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The Caribbean

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Revolutionary changes in information technologies have left few economic sectors untouched, and the much-touted global information village has brought the earth's inhabitants closer. Access to, and control of, information is replacing access to natural resources as a determinant of the socioeconomic position of nations. Although this holds great promise for eradicating poverty and underdevelopment, the dichotomy between rich and poor, the metropolitan and the peripheral, the developed and the underdeveloped, instead could be widened by these same technologies.

The Caribbean is a microcosm of this worldwide phenomenon. It consists mainly of tropical island nations, many quite small in both size and population, which were fought over and colonized by Europeans since they first reached them. The region's pre-Columbian peoples were long ago lost to genocide and disease or largely mixed with the newcomers, including—mostly as slaves or indentured workers—Africans, Chinese, East Indians, and Javanese. Spanish, French, English, and Dutch are official languages in various places. All this makes the Caribbean incredibly diverse in customs and ancestral homelands, as well as in the diffusion and overall level of economic development. About half of the region's population of just over 35 million (July 1994 estimate) live in its two poorest countries: Cuba, with 11.1 million people, and Haiti, with 6.5 million.

Although the Caribbean is not a populous or rich region, it is nonetheless a major telecom market. Indeed, parts of it have telecom infrastructures as advanced as any in the world. Proximity to North America and a heavily service-oriented economy, with particular emphasis on tourism, is the principal reason for this. At the same time, the poor in general, and those in rural areas in particular, often do not even have convenient access to pay phones, let alone their own lines. One of the major challenges for the region is balancing the business sector's demand for enhanced services with demand for basic services for ordinary citizens.

The activities of CANTO (the Caribbean Association of National Telecommunication Organizations) are extensively discussed because of the organization's importance to its members and, by extension, to telecom development in the region and because it offers lessons for smaller telcos and governments both directly and as a model of regional cooperation.¹

Table 1.1. Indicators of Tele-Accessibility, 1991

Country	Population	GNP per Capita	Total No. Main Lines	Telephones per 100 Population	Telephones per Capita	Total No. PBIs	Total No. Public Phones
Antigua/Barbuda	70,000	2,788.0	10,870	15.5	3.90	91	108
Bahamas	254,685	11,767.0	65,009	25.5	5.52	316	573
Barbados	250,000	5,637.0	76,478	30.6	13.57	240	365
Belize	160,000	1,269.0	21,320	13.3	16.80	98	35
Bermuda	57,784	2,100.0	37,142	64.3	17.69	229	704
Curacao	171,000	1,014.0	42,116	24.6	436.41	316	235
Dominican Republic	6,500,000	1,128.0	442,521	6.8	12.09	801	2,655
Grenada	90,000	1,128.0	13,634	15.1	12.09	43	139
Guadeloupe	330,000	1,128.0	119,445	36.2	180.0	1,765	622
Haiti	6,000,000	250.0	45,000	0.8	180.0	141	42
Jamaica	2,360,000	1,188.0	88,348	3.7	74.37	1,004	1,006
Puerto Rico	3,254,000	6,801.8	815,898	25.1	119.95	19,530	15,997
Suriname	400,000	2,328.0	36,714	9.2	15.77	731	175
Trinidad and Tobago	1,234,388	3,856.0	216,040	17.5	56.03	5,586	669
U.S. Virgin Islands	112,000	3,856.0	46,769	41.8	56.03	1,136	615
Total/Average	21,243,857		2,077,304	9.8		32,027	23,940
Bolivia	6,808,824	796.1	277,800	4.08	348.93		
Colombia	28,940,390	1,200.0	3,038,741	10.50	2,532.28		
Ecuador	9,930,599	1,049.0	696,135	7.01	663.62		
Peru	20,750,197	1,600.0	630,806	3.04	394.25		
Venezuela	18,292,683	2,481.0	2,100,000	11.48	846.43		

Sources: CANTO Secretariat (C.L.E.R.C.). Copyright FN 1990-1991; Aseta 1990. Ing. Ricardo Herrera Alliot.

As is often the case, the Caribbean as a region is not quite the same as its namesake, the Caribbean Sea. Although most of the islands lie in a chain forming the sea's northern and eastern edge, three are in the North Atlantic (Bermuda, the Bahamas, Turk and Caicos Islands). The shores of Jamaica, the Cayman Islands, Aruba, and the Netherlands Antilles are washed on all sides by the Caribbean. The region covers 1,000 square kilometers. Table 1.1 provides data on the region.

Cuba is covered in a separate chapter, but Belize and three small nations on the northeast coast of South America are included here because, like many of the islands, they were colonies of countries other than Spain and thus have more in common with parts of the Caribbean than with the mainland. Additional material on Jamaica and Cable & Wireless are in Chapter 3.

1.1 Service Providers

Telecom services were introduced into the region not long after Bell's invention of the telephone had become commercially available in North America and Europe. Owned by private, government-regulated monopolies based in the European metropole, international services were developed to support mercantile interests. Local public services, offered under monopoly franchises by the colonial governments, were invariably less developed.

Although Haiti and the Dominican Republic ended colonial status with the anti-slavery revolution of Toussaint L'Ouverture in the 1790s, they did not formally declare independence until later, and by the mid-nineteenth century both had been reduced to an extremely dependent neocolonial status relative both to their former colonial patrons—France and Spain, respectively—and to the United States, their powerful neighbor to the north. The Dominican Republic integrated domestic and international services under Codetel, a subsidiary of U.S.-based General Telephone (GTE) in 1930. This succeeded an antiquated system. Codetel and government-owned Corporation Teleco d'Haiti operated as tele-mercantile monopolies. Evidence of this is Haiti's telephone penetration rate of 0.07 per 100 inhabitants some 200 years after nominal independence.

The 1960s was a decade of worldwide decolonialization, and the Caribbean was part of this as the most populous English-speaking Caribbean nations became independent. At this time, a U.S. company, Continental Telephone (Contel), bought the telcos providing domestic service in Barbados, Jamaica, and Trinidad and Tobago, and the provider of both domestic and international service in the Bahamas. Contel installed new electromechanical switching and transmission systems. Cable & Wireless (C&W), then owned by the U.K. government, continued to provide service elsewhere. (Privatized in 1985, C&W owns communications companies in the Caribbean, United Kingdom, and Hong Kong.)

As part of the philosophy of nationalism, state ownership of the "commanding heights of the economy" was prevalent in what was then referred to as the Third World. In the countries discussed here, the consequences were mild by comparison to the more radical socialist policies pursued by Fidel Castro in Cuba. Still, popular pressure from black-power and trade union movements was primarily

responsible for the nationalization of Contel's telephone companies. Contel was compensated and was quite happy to divest its holdings.

In the late 1960s, U.K.-based Cable & Wireless signed Heads of Agreements with the governments of Barbados, Jamaica, and Trinidad and Tobago to provide international service through subsidiaries (Barbados External Telecoms, Jamintel, and Textel), and in the mid-1980s the company acquired interests in the domestic Barbados, Jamaica, and Trinidad and Tobago systems. Governments of the Caribbean had already invested billions of tax dollars to make the systems state-of-the-art. C&W's further upgrading increased external capacity 60 percent, to 960 circuits, although the new circuits were not needed at the time.

1.1.1 Privatization in the 1980s

The ongoing inability of state-owned telcos to satisfy rapidly increasing demand for business telephone systems in the early 1980s led to allowing a variety of locally based suppliers to provide equipment directly to users for attachment to the public switched network. Trinidad and Tobago was the first to liberalize, establishing technical standards and specifications for interconnecting subscriber terminal equipment in 1984. By the early 1990s, Jamaica, Barbados, the Bahamas, and Belize had followed. Northern Telecom, Mitel, Ericsson, and Rolm have been the major sellers of Public Automated Broadcast Exchange (PABX) and key business switches.

Network privatizations took place in several countries. Already the provider of international service in most cases, Cable & Wireless had an intimate familiarity with the networks and policy makers. This made it easy for them to become the investor of choice in privatizations in the English-speaking Caribbean. It is difficult to analyze the terms of the deals Caribbean governments made, and continue to make, with C&W because they have never been made public (see Dunn 1995). Indeed, many negotiations took place clandestinely. Certainly "bad deals" were made in at least some instances.

Ironically, heavy investment by state-owned telcos in extending and improving their networks, which had become more than 75 percent digital during the 1980s, was an important factor leading to government divestment. The state-owned telcos had trouble servicing their debt, which led to pressure from international lenders—the International Monetary Fund and World Bank in particular—to privatize the systems as a way to reduce debt. This was specifically relevant in Grenada, Guyana, Jamaica, and Trinidad and Tobago—all former British possessions.

Debt, however, was not the only incentive: access to state-of-the-art technology was also an important criterion. For the Bahamas, Barbados, Belize, the Netherlands Antilles, and Puerto Rico it has been a major factor in the privatization debate. Another factor has been the need to conform to the trend toward trade liberalization and privatization (as per GATT and NAFTA discussions) as a prerequisite for obtaining foreign investment capital for other sectors of the economy.

Those investing in the region's telecommunications systems requested removal of statutory limits on returns on investment in Barbados, Grenada, Jamaica, and Trinidad and Tobago. At the time of privatization, governments by and large did

not impose conditions on setting standards or technology transfer, and extending service into rural areas was not a requirement. In general, the former state monopoly has simply been replaced by a private one, which, since it has an important foreign element, has implications for the erosion of sovereignty. Belize seems to have been the only exception to this. However, rate hearings presided over by various Caribbean public utilities commissions remain a form of regulatory pressure.

For example, the failure of the government of Guyana to approve rates for Atlantic TeleNetwork, which owns Guyana Telephone and Telegraph (GT&T), has resulted in a vexing liquidity problem for the company. The company has been unable to charge for local cellular calls but is collecting activation and basic monthly fees. In mid-1995, hearings were under way regarding GT&T rates.

In 1985 the Belize government wholly owned the local telco, but Cable & Wireless (West Indies Ltd.) wholly owned the external system. Cable & Wireless retained 87 percent of revenue on international calls, compared to just 50 percent in Jamaica, 65 percent in Barbados, and 70 percent in Trinidad and Tobago. Extensive negotiations led to the government securing British Telecom (BT) as a minority investor. The government sold BT 24 percent of a new company, Belize Telecom, and sold 25 percent to employees, keeping 51 percent. The new firm then purchased C&W's external service and merged with the local service. Since the formation of the British Telecom-MCI alliance in 1994, MCI has taken over all BT holdings in the Americas, including the minority share of Belize Telecom Ltd. Table 1.2 shows the providers of telecom services in the major Caribbean nations.

1.2 CANTO

The Caribbean Association of National Telecommunication Organizations (CANTO) is the region's telecom trade association and lobby. Among other things, it acts as an information clearinghouse for Caribbean operating telcos and carriers. A major goal has been to help the region see itself as a whole, regardless of differences in size, language, and colonial experience. The great shared resource for this is information. By creating innovative means to share data on equipment, technology, suppliers, training, and finance, CANTO seeks to assist its members, which include most of the telecom service providers in the region.

CANTO was formed in 1985 by seven operating telcos whose executives felt the need to establish an independent forum through which regional telecom organizations could exchange information, set a Caribbean telecom agenda, and influence regional policy. The inaugural meeting took place in April in Port of Spain, Trinidad, and was keynoted by Richard Butler, former secretary-general of the ITU (International Telecommunication Union). He encouraged the CANTO initiative as being consistent with ITU objectives of fostering technical cooperation and information sharing among developing countries.

One factor leading the seven then state-owned telcos to establish CANTO was the discrepancy they saw between the high levels of investment they were making in domestic infrastructure and the capital expenditures for international calling

Table 1.2. Telecom Providers in the Caribbean and CANTO Members, 1995

Country	CANTO Member Since	Company	Private Ownership (%)	Company (based in)
Anguilla	1991	Cable & Wireless West Indies Ltd.	100	Cable & Wireless (U.K.)
Antigua and Barbuda	1985	APUA ^{1,2}	0	—
Antigua and Barbuda	1991	C&W ³	100	Cable & Wireless (U.K.)
Aruba	1988	SETAR	0	—
The Bahamas	1985	Batelco	0	—
Barbados	1985	Bartelco	100	C&W (85%); others (15%)
British Virgin Islands	1989	Ministry of Telecommunications ²	0	—
British Virgin Islands	1991	C&W ³	100	Cable & Wireless (U.K.)
Cayman Islands	1991	Cable & Wireless West Indies Ltd.	100	Cable & Wireless (U.K.)
Cuba	1992	Ministerio de Comunicaciones	0	—
Dominica	1991	Cable & Wireless West Indies Ltd.	100	Cable & Wireless (U.K.)
Dominican Republic	1987	Cable & Wireless West Indies Ltd.	100	GTE (U.S.)
Grenada	1985	Codetel	80	Cable & Wireless (U.K.)
Guadaloupe	1987	Grenel	0	—
Haiti	1988	France Telecom	0	—
Jamaica	1989	Teleco d'Haiti	0	—
Martinique	1992	Telecom of Jamaica	79	Cable & Wireless (U.K.); workers own 11%
Montserrat	1991	France Telecom	0	—
		Cable & Wireless West Indies Ltd.	100	Cable & Wireless (U.K.)

Netherland Antilles	1986	Setel de Curacao	0	—	
Netherland Antilles	1994	Telbo Bonaire	0	—	
Puerto Rico	1986	PRTC	0	—	
Puerto Rico	—	Telefónica Larga Distancia (TLD)	100	—	Telefónica de España ⁴
St. Kitts and Nevis	1991	Skantel	100	—	Cable & Wireless (U.K.)
St. Lucia	1991	Cable & Wireless West Indies Ltd.	100	—	Cable & Wireless (U.K.)
St. Vincent and the Grenadines	1991	Cable & Wireless West Indies Ltd.	100	—	Cable & Wireless (U.K.)
Trinidad and Tobago	1985	Telecom Services of Trinidad & Tobago	49	—	Cable & Wireless (U.K.)
Turks and Caicos	1991	Cable & Wireless West Indies Ltd.	100	—	Cable & Wireless (U.K.)
Virgin Islands (U.S.)	1990	U.S. Vitelco	100	—	Atlantic TeleNet (U.S.)
Belize	1985	Belize Telecom	25	—	British Telecom, MCI; workers own 24%
Mexico	1992	Telecomunicaciones de Mexico	0	—	
Mexico	1993	Iusacell	100	—	Bell Atlantic (U.S.) (42%); Grupo Iusacell (58%)
Guyana	1985	GT&T	0	—	
Suriname	1989	Telesur	0	—	
Venezuela	1992	CANTV	50	—	GTE (U.S.) (30%); AT&T (U.S.) (5%); Telefónica de España (3%); trade unions (12%)

¹Antigua and Barbuda Public Utilities Authority.

²Company provides only domestic service.

³Company provides only foreign service.

⁴TLD provides only long-distance service within Puerto Rico. Telefónica de España is 34% owned by the Spanish government and state agencies.

made by Cable & Wireless, which was making much higher returns. In most instances, C&W had only to react to increases in demand, rather than try to stimulate growth or generate traffic.

CANTO members had plans to—and did—spend U.S.\$1 billion on telecom plant and equipment in the 1985–90 period. This action raised the question of how such an expenditure—virtually all of which would be for imported technology and equipment—would provide macroeconomic benefits to the region.

In the early 1990s, CANTO began to work with the newly formed CTU (Caribbean Telecommunications Union), the ITU, the CBU (Caribbean Broadcasting Union), and the region's communications ministries to formulate regulatory policy.

CANTO also has actively worked to improve human resource development in the region. It has attempted to anticipate training and workforce requirements so that, through cooperative efforts in mounting seminars, symposia, and courses, they can be met more efficiently and comprehensively within the region at reduced costs.

Based on the fact that the Caribbean is technologically a generation ahead of many developing countries, CANTO established a Human Resources Skills Bank in 1989 to market its telecom expertise to other countries. Uruguay, Venezuela, Botswana, Swaziland, Tanzania, and Zimbabwe indicated early interest in the consulting services but were constrained by finances in pursuing them.

The Bank was superseded in 1992 when CANTO established a Consultancy Assistance Bureau (CCAB) to provide technical assistance and advice to its members and other developing countries. Jamaica has provided technical expertise to Suriname in digital central office switching installation and maintenance. The Curacao and Jamaica members of CANTO were part of an ITU fact-finding and technical assistance mission to restore Haiti's telecom network in January 1995. Outside the region, the fifty-two-member Organization of African Unity (OAU) and fifteen-member South Pacific Forum (SPF) Secretariat have requested assistance from CANTO regarding such topics as bulk purchases of equipment and technology and negotiating international call accounting rates.

CANTO signed an agreement in 1994 formalizing the exchange of technical expertise, documentation, invitations to seminars and meetings, and the like, with AHCINET (the Asociación Hispana de Centros de Investigación y Estudios de Telecomunicaciones), the largest regional telecom organization in Latin America.

Headquartered in Port of Spain, Trinidad, CANTO has a staff of seven (full-time equivalents) and an annual budget of about U.S.\$1 million. Funding comes from members (about 65 percent) and internal initiatives such as consulting, publications, and conferences.

1.3 Level of Service

Most Caribbean countries compare favorably with other developing countries in terms of teledensity measured in lines per 100 population. However, this is a crude measure that says little about accessibility to phone service. Many Caribbean

phone lines are at businesses, and specifically at tourist and financial services facilities, so density significantly overstates accessibility for most individual residents. Moreover, as Eric Williams, once prime minister of Trinidad and Tobago, observed, "What good is it for me to have a telephone on my desk when it doesn't work or the number I am calling does not work?"

Access to working telephones as a form of "social justice" was first popularized by Rajiv Gandhi when he was prime minister of India. He was, more generally, attempting to improve the infrastructure of rural areas, ending the pattern of technological advances being concentrated in urban centers. His goals included improving rural education, health, and other social services, as well as telecommunications. As befits a large, poor country, the initial telephone goal for India was modest: a public phone in each village. This has proven difficult to achieve even in small, poor countries: as of 1995, it had yet to be done in the Dominican Republic, Guyana, Haiti, Jamaica, Mexico, Suriname, Trinidad and Tobago, and Venezuela. Table 1.1 provides data on various measures of service.

By the early 1990s, over 75 percent of phone lines in the region were digital, with Dominica Telco (owned by Cable & Wireless) being heralded as the first fully digitalized network in the world, although with only some 5,000 lines that is a small-scale boast.

Whereas in the United States and United Kingdom, divestment by AT&T and British Telecom was geared toward promoting competition in the provision of long distance and value-added services, the Caribbean's largely unmet demand for basic telephone service—plain old telephone service, or POTS—requires that operating telcos be committed to providing public network use and access to subscribers at "reasonable" prices. Although rate structures should in general cover specific costs, I feel it is appropriate to subsidize provision of service to low-revenue-yielding rural areas. This does not, however, mitigate the fact that, unlike the United States and United Kingdom, competition in the provision of basic and value-added services—with the exception of equal access in Puerto Rico—is nonexistent in the Caribbean telecom sector. Callback services are the new exception to this. Although outlawed in many Caribbean territories, they continue to thrive because of the existing rate structures.

1.3.1 Wait Lists

Demand for telephone service in all these countries has been generally strong, with the result that there are wait lists for services. These vary in size. In Jamaica in 1990, unsatisfied demand for new lines almost equaled the installed base of 88,000 lines. In Trinidad and Tobago, the wait list was over 40 percent of the installed base of 216,000 lines and over 7 percent of the population in the same year.

1.3.2 Rates

Telephone charges vary widely among countries in the region, which reflects both government policy and the quality and extent of service available. All of these factors are continually changing. In general, in the early 1990s, English-speaking

countries had relatively higher rates than elsewhere in the Caribbean, with Belize and Guyana being low-cost exceptions. Countries with higher rates also generally had better—more varied and reliable—service.

1.3.3 Satellite Services

There are few data on satellite services. Most satellite transmission systems facilitate broadcasting services. Many of the countries have at least one Intelsat link, sometimes as a nonsignatory user rather than as a member. The Bahamas and Cuba are members of Inmarsat, and Cuba is a member of Intersputnik.

In 1987 the Trinidad & Tobago Telephone Company, together with Intelsat, Textel, Trinidad and Tobago Television (TTT), and CANTO, initiated Project SHARE (Satellites for Health and Rural Education). This for the first time linked by satellite two developing nations—Tanzania and Trinidad and Tobago—facilitating a dynamic exchange among health care professionals on nutrition, public health, and sexually transmitted diseases.

The University of the West Indies, which has campuses in Mona, Jamaica; Bridgetown, Barbados; and St. Augustine, Trinidad, utilizes the UWI Distance Teaching Experiment (UWIDITE) satellite system to reach St. Lucia, Grenada, Dominica, and other noncampus sites.

1.4 Telecom Equipment

Subject to meeting technical specifications, subscribers can obtain equipment from sources other than the operating telco. There are a number of companies offering equipment as retailers and distributors. There are no import-substitution policies in the region for telecom products; no government policies encourage local technology development. There were discussions in the early 1990s about developing a science park in cooperation with the University of the West Indies, but these have yet to yield concrete results. The talks' focus has been on assembling telephone and cellular equipment in the region. Where to locate the park has been one of the stumbling blocks. In 1990 Northern Telecom indicated it would apply its volume discount rebate to establish a Distance Learning Centre, but CANTO members could not agree on where it would be headquartered.

Northern Telecom (NT), based in Canada, is the dominant supplier of central office equipment to the Caribbean region, with over half the installed base in 1994. This is larger than its world-wide share, but consistent with its generally strong position globally. L. M. Ericsson, a Swedish company, is a distant second, with AT&T and NEC trailing in the distance. Other product lines, including PABX and cellular systems, have a larger number of players, although again Northern Telecom is dominant, with 40 percent of the PABX and subscriber terminal equipment base in 1994. Mitel, a Canadian-based supplier of PABX and key systems, is a distant second. Northern Telecom is particularly strong in cellular switching equipment. It is also supplying the region's first major high-capacity synchronous digital hierarchy (SDH) fiber-optic network. Announced in January

1995, it will serve over 500 business customers of a Cable & Wireless subsidiary in the Cayman Islands.

In earlier technological eras, ITT—once a major factor in the hemisphere's telecommunications—was instrumental in introducing step-by-step and crossbar analog switches. NEC analog switches were sold to the Bahamas, Barbados, Jamaica, and Trinidad in the late 1970s and early 1980s, but the Japanese company provided poor maintenance support, exacerbated by language problems. The appearance of digital switches led to the displacement of NEC equipment everywhere except Jamaica.

1.4.1 Local Producers

In the mid-1980s two government-owned telcos—the Trinidad and Tobago Telephone Company Ltd. (T&T) and Telesur, in Suriname, became the only two equipment manufacturers in the region.

T&T's then director of research and development, Dr. Stephan Gift, developed a device, dubbed the subscriber pair identifier, to identify local faults on the main distribution frame. It was subsequently patented. A Canadian distributor has made it available to the small, regional telco operating companies in that country, and it has been sold to other Caribbean telcos. Influenced by Cable & Wireless, which became a 49 percent owner in 1991, T&T has since eliminated research and development. The stated rationale is that it is too costly for a small country to undertake effectively.

In Suriname, which has had a relatively undeveloped telephone system, Telesur came to equipment production as a result of the financial constraints on expanding and upgrading the system. The telco's training center began to make minor adaptations to equipment, which led to producing a wireless, solar-powered public phone to provide service in rural areas. Telesur has also manufactured a PABX handling two external trunk lines and sixteen internal extensions. It has been used throughout Suriname, and CANTO has been attempting to market it elsewhere in the Caribbean. The center's fundamental objective is to reduce dependence on foreign technology and expertise and to foster local capacity, while keeping abreast of new technologies available internationally.

Every new recruit to Telesur works in the research and training center for nine months prior to being deployed elsewhere in the company. Research has been incorporated into the training process, including ongoing training for experienced technicians. This has meant continuous upgrading of instructors' knowledge, shorter adjustment periods for new job environments, and reduced staff needs (in comparison to separate training and research departments, as all researchers are instructors).

A number of companies in Suriname use Telesur's center to train their employees. In the early 1990s, the ITU studied the feasibility of making the center a regional one. The ITU's support of Telesur's Training and Resource Center continues, including holding a training seminar on signaling attended by CANTO members from eighteen countries in November 1994. Telesur hosted an ITU network planning and management software training symposium (PLANITU) for Latin America and the Caribbean in April and May 1995.

Tariffs on parts are considered by some to be a barrier to the emergence of more local production. In any case, no local private capital has made any effort to invest in production or even assembling telecom equipment thus far. With transnationals having significant stakes in many of the region's operating telcos, it is unlikely there will be much encouragement from them to change this situation.

1.4.2 Cooperation vis-à-vis Transnational Suppliers

In 1988 CANTO negotiated a volume discount agreement with Mitel. The agreement provided for rebates or credits once CANTO members had purchased a specified aggregate amount of Mitel PABXs. These discounts would be prorata among the members. That year there were U.S.\$70,000 in discounts based on U.S.\$1.4 million in purchases. In 1989 Northern Telecom signed a similar agreement for the same product lines, giving CANTO members over U.S.\$1 million in credits toward future purchases based on U.S.\$18 million in purchases that year.

The number of suppliers and product lines covered by volume discount agreements has subsequently grown steadily. In 1994 agreements were in place with AT&T, Ericsson, MER Communications Systems, Mitel, Newbridge Networks, Northern Telecom, Quebecor Printing, Southwestern Bell, Tellabs International, and Teleco Systems. By combining analysis of previous purchases with forecasts from individual companies, CANTO can negotiate with aggregate numbers that do not compromise specific buyers, as well as cross-reference suppliers' reported sales with purchases recorded by members' invoices.

Many, including myself, feel this should be a first step toward joint regional purchases of equipment by CANTO acting as a single purchasing body. In the early 1990s CANTO members began reviewing their tender procedures with a view toward this goal. Joint purchasing can serve as the foundation for regional manufacturing, which I feel very strongly is something that should be done to strengthen the economic base of the Caribbean in the information-media age. At a minimum, it can help justify customization of equipment for the specific circumstances of the region. However, joint purchasing has not yet occurred.

CANTO has created a Products and Standards Evaluation Team that has carried out preliminary feasibility studies to identify several product lines for which it was felt the technical means and economies exist to support regional assembly or manufacture. However, it will take impeccable planning and firm resolve to overcome the obstacles to realize this goal. A CANTO Standards Bureau, created in the mid-1990s, is attempting to deepen this process. Each of the telcos, governments, and current suppliers (including both local representatives and the transnationals themselves) has different needs and goals. Even leaving aside the opposition one can expect from existing vendors, reconciling the diverse interests is a major problem.

CANTO has also succeeded in persuading suppliers to provide financing for equipment purchases. In this and its other activities vis-à-vis vendors, CANTO has avoided becoming simply a sales agent for suppliers.

A CANTO-inspired ITU study on traffic routing patterns, authorized at ITU's Americas Telecom Development Conference in Acapulco in 1992, was completed

in 1994. The sensitive traffic data generated will enable CANTO to negotiate volume discounts for regional traffic and optimize members' network capacity by rerouting transit traffic within the region. This study represents another new frontier in regional cooperation and the first step toward direct South-to-South telecoms.

1.4.3 Setting Technical Standards

The ITU appears to be bowing to pressure from commercial interests in the industrial countries for a more flexible, liberalized approach to defining standards for spectrum and orbital slot allocation. This is clearly so in direct broadcasting by satellite (DBS), high-definition television (HDTV), and broadband Integrated Services Digital Network (ISDN). Developing nations, including those in the Caribbean, may simply have to accept an international standards regime that they have no role in shaping. Caribbean and Latin American nations have been able to reserve space segments in the 12 Ghz band. However, prohibitive cost factors have prevented many of the region's countries from making effective use of this resource. (I was instrumental in getting the government of Trinidad and Tobago to license CaribSpace, the first Caribbean satellite to offer digital broadcast via satellite in the C band.)

I feel it is incumbent on the region to develop creative negotiating strategies that use rights to geosynchronous orbits as a bargaining chip to lease transponders dedicated to the region in order for Caribbean telcos to undertake their own tests. This will go a long way in helping them determine what standards are appropriate for regional telecommunications and broadcasting development.

1.4.4 Technology Transfer

Not only is there no production of sophisticated telecom equipment in the region, there is little in the way of technology transfer even at the level of training in maintenance of the equipment purchased from transnational suppliers. Although extended warranty programs are clearly a protection to equipment buyers, in practice they mean that anything beyond basic upkeep is done by foreign specialists or even remotely from Canada or the United States.

1.5 Strategy for Integration and Cooperation

Throughout this chapter I have expressed my feeling that cooperation and integration among the region's telcos and the development of local telecom equipment production are important goals. As secretary-general of CANTO I have worked to promote them.

To this end, CANTO sponsored, with the Trinidad Express Newspapers Ltd., from 1989 to 1992, a conference series entitled Caribbean Media and Telecommunications in the Information Age, also referred to as the Trincom Conference Series. Representatives from many organizations in these fields attended, including members of the Caribbean Broadcasters Union, CARIMAC (the Caribbean Insti-

tute of Mass Communications), CAMWORK (Caribbean Media Workers Association), CANA (Caribbean News Agency), and the Caribbean Telecommunications Union (CTU). Among the resolutions passed was a call that all of these organizations be recognized by the region's governments and afforded favors such as concessionary rates from telecom carriers to promote their operations. Delegates also resolved to organize a conference dealing specifically with the "Caribbeanization" of programs for the region, which was subsequently held. One important result of Trincom was that in 1992 the government of Barbados cracked open the door to ending monopoly in Caribbean telecommunications by providing both the CBU and CANA with licenses to uplink their programs via satellite, something that had until then been an exclusive franchise of Cable & Wireless. This move was a serious policy shift that could influence policy makers in the future.

Note

1. As strategic planning manager of the Trinidad & Tobago Telephone Company, I was the founding organizer of the inaugural CANTO conference, held in April 1985, and at the conference was appointed CANTO's secretary-general.

Reference

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