Moderate Encouragement of Competitive Reform - Ethiopian Telecommunications Agency

Although inclined to support greater and greater reform and opening of the sector, the Agency stops short of advocating a true competitor for the incumbent, one that would provide network, infrastructure, international connectivity as well as value-added services. As a regulatory

agency, the ETA understands the importance of regulatory capacity in administering a competitive telecommunications industry. At this point in time, the ETA admittedly lacks the capacity to oversee full competition and liberalization. However, it supports an acceleration of partially liberalizing reforms to utilize the regulatory capacity already built and to encourage further maturity. Over a period of two to three years, the ETA would be fully capable of managing a fully competitive value-added service and Internet Service Provision sector. In their view, this could naturally progress and segue into further liberalization as the ETA gained the ability to further regulate more actors and services.

However, the ETA scores poorly as an independent regulator in comparison to other nations, based on the Irene Wu's criteria for regulatory independence (2005). It remains too tightly bound to the national government through funding, hiring and firing procedures, and procedural methods. This lack of independence may affect their ability to effect their desired changes as evidenced by the ultimately restrictive nature of the directive. Despite their intentions, the ETA lacks the institutional influence to accelerate the reforms they desire.

Most Encouraging of Competitive Reform – Private sector Internet café entrepreneurs

These actors share an interest in fully opening the ISP sector. Internet Café operators all seek better and more reliable service at lower costs. Furthermore, as entrepreneurs, many are interested in the potential opportunities to enter this market. The hopes of the private sector include the creation of multiple network operators but more generally relate to competition among Virtual Internet Service Providers (VISPs) and Value-Added Service Providers (VaSPs).

Private sector actors in the existing VaSP sector feel their interests would be best served if they had alternatives to the monopoly ISP. Internet Café employees and entrepreneurs reported general dissatisfaction with the ETC, as they felt the ETC, having no competition was not forced to change. Like with all operators of value-added telecommunications services worldwide, Internet Café entrepreneurs want lower overhead costs, faster access, more bandwidth and better customer service. 88% of respondents stated that they were not satisfied with the speed of their internet. 71% were unsatisfied with customer service and 67% were unsatisfied with the cost

for basic connectivity. In cases where technical or service problems arose, many café operators chose not to contact the ETC because “they never listen.” (Internet Café Entrepreneur, personal communication, December 14, 2005) One respondent stated that having more ISPs would lower costs. A second commented that the private sector would be better able to get the Internet into homes through expanding ISP competition. A third directly referenced the ETA stating that it needs to begin licensing private provision of Value Added Services in order to improve service quality.

This group fervently believes that increased competition will lower connection prices and supports all moves in that direction. Still, Ethiopia’s private sector is largely undeveloped and has not yet developed capacity to effect policy change.

This continuum of perspectives and influence places the actors in Ethiopian Internet provision and reform in a structure based on their institutional positions. As an illustration of Galperin’s new institutionalism, it is able to account for and incorporate group interests, ideology and technological considerations.

The Role of Interest Groups and Ideology

The interest groups in Ethiopian Internet service provision have formed along ideological lines. Foreign governmental and multi-lateral organizations (particularly US AID, the World Bank, and the UNDP) as well as private sector actors favor a neo-classical, market-oriented direction for the economy. Neo-classically influenced market and private sector interests view competition and reduced government involvement in the economy as intrinsically good.

Entrenched institutional interests within the Ethiopian government are wary of these positions. In our interviews, officials communicated their distrust of motives and ability within the private sector, as well as distrust of foreign investment in sensitive sectors. According to the officials interviewed, the ETC believes that telecommunications services are too important to be cast aside and perhaps ruined by the private sector. Several voiced fears that some would-be entrepreneurs who enter the market would be unable to provide the services asked of them. Officials at the UNDP, the Ministry of Transport and Communication and Ethiopian Information

and Communications Technologies Development Agency all noted the current weakness of the private sector, though the UNDP is more optimistic about its promise in the short-term than the others. According to one government official, "(The private sector) is in an embryonic state...As long as we [don't] see...a potential private sector that is directly ready to go forward for provision of the Internet, I say it's good that the government (takes) the share of the burden". According to the current policy, it is the role of the ETA and ETC to investigate firms to make sure they are competent "acceptable partners," ready for the responsibilities of service provision (EICTDA, personal communication, December 14, 2005).

The private sector actually may overestimate its readiness to take on competitive provision of services; however, there is a desire to participate in this arena. Unfortunately, the requirements for entry into this sector, as set in the VaSP and VISP initiative, preclude many prospective applicants (see Appendix B for selection from the English-version of the directive). The regulatory barriers to entry contrast with the assumptions of the neo-classical framework; namely, that anyone who wants to enter a market should be able to, or at least without government obstruction. The neo-classical perspective allows those who cannot compete to fail and exit; the market itself determines who stays and who leaves. The more statist perspective on competition would allow government actors to make that determination before granting permission to compete in order to reduce the potential for failure.

The Role of Technology

The Internet has long been trumpeted as creating a borderless society, as the routers, switches, and cables that form the Internet do not readily recognize political borders. However, Ethiopia's strict control over its international gateway has limited this aspect of the technology. Currently, the ETC operates a satellite connection and does not allow other entities to operate their own international links. The only exceptions it makes are for two international aid organizations that share a separate satellite link. Permission to operate a separate international link was negotiated through the ETC (UNDP, personal communication, December 19, 2005). The power of the Internet to act as an independent and globalizing influence on policy is limited when

the entire national bandwidth is only twenty-four megabits (UNDP, personal communication, December 19, 2005) and there are effectively no alternative international gateways available. The transformative power of the Internet is limited when access must pass through a government-controlled gateway.

Influences and the Effects of the Continuum on Partial Liberalization Strategies

According to Williams' view of institutionalism (1998), governments shape and determine how markets function and can greatly influence economic growth. Moreover, "An institutional approach does not ignore ideological factors or interest group pressure as important determinants of policy outcomes. It nonetheless suggests that a complex web of institutions mediates between these and government officials filtering ideas and pressure in specific ways" (Galperin, 2004). The structure of the Ethiopian telecommunication bureaucracy directly influences the manner in which policies are formulated by systematically reducing the influence of certain actors while increasing that of others. In Ethiopia, the web of institutions is best understood as a continuum. The most powerful actors are also those least inclined toward competitive reform. More recent entrants to the system such as the ETA and the private sector have fewer points of access and much less influence. As a result, policy initiatives remain cautious so as not to risk major changes in the status quo.

The most influential actor on the continuum is "The Government". Given the centralized nature of the Ethiopian government, those actors closest to the Council of Ministers hold the greatest influence. "The Government" controls the budget of the ETA, determines which policy initiatives from the Ministry of Transport and Communication will be pursued and outlines the general targets and plans for the ETC. "The Government" views its perceptions and policy prescriptions as pragmatic. From its perspective, there is no currently viable alternative worth investigating that could convincingly provide telecommunications services, including Internet service, on a nationwide scale. Thus, any liberalizing reforms are small-scale and incremental. To this actor, allowing peripheral competitive services is a pragmatic means of opening the sector and improving services. These initiatives are to be highly specialized and limited so that if they

fail, it will not lead to major national setbacks in telecommunications. Yet, if successful, they will provide opportunities for entrepreneurs to enter the telecommunications sector and assist in development. As the most powerful actor and the one the least inclined to competitive provision of services, “The Government” can largely determine the extent of reform.

Some actors, such as the ETC, do not actually have a direct role in policy formulation yet, as predicted given their location on the continuum, persuade decision makers to resist policy initiatives detrimental to their interests. New institutionalism explains the resistance of status quo actors through the influence of “sunk costs.” In Ethiopia, the ETC has spent large amounts of capital developing its monopoly network. Significant investment of time, financial and other resources along a given developmental path encourages risk-aversion and promotes sustaining the status quo (Galperin, 2004). In this case such investment makes fully liberalizing change politically unpalatable. The national government may be unwilling to risk losses on such a significant investment and is inclined to reject policies that may place their “sunk costs” at risk. As predicted by the continuum, the ETC, as a powerful actor with vested interests holds great risk aversion and proceeds cautiously with changes to the status quo.

The ETA, although directly responsible for drafting policy, lacks the influence to effect strong changes to the status quo without expending significant political capital. Even though the ETA continues to take on more responsibilities, it remains fully dependent on the state for its funding. It must wait for other state agencies or actors to request its services in policy formulation or regulation development (See Appendix A). Thus, despite its desire for greater change it cannot challenge those in power above it who control access to resources and determine the future viability of the ETA. Thus, although the ETA acknowledges the challenges, and potential for reform, it lacks the position within the governmental institutional framework to effect the changes it desires.

Discussion

Two examples of Ethiopian ISP policy illustrate how this continuum of institutional interests has limited prospects for reform: the approach to universal access and to VaSP and

VISP initiatives. "The Government" and the ETC believe that the monopoly method, while perhaps not the most efficient, is the most dependable manner of extending basic connectivity to every region of the country.

Case: Universal Access

Governmental stakeholders want to require connection of all 15,000 kebeles and completion of the national fiber optic cable network before expanding beyond partial liberalization. This has the effect of creating a tremendous delay. One interviewee ventures that, "after... the kebeles are finished and universal access and everything completed... we'll really expect some [liberalizing] changes, definitely" (EICTDA, personal communication, December 21, 2005). Only after this momentous project is completed will the stakeholders with the most influence begin full competitive reforms. This runs directly counter to what neo-classical proponents argue would be one of the key benefits of full competition: that expanded competition would actually improve rural access.

However some officials in multiple organizations fear that full competition will force the immature ETC to abandon any rural connectivity efforts in order to remain competitive in urban areas. Full competition would effectively end its ability to cross-subsidize. This status quo arrangement has strong institutional and ideological backing. Reform of public telecommunications services is commonly seen as a threat to the universal provision goals of the state (Mustafa et al., 1997). When asked whether alternatives to monopolistic rural service provision models such as reverse subsidy auctions (Raja, 2003) or concessions in exchange for meeting rural access targets were considered, officials repeated their previous statements regarding the necessity of the monopoly provision model. An official provided this representative view: "The government thinks that if the private sector comes in, they only would be involved where they can get more money, rather than getting attention to the rural areas" (ETA, personal communication, December 20, 2005). This is based on two assumptions: that rural service is inherently unprofitable, and that there are no mechanisms by which the private sector could be

induced to provide rural access. These assumptions are institutional doctrine underlying the actions of the Ethiopian actors with the most power.

Case: VaSP and VISP Reforms

In order to help realize their ambitious ICT goals, effective on August 16, 2005, the national government approved a new directive to commence licensing of VISPs (see Appendix B). However, the restrictions that it has put on this downstream competition largely negate its chances of success. To satisfy the unique demands and interests of major stakeholders and to convince them to lend their support to partial liberalization, compromises were made. Such compromises actually represent concessions to various interests. The one-off result allows all stakeholders to be at least partially satisfied; however, raising barriers to entry to satisfy certain groups also raises barriers to success.

Within the ETC, there is a fear of unscrupulous private actors who may take payment and fail to provide service (ETC, personal communication, December 15, 2005). The new directive allows competition in downstream services, but requires certain levels of education and experience from potential alternative providers. Unfortunately, this compromise of including stringent education and experience requirements creates requirements that are well beyond those of the hopefuls with whom we spoke, and well beyond those of successful small-business entrepreneurs in both developed and developing countries (Colombo and Delmastro, 2001). Even a VISP that does not plan to lease equipment or set up its own networks must employ trained computer scientists or engineers with two years experience. In our view, such a requirement will severely limit the number of acceptable applications and restrict the pool of entrepreneurs able to participate in this new initiative. The compromise VISP initiative will not create the competitive environment that increases Internet penetration, that utilizes the full capacity of the ETC network, or that will relieve the ETC of service provision burdens. It is doubtful that these restrictions would allow a critical mass of entrepreneurs to accumulate.

Second, given the influence of the ETC, interconnection of networks is not allowed. This barrier prevents any market entrant from gaining too much benefit from potential network effects.

The network effect for telecommunications states that the value of the network is proportional to the square of the number of nodes in the network. Were the small VISP networks able to directly interconnect, the benefits would accrue much more rapidly than through the centralized links at the ETC – much like the manner in which the Internet itself was created. A partnership or coalition of interconnected VISPs could be formidable competition for the ETC.

The current restrictions in the VISP directive serve the institutional interests of the ETC by allowing it to maintain a dominant market presence. The private sector continues to pose no threat to the incumbent, and the VISP initiative relieves pressures for reform from international and domestic sources. Preventing interconnection is a protective mechanism for reducing the potential power of market entrants, but it disadvantages prospects for economic growth. Levy and Spiller (1996) argue that the opportunities for competition “can be realized only if ready interconnection among providers and services is guaranteed.” Accordingly, the benefits of competition to the country would only be realized with interconnection. By creating a reform that yields to the interests of the ETC, the VISP initiative will fail to achieve its full potential benefits.

A similarly impaired reform took place in South Africa where liberalization led to competition in the ISP sector, but “with restrictions on their operations (for example, they are not permitted to do voice and are required to acquire their facilities from the fixed-line monopoly provider)” (Gilwald, 2005). This arrangement allowed for deregulation in name only. When all ISPs are required to purchase services and use facilities of the incumbent/monopoly provider, the benefits of competition are stifled. Everyone must still buy from the same source, even if the intermediaries have changed. In Ethiopia, issuing a directive with the limitations of monopoly control of the international gateway and a monopoly right on interconnection has serious drawbacks. It does little to encourage potential entrepreneurs or increase the quality and speed of Internet connections.

Conclusion

We understand that given the nature of the institutional framework in Ethiopia, immediate and full competition in the ISP sector is neither possible nor desirable. The regulatory capacity of

the ETA would be overwhelmed. The ETA has only just begun preparations to license and regulate limited peripheral competition.¹ Matters of interconnection and disputes among a plurality of networks are well beyond the experience of the regulator at this time. This does not mean, however, that conditions in Ethiopia suggest that reform should be halted; rather, continuing on the path of partial liberalization is the most likely way to effect successful reforms in the future. However, instead of nominally competitive reform, a policy that would result in real peripheral competition should be applied in this case. Were the reforms modified to lower the barriers to market entry, the benefits to Ethiopia would accrue far more quickly. These reforms would provide a foundation from which to test further liberalization.

There are four likely benefits to the initiative even with its current limited scope. First, the partial liberalization approach to reform will prove that the private sector is indeed capable of providing quality service, helping to alleviate doubts about the viability of competition. If services improve significantly and the rate of use on the ETC infrastructure increases, this would forcefully demonstrate to those in favor of state-led growth that competition truly is a powerful driver for development of Ethiopia's telecommunications sector.

Second, these reforms will assist in building the capacity of the private sector itself. They will increase the knowledge base among entrepreneurs in operating high-tech businesses. Additionally, entrepreneurs will gain experience cooperating with the regulator through legal licensing procedures and with the incumbent through contract agreements. This may assist in bringing a measure of competitive business knowledge to Ethiopia, which could have positive influences in other sectors of the economy.

Third, for the ETC itself, deepening of reforms should continue to improve their efficiency and capabilities as a network operator. Specialization leads to improvements in efficiency and the greatest good for all consumers (Frankel, 2000). Through specializing in network operation and divesting itself of all downstream services, the ETC can begin to become a truly efficient operator.

Fourth, the Ethiopian Telecommunications Agency views the VISP initiative as an opportunity to test its capabilities as a regulator and licenser of multiple operators. This initiative

¹ As of 12/21/2005, the ETA had not yet received any VISP license applications.

gives the ETA a chance to regulate in a partially liberalized system and will reveal the degree to which previous capacity-building efforts have been successful. The ETA will gain valuable experience and further insight as the initiative is implemented over the next two to three years. Success in this environment could have normative effects on the views of the ETC and the Ministry towards the capabilities of the private sector and the regulator.

There are risks to the current partial liberalization initiative. Should it fail, it will provide ammunition for opponents of greater liberalization. In the same way that the failed equity-sharing agreement ended efforts at privatization, failure of partial liberalization could lead to retrenchment and monopolistic control. While it might fail, it would be representative of the failings of a restrictive partial liberalization, not partial liberalization in general. Herein lays the danger in this initiative. As written, the chances for success are limited, but interests that favor the status quo may try to extrapolate from it an indictment of all partial or full liberalization initiatives.

A second risk in this initiative is that it could trap the national government in a state of indefinite partial liberalization. Having allowed private provision in a limited range of services, the ETC and government may see no reason to push for further reforms. A new status quo could materialize where the potential benefits of liberalization are only partly realized. Under such circumstances, the nascent reforms could stagnate into a state of inertia where “next year” never comes.

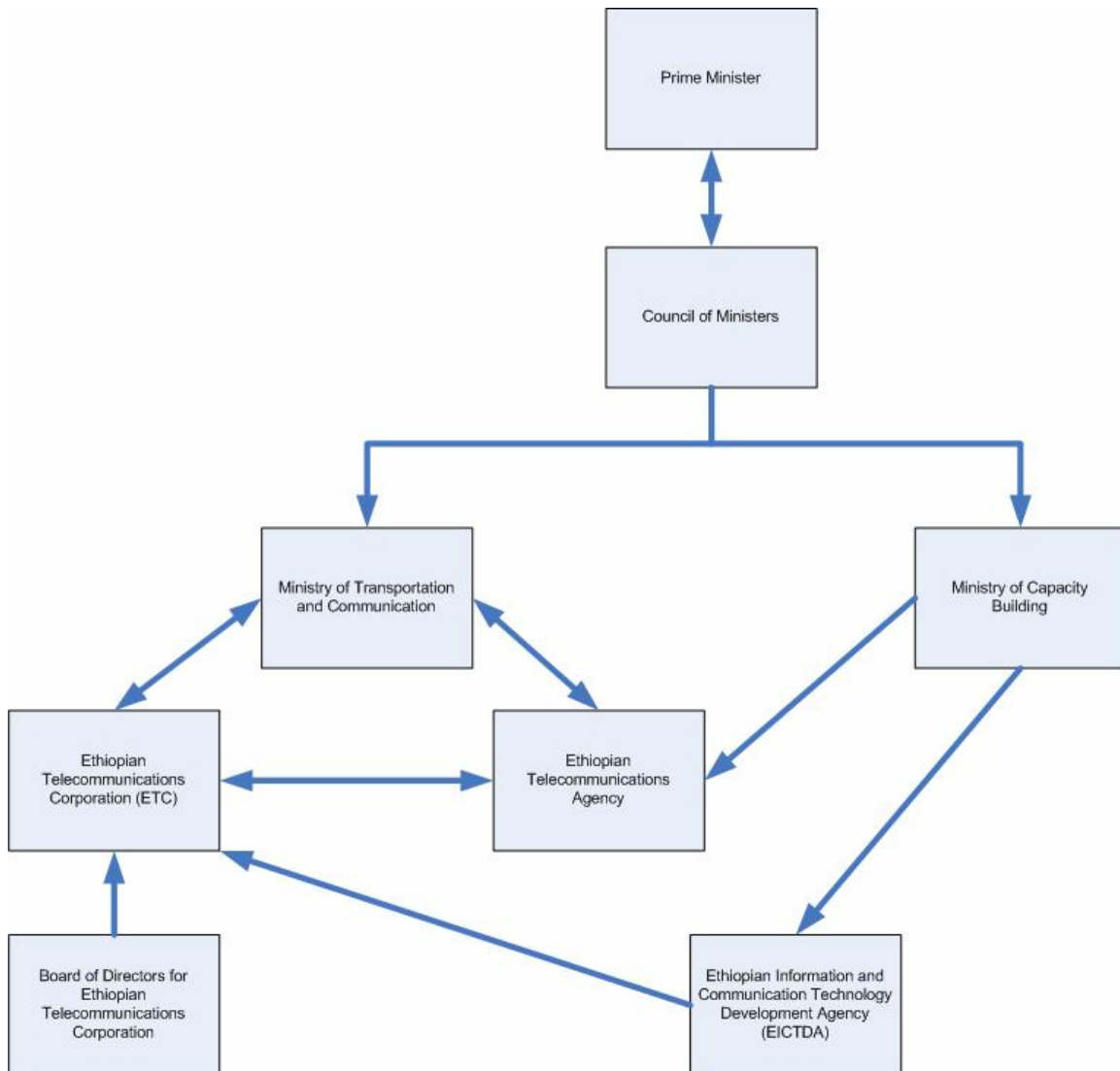
Our research set out to understand the institutional explanation for the types of reform adopted in Ethiopian telecommunications. Our research was limited by time and the number of interviews we were able to conduct. In the future, a more comprehensive survey of the actors introduced in this paper in addition to representatives from each department within the organizations in Ethiopian telecommunications would create a richer data set and more clearly express the views held by the different actors.

Nonetheless, our research sheds light on the manner in which institutions can directly impact the types of Internet service policy adopted in developing states such as Ethiopia. Understanding why Ethiopia’s reforms have developed as they have will help explain policy choices in similar states throughout the developing world. Even in developed states institutions

can predispose certain outcomes in the policy making and implementation process. For that reason, understanding institutional causality is critical to understanding policy formulation.

In conclusion, each of the major stakeholders in Ethiopian telecommunications believes that liberalization will benefit the Ethiopian people and improve the quality and scope of Internet access. The ability to reform is sharply limited by the institutional framework of Ethiopian Internet service provision modeled by the continuum presented here. Without significant institutional reforms that change the perspectives and power ratios modeled on the continuum, any potential for competitive reform and the benefits it promises will remain underdeveloped.

Appendix A: Agents and Influence in Ethiopian Internet Service Provision



I. Major Agents

- a. *Prime Minister*: In the Ethiopian parliamentary system, the Prime Minister is the head of government. His signature is necessary for acts of parliament including significant changes in telecommunications policy.
- b. *Council of Ministers*: The heads of Ethiopia's government ministries meet in the Council of Ministers. This body consults and approves or rejects policy initiatives, budget requests and plans. The ETA must submit its budget plans and annual report to the Council of Ministers.
- c. *Ministry of Transport and Communication*: This Ministry outlines the general policy framework and sets targets for the telecommunications operator (ETC). This Ministry works with the ETC, ETA, World Bank and others to draft new policy initiatives. It oversees the ETA and ETC. This Ministry also appoints the director of the ETA.

- d. *Ethiopian Telecommunications Corporation Board of Directors*: This advisory board supervises the state-owned ETC. The board approves or appoints managers and senior level staff from within the Corporation.
- e. *Ethiopian Telecommunications Corporation (ETC)*: The ETC is the incumbent operator in Ethiopia. Its monopoly rights are granted under a contract issued annually by the ETA. The ETC is independent of government funding (although it enjoys privileged access to foreign exchange) and generates its own funding through service provision. Its monopoly license is contingent on meeting major rural access, rollout and quality of service targets set by the Ministry of Transport and Communication.
- f. *Ethiopian Telecommunications Agency (ETA)*: The ETA is the regulatory agency of internet service providers and wireless spectrum in Ethiopia. The ETA collects fees for its licenses, but receives its budget from the central government. Its director is appointed for an indefinite term by the Ministry of Transport and Communication. It continues to improve its capacity through ongoing relationships with the World Bank, the Ministry of Capacity Building and NetTel@Africa.
- g. *Ministry of Capacity Building*: The Ministry of Capacity Building carries out the task of assisting regulatory agencies with increasing their human and technical capabilities to monitor their respective industrial structures. The Ministry of Capacity Building works directly with the ETA and EICTDA.
- h. *Ethiopian Information and Communication Technology Development Agency (EICTDA)*: EICTDA promotes the use of ICTs in government agencies, education and in the private sector. EICTDA does not directly promote policies but acts as an enabler and a ready client for the ETC by encouraging the spread and providing a dedicated customer for telecommunications services (such as SchoolNet). As an agency within the Ministry of Capacity Building, EICTDA has worked with the World Bank and the Ministry of Transport and Communications to develop a national telecommunications development program.

II. **Major Influence Channels**

- a. *Ministry → ETC*: The Ministry receives targets, goals and plan objectives from the Council of Ministers and relays these to the ETC. The ETC, as an operator, has little formal influence on the Ministry. The ETC could lose its monopoly license if it failed to meet targets set by the Ministry.
- b. *Ministry → ETA*: The Ministry controls the appointment of the Director of the ETA and must approve its annual report. The Ministry sends general policy initiative frameworks to the ETA for drafting.
- c. *Council of Ministers → ETA*: The Council of Ministers controls the ETA's budget. ETA budgets must be approved by the Council who also reviews the annual ETA performance.
- d. *ETA → ETC*: The ETA regulates the ETC and has the right to adjudicate in disputes between the ETC and customers. The ETA uses its licensing procedure to hold the ETC responsible to international standards of efficiency and service quality. The Ethiopian government attempts to use effective regulation and service targets as a surrogate for competition. The ETA is also responsible for licensing new VaSPs (see Appendix B) and ensuring fair contracts are signed between the ETC and individual VaSPs.

Appendix B: EXCERPTS FROM THE 8/8/2005 VALUE ADDED SERVICES DIRECTIVE

(Translated from the Amharic Version)

ARTICLE TWO

DEFINITIONS

Without prejudice to the application to this Directive of the Definitions of the Telecommunication Proclamation No. 49/1996 (as amended) and Council of Ministers Regulations No. 47/1999, in this Directive, unless the context requires otherwise:

1. **"Agency"** means Ethiopian Telecommunication Agency.
2. **"Call Center Service"** means information provisioning service which is useful for a customer or potential customer by the initiation of the person providing the information himself or through a request made by the customer or potential customer by a telephone call or using internet, regarding the business or service the person is providing, or the business or service of another person, or on other similar issue.
3. **"Corporation"** means an entity defined as the sole telecommunication service provider under Article 2 sub-Article 3 of the Telecommunication Proclamation No. 49/1996 (as amended).
4. **"Licensee"** means a person licensed to provide Value Added Services.
5. **"Value Added Service License"** means Virtual Internet Service license or Call Center Service license.
6. **"Virtual Internet Service (V-Internet)"** means the provision of dial-up internet access service, web hosting service, e-mail and other similar services to customers by leasing internet bandwidth or internet network equipment of the Corporation.

ARTICLE THREE

REQUIREMENT OF A LICENSE AND TYPES OF LICENSES

1. Requirement of a license

A person who desires to provide a Virtual Internet Service or a Call Center Service shall obtain a license from the Agency in accordance with this Directive.

2. Types of Value Added Service licenses

Types of Value Added Services are:-

- a. Virtual Internet Service
- b. Call Center Service

ARTICLE FOUR

REQUIREMENTS FOR OBTAINING A LICENSE

1. Subject to fulfilling the requirements applicable to all licenses which are set forth under sub-article 2 of this Article, a person shall also fulfill the following before obtaining a license for each type of Value Added Service described under sub-article 2 Article 3 of this Directive:

A. Virtual Internet Service

A Virtual Internet Service license applicant shall at least have:

- i. two graduate professionals with first degree in computer science, electrical or computer engineering or in related fields and having two years experience in the information and communication sector;
- ii. one technician having a diploma from a recognized educational institution in electronics, electricity or related fields and
- iii. one separate or integrated router and one access server applicable for dial-up service only.

B. Call Center Service

A Call Center Service license applicant shall at least have:

- i. two graduate professionals with first degree in computer science, electrical or computer engineering or in related fields and having two years experience in the information and communication sector;
- ii. automatic Call distribution switch and
- iii. two call agents.

C. Use of professionals to apply for different Value Added Services Licenses.

An applicant may secure a license for both Call Center and Virtual Internet Service, by employing the professionals mentioned under sub-article 1 (A) (i) and (ii) of Article 4.

2. Without prejudice to the provision of sub-article 1 of this Article, any person that applies for a license shall submit the following:
 - a. Principal Registration Certificate from the concerned office as per Article 5 sub-Article 1 of Business Registration and License Proclamation No 67/1997.
 - b. Memorandum and Article of Association, if it is a Business Organization.
 - c. Evidence showing that the applicant is of Ethiopian national or if the applicant is a foreign national of Ethiopian origin, an identification card to this effect.
 - d. Evidence showing the educational background and work experience of its professional workers and if the professional workers are employed, their contract of employment made with the owner or the business organization.

ARTICLE FIVE

CONTRACT BETWEEN THE CORPORATION AND A LICENSEE ON SERVICE DELIVERY AND, ON SETTING THE LEVEL OF STANDARD AND QUALITY OF SERVICE

5. The Corporation may cancel the contract; if the Agency cancels the Licensee's license; if the Licensee fails to perform its payment obligation to the Corporation within the time limit indicated in the contract for service delivery; if the Licensee clearly breaches the security guideline of the Corporation when it is using the

equipment which links it to the Corporation's network or when sharing an equipment with the Corporation; or when force majeure occurs.

ARTICLE SEVEN

LICENSE FEE, VALIDITY PERIOD FOR A LICENSE, RENEWAL OF A LICENSE AND SERVICE FEE

3. Service Fees

- a. The service fee charged by the Corporation for the service it provides to a licensee shall be consistent and shall encourage a Licensee to expand the service penetration. It shall also be based on a price specifically determined for the use by the Value Added Service provider.
- b. Before the issuance of a license as per this Directive, the Corporation shall determine and make public the service fee it charges a Licensee.
- c. If there is a change on service fee, the Corporation shall inform the Licensees in writing and also the public using mass media 30 days before the change becomes effective.

ARTICLE EIGHT

OBLIGATIONS OF A LICENSEE

10. A Licensee shall ensure that Equipment connected to the network of the Corporation or shared with the Corporation shall follow security and safety guidelines prescribed by the Corporation.
11. The Licensee shall only take and use Internet and public switched telecommunication services from the Corporation.
13. Virtual Internet Service Licensee shall obtain a domain name on the basis of a procedure employed by the Corporation or other entity empowered by law to assign a domain name.
14. Equipment of a Call Center Service Licensees shall not be interconnected with each other or the equipment of other similar Licensees.

ARTICLE ELEVEN

CRIMINAL LIABILITY

A person who commits an offence as per Article 25 of the Telecommunication Proclamation No.49/1996 (as amended) shall be criminally liable for the offence.

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