

CABLE TELEVISION 1999: A HISTORY OF THE WINDING ROAD TO COMPETITION

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Cable television did not begin as a business enterprise. Initially, it was an inauspicious, noncommercial, community antenna service implemented in areas where reception of television signals was poor. The first subscription cable television business was established in 1950 in Lansford, Pennsylvania.¹ Despite fifty years of radical changes in technology, which have precipitated changes in public policy and governance, cable TV remains a relatively infant industry. The Cable industry is now on the threshold of another major shift as it converges with the telephone and computer industries to create the “communications industry”. Fifty years ago, who would have predicted that this grass roots cottage industry would become one of the major building blocks of the Information Highway? Tracing changes within the industry, and the government’s responses to these changes, may well provide some useful guidelines for this industry in its new incarnation. There are major challenges ahead for cable television, not the least of which are the loss of monopoly status and the ability to compete in a new regime.

This paper describes the technological environment and public policies that led to the current legal and regulatory frameworks. Accompanying this survey of the industry’s development is an analysis of the current marketplace, with comments on how the current regulatory structure has performed in encouraging the growth of what has become part of a national objective.

The Early Environment - The Interests to be Protected and the Creation of the Monopoly

At the outset, cable television systems were limited to the retransmission of local broadcast signals. Physically assembling the necessary distribution system of a series of antennae had very high capital costs. It was this high fixed cost which led to the belief that cable television was a “natural monopoly”;² that is, an industry in which

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¹ C.C. Johnston, *The Canadian Radio-television and telecommunications Commission: A Study of Administrative Procedure in the CRTC* (Ottawa: Law Reform Commission of Canada, 1980) at 5.

² Thorpe, “Impact of Competing Technologies on Cable Television” in *Video Media Competition: Economics and Technology* ed. Eli Noam (Columbia University Press, 1984) at 130.

multi-firm production is more costly than production by a monopoly³. It was believed that no one would invest the necessary capital without the assurance of a privileged market position.

The federal government had a critical interest in ensuring the development and in controlling the outcome of a national communications network. This network was important from a security point of view, in that it kept various geographic regions in contact, from an economic point of view, as it created jobs and an infrastructure for the movement of business, and from a social point of view, as it fueled and molded national identity. This network had first been established by the railway companies and further developed by telephone and telegraph companies. Broadcasting and cable television seemed to fit naturally within our national infrastructure.

Access to the communication network was considered a central feature to success and a fundamental principle in development. In a study done by CNCP entitled *Crisis in Canadian Telecommunications Policy and Regulation*⁴, the authors outlined this public policy:

The importance of access is directly related to the importance of the major telecommunications systems in Canada. Access enhances the uses Canadians can make of their communications systems, and increases their choices as consumers and as citizens. It improves communications across the country and stimulates innovation in equipment and services. It increases business efficiency and overall economic efficiency. Lack of access has the opposite effect - limitation of the consumer choice, inefficiency within the telecommunication industry and the economy as a whole, and technological retardation.

How then could building be encouraged, the network be controlled and access be developed, protected and guaranteed to all Canadians? The response was to create regulatory bodies who controlled the environment through regulations, most importantly the power to grant authorization or licenses. Thus these bodies were empowered to grant licenses which were grants of exclusivity for a particular geographic area. With this grant came certain obligations, including the obligation to invest in infrastructure and provide access for the communities for which one was licensed.

In Canada, unlike the United States, there is an obligation to the maintenance and sovereignty of Canadian culture. As noted by Sidney Head⁵:

³ Eli Noam, "Local Distribution Monopolies" in *Telecommunication Regulation Today and Tomorrow*, ed Eli Noam. (New York: Harcourt Brac, 1983).

⁴ CNCP Telecommunications, *Crisis in Canadian Telecommunications Policy and Regulation*, (Toronto: CNCP Telecommunications, 1983) at 5.

⁵ Sidney Head, *World Broadcasting Systems: a Comparative Analysis* (Los Angeles: Wadsworth, 1985) at 87.

Canada suffers from proximity - the overwhelming presence of the United States on the border along which most Canadians reside. This proximity and the presence of a substantial linguistic minority, the French-speaking residents of Quebec province, have made broadcasting a subject of intense political concern in Canada. Broadcasting has been subjected to so many earnest inquiries in Canada that one commentator called it "the most thoroughly scrutinized sector of cultural life.

Aside from the protection of Canadian culture, broadcasting regulations generally took the form of responses to entrepreneurial initiatives and political concerns.⁶ This reactionary approach to governance continues to be a characteristic of broadcasting law today .

The Regulatory Framework for the Monopoly

The Canadian Radio-Television Commission (CRTC) came into being on April 1, 1968 with regulatory authority over the broadcasting undertakings and networks that constituted the Canadian broadcasting system, including "broadcasting receiving undertakings" or cable television systems. The legislation which outlined the framework and the rules was the *Broadcasting Act*, S.C. 1967-1968, c. 25. The early years of cablevision were governed under this Act; and, although it was updated in 1985, it was not until 1991 that it was substantially revised. In 1974, the *Canadian Radio-television and Telecommunications Act*, R.S.C. 1974, c. 49, amended the *Broadcasting Act*, insofar as the constitution of the CRTC was concerned, but the powers and objectives of the Commission continued to be outlined in the *Broadcasting Act* of 1968.

Essentially , the CRTC was empowered to regulate and supervise the Canadian broadcasting system. This was to be done through the ability to grant licenses and, once, granted, the licensee was required to serve the area to which the license applied. The policy objectives were stated in very wide terms and the Commission's licensing powers and powers to make regulations were to be carried out "in furtherance of these objects" (s.17 and s. 16). The Commission could attach conditions to licenses (s.17) which might be "considered appropriate for the implementation of the broadcasting policy." Regulations could be made respecting other matters the CRTC deemed necessary for "the furtherance of its objects". Besides hearing license applications, renewals and amendments, the Commission was also responsible for approving transfers of ownership of broadcasting undertakings, ensuring that those who received a license were known to and subject to their processes. Complaints were also a Commission responsibility and the CRTC kept records which could affect licensing decisions. In short, the CRTC was powerful, having very wide discretion and very broad control

⁶ *Supra* note 1 at 5.

which was seldom interfered with, even by the courts.⁷

Overlaying the framework were the policy objectives that the broadcasting system should be owned and controlled by Canadians “so as to safeguard, enrich and strengthen the cultural, political, social and economic fabric of Canada”(s.3(b)). The issue of access was addressed through regulations imposing positive obligations to serve the territory for which one was licensed, and by regulating the costs of basic cable service.

In April 1976, the CRTC became responsible for telecommunications carriers as well as broadcasting, and the name of the Commission changed to the Canadian Radio-television and Telecommunications Commission. In 1993, after several unsuccessful attempts to enshrine telecommunications in its own legislation, the federal *Telecommunications Act*, R.S.C. 1993, c. 38, was passed. Thus, the CRTC became responsible for both broadcasting, under the *Broadcasting Act*, and telephone communications, pursuant to the *Telecommunications Act*.

The regulatory framework for broadcasting as a monopoly was fairly straight forward, as was the outcome of compliance or non-compliance with the rules. There was either license renewal or refusal. The difficulty, of course, was that the technology was not static, and the monopolistic framework allowed only for the continuation of the status quo. As pointed out by Alfred Kahn in his article “The Passing of the Public Utility Concept - A Reprise”, “markets in the real world cannot be classified neatly as monopolistic or competitive.”⁸

The 1970's/80's/90's - Changing Technology and Changing Interests

The 1970's began a new era for cable television. Technology made great advances in the area of communications, beginning with low-cost satellite transmission replacing terrestrial microwave networks. Assembling a terrestrial network, a collection of “headends” which collected local signals and distributed them through coaxial cable into the subscribers home was very expensive and did not provide much choice - the customer received only the local signals which the cable operator could receive from their antennas. With the advent of inexpensive satellite transmission, a cable operator's headend could pick up distant signals from the satellite and distribute these additional signals to subscribers. The cable company paid a monthly subscription fee for these new channels and, in turn, charged the customer. Technology evolved so that cable

⁷ *Re Capital Cities Communications Inc.*, [1975] F.C. 18; *CKOY Limited v R.* [1971] 1 S.C.R.2. See also *supra* note 1 at 21.

⁸ Alfred Kahn “The Passing of the Public Utility Concept - a Reprise” in *Telecommunications Regulation Today and Tomorrow* ed. Eli Noam (New York: Harcourt Brace, 1983) at 18.

operators could offer a group of these services in addition to the basic packages which consumers had previously received. The customer could choose whether to subscribe and pay for these additional services, grouped together in a package called a "tier", or operators could stop the flow of this "tier" of services to the home through "trapping", a technique still used today.

Technology further evolved to include an electronic box installed in the customers home which had the ability to decode encrypted signals. Encrypted signals, or "pay services", were generally movie channels or more costly types of programming. Because this was a more expensive method of distribution, only around ten percent of customers would elect to receive this type of programming.

The 1980's brought further significant technological change, the impact of which is still unfolding. Cable television had always been distributed through coaxial cable, whereas telephony relied upon paired copper wires for distribution to customers homes. Neither method was suitable to do the job of the other until the development of fiber-optic technologies. This advance allowed for the distribution of video, which copper wire did not, and it allowed for two way traffic, which coaxial cable did not. Thus, these two technologies, and the two industries, began to "converge" and regard each other as potential competitors. In addition, digital technology began to emerge, conferring the ability to compress video signals so that multiple signals might be delivered in the same space as formerly occupied by one channel. This was the technological solution for the customer who desired more choice and there began to be talk of a 500 channel universe. At the same time, traditional boundaries began to blur between telephones and computers as interactivity became the norm and consumers began to request and expect interactivity from the cable companies.

Through other technological developments, competitors of cable television began to emerge in the early 1990's. Several companies were formed in the U.S., such as DirecTV and USSB, which broadcast directly to the consumer, therefore eliminating the cable operator. Because these companies implemented digital technology they could offer a large number of signals. Their weakness was the cost of the hardware which was necessary for the consumer to receive and decode the signals. But the cost and size of the hardware has been decreasing, and the satellite broadcaster's sunk costs are much less than those of the traditional cable distribution system. In Canada, after a great deal of confusion in the market place, there are currently two direct broadcasting companies, Star Choice and Expressvu.

A third emerging category of competitors to cable was wireless technology, which includes microwave multichannel distributions services (MMDS). This is a technology which previously existed and is somewhat limited by line of sight requirements for the transmission of signals. It requires a flat topography to send signals from antennae to antennae. However, digital compression and low cost make wireless technology a true competitor.

In conjunction with technological change, there were dramatic "philosophical" shifts in the general public. Public perception of a monopoly began to change from that of a benign assurance of universality to a potentially corrupt system based on pay back to a select few. Although the following comments predate the change in the Canadian market, they accurately describe the new Canadian public perception of regulated monopolies⁹:

Although these laws differed in many respects...they had one feature in common. They all followed the delusion that private privilege can be reconciled with public interest by the alchemy of public regulation. Consequently, none of them disturbed in the slightest degree the underlying structure of special privilege; they merely reared upon it a superstructure of restraint. Monopoly capitalism, secure in its privileges, shook off the petty irritations of regulation and continued its aggressions against public welfare.

This attitude, coupled with the poor public image that cable television had developed came to a head in 1995 when Rogers Communications Inc., the largest Canadian cable company, attempted to introduce new Canadian channels by way of "negative option". That is, the customer was to choose not to take the additional channels; otherwise, they were deemed to have chosen to receive and pay for these new channels. To add insult to injury, if the customer did take the positive step of informing the cable company that they did not wish to receive the services, the customer would lose some of their preferred programming, which had now been packaged with the new services.

While the term "monopoly" became reviled, the word "competition" was becoming increasingly synonymous with economic prosperity, customer choice, and the national dream of an Information Highway. Kahn said of the US climate¹⁰:

At a time when our most pressing national economic problem seems to be a compound of stagflation, faltering productivity, and a threatened loss of international competitive position, it is not surprising that we incline increasingly to opt for the dynamic disorder introduced by competition, wasteful as it may be in static terms, in order to take advantage of the powerful pressures it exerts for innovation and the achievement of X-efficiencies, over the enforced orderliness that is the ideal of central planning.

To the public, competition meant choice: choice of providers, choice of services, choice of cost. The protection of Canadian sovereignty began to interfere with consumer choices and although there were, and still are, strong advocates, suspicion arose that a primary motivation may have been profit, rather than national identity.

⁹ Horace Gray, "Passing of the Public Utility Concept" cited in Alfred E. Kahn, "The Passing of the Public Utility Concept: A Reprise", in *Telecommunications Regulation Today and Tomorrow*, ed. Eli. Noam (New York: Harcourt Brace, 1983) at 3.

¹⁰ *Supra* note 8 at 10.

Impact on the Framework - Moving toward Deregulation

The major changes in technology and consumer demand for choice were destined to impact upon the monopoly framework. In the 1980s, a series of Commissions attempted to address these issues, opening the skies and paving the way for competition. The results of these hearings included the licensing of satellite delivered specialty services, the creation and expansion of the Eligible Satellite Lists of services with its counterpart linkage requirements, the authorization of competitors, the Structural Hearings, and the "Information Highway" white papers.

In response to the "new consumer" who was requesting more services and more choices in 1983, the CRTC issued a call for applications for new Canadian specialty services, acknowledging the need to expand the range of services offered by cable television systems. After a public hearing, the Commission licensed two such services: Chum Limited (MuchMusic) and Action Canada Sports Limited (to become The Sports Network). As part of this licensing process, the Commission allowed the introduction of non-Canadian services as a method of marketing the Canadian services. Rules were made concerning "linkage"; that is, for every Canadian specialty service carried, a cable system was allowed to carry two non-Canadian specialty services. The allowable non-Canadian services were outlined on a list, the Eligible Satellite Services List. This was the first in a series of decisions granting Canadian Specialty service licenses. It was intended that services on the List would not be competitive with Canadian services. In fact a foreign service could lose its place on the List should a Canadian competitive service be licensed.

In 1987, the number of Canadian specialty channels was expanded to include French language services (Canal Famille, TV5, Réseau des sports, and Musique Plus), a bilingual service (the Weather Network/Meteomedia), three English language services (Vision, CBC Newsworld, and YTV) and one pay service, the Family Channel.¹¹ In 1994, this number was again increased to include the Discovery Channel, The Country Network, Bravo!, Showcase, Life Network, The Women's Network, two new French language channels, and two new pay services, Moviepix and MovieMax.¹² The next round of licensing followed shortly thereafter, when the CRTC licensed twenty-two more Canadian specialty services in 1996.¹³ Canada was now in the "content" business and success was ensured through regulations concerning distribution. The Eligible Satellite List was consistently expanded to assist in marketing the new Canadian specialty channels, and the linkage ratios were reduced to a one to one ratio. While choice of content was expanding, so was the list of alternate suppliers. The CRTC

¹¹ CRTC, *Specialty Programming Services* (2 April, 1984) Public Notice CRTC 1984-81.

¹² CRTC, *More Canadian Programming Choices* (30 November, 1987) Public Notice CRTC 1987-260.

¹³ CRTC, *Licensing of New Specialty and Pay Television Services* (6 June, 1994) Public Notice CRTC 1994-59.

allowed the introduction of Direct-to-Home (DTH) providers in 1987.¹⁴ Soon after, MultiPoint Distribution Systems were licensed on a competitive basis.¹⁵ As well, there was a proliferation of “extra legal” alternatives, those being grey market dishes through which subscribers could receive American programming that was not on the List, such as HBO, Showtime and Cinemax, to name but a few.

Beginning with the Structural Public Hearing, the Commission recognized that technology and consumer appetites had overtaken the framework, so it attempted to define some features of the future communications environment, stating that the new environment was driven by three intersecting forces : changing technology, increasing competition and the “new consumer”.¹⁶ Accordingly, the CRTC felt that traditional forms of regulation would become increasingly ineffective and that the new focus of the CRTC would be regulating basic cable service to ensure accessibility and affordability, as well as aggressive encouragement of the production and distribution of Canadian programming. This decision relied to a great extent upon the advent of digital video compression (DCV) which would increase the capacity of cable systems, and addressability, which would allow the consumer to customize their choices. However, due to costs and lack of standardization, these technologies have not been implemented within the time frame predicted by the Commission.

Shortly after the Structural Public Hearing, by Order in Council PC 1994-1689, the government initiated a process to consult the public on the future of broadcasting and telecommunications, in particular respecting the issues of network interconnection, Canadian content, and competition. The CRTC held public hearings and reported to the government and to the Information Highway Advisory Counsel (IHAC) in May 1995. IHAC added its comments and released its report on September 27, 1995. The Government then published its plan to finalize the policy of convergence (Convergence Policy Statement August 6, 1996), and the process culminated in the policy framework. These “White Papers”, while not having the force of law, provided the policy framework for future interpretation of the Broadcasting Act. That policy indicated that there should be¹⁷ :

¹⁴ CRTC *Licensing of New Specialty and Pay Television Undertakings* (4 September, 1996) Public Notice CRTC 1996-120 licensed the following services: The Comedy Network, History and Entertainment, Teletoon, CTV n1 headline News, Canadian Learning Television, S3 Regional Sports, Report on Business, Treehouse TV, Prime TV, Space, Outdoor Life, Home and Garden Television, Star Entertainment, Pulse 24, Sportscope Plus, MuchMoreMusic, Talk TV, Le Canal Vie, Le Canal Vie, Le Canal Nouvelles, Musimax, Odyssey, and SATV.

¹⁵ CRTC, *Regulatory Policy for Direct-to-Home (DTH) Satellite Broadcasting Systems* (26 November, 1987) Public Notice CRTC 1987-254. See also CRTC, *Licensing of New Direct-to-Home Satellite Distribution Undertakings* (20 Decemeber, 1995) Public Notice CRTC 1995-217.

¹⁶ CRTC, *Regulatory Policy for Multipoint Distribution Systems (MDS)* (3 June, 1993) Public Notice CRTC 1993-76. See also CRTC (26 October, 1995) Public Notice CRTC 1995-183.

¹⁷ CRTC, *Structural Public Hearing* (3 June, 1993) Public Notice CRTC 1993-74.

an increasingly competitive and global market and the rapid pace of technological development, market forces, not governments, should, to the extent feasible determine the most appropriate standards. Where required to meet specific needs such as security, safety or international obligations, the Government will use its legislative and regulatory powers to establish and enforce standards.. As well, the Government may take appropriate action where competition or the interests of consumers may be adversely affected by standards related considerations....the Government (will) continue to have the tools and mechanisms to promote Canadian content.

Part of this policy was that telephone companies could compete with cable companies in their core business when the regulatory barriers to competition in local telephone services were removed.

These policies came to have the force of law in the new Broadcasting Distribution Regulations SOR/97-555, which became effective January 1 1998. These new regulations were made applicable to "distribution undertakings", thus taking into account competition from DTH satellite systems, MDS and potentially, telephone companies. The obligation to provide service to individual households in residential areas within the service area was repealed and regulation of basic rates was abandoned where competition was considered to be effective (i.e. the loss of 5% of customers to a new distribution undertaking ss. 45-56). Canadian content was still protected through requirements to carry a majority of Canadian signals (s.6), requirements to carry certain programming (s. 17), the access rules which require companies which serve over 6000 subscribers to carry all Canadian specialty services by 1999(s.18), as well as distribution and linkage requirements (s. 20).

Section 9 of the Regulations introduced a new concept into the framework: "No licensee shall give an undue preference to any person, including itself, or subject any person to an undue disadvantage". This section of the regulations marks a departure in governance and illustrates the dichotomy within the current framework. The policies reflected in the Broadcasting Distribution Regulations create a framework for the regulation of competition, which is, if not an oxymoron, at least a confusion of principles. The CRTC must administer government policies through regulation for the betterment of the Canadian communications system; but, at the same time, must adjudicate upon legal principles of competition without reference to extraneous issues. An examination of the current communications market and the most recent Commission decisions illustrate the difficulty of this mandate.

The Current Market - Vertical Integration

The most surprising characteristic of the new competitive marketplace is that it has not fundamentally changed from the monopolistic structure of the 1980s. There have been a great number of discussions, policies and papers but no real change, at least not yet.

This is because the assets which form the backbone of the communications industry are still concentrated in the hands of a few, except now control is achieved through vertical integration rather than exclusive licensing.

Insofar as "broadcasting distribution undertakings or BDU's" (the new name for all types of distributors) are concerned, Rogers Communications Inc. has invested in businesses of related technology, in particular telephony, paging and Internet services. Shaw Communications Inc., the second largest BDU, has invested more heavily in programming and owns YTV, Country Music Television and Treehouse programming services. Shaw also owns a digital Music service known as DMX, as well as equity in Teletatino Network, The Comedy Network, and Teletoon. In addition, Shaw has invested in alternative methods of distribution and owns Star Choice. Shaw has also invested in the assets of Western International Corporation (WIC) which has substantial broadcasting assets and radio stations. This purchase is still subject CRTC approval. Videotron, the largest francophone operator, is investing in telephony, and has interests in francophone programming services such as TVA, for which the CRTC has recently mandated carriage throughout Canada. Other cable operators, such as Moffatt Communications (owners of Women's Television Network) have pursued this strategy, although to a somewhat lesser extent due to capital issues.

There are some very powerful programming services which have no cable distributor affiliation, but their numbers are few and ownership is concentrated. A recent merger means that Alliance Atlantis Broadcasting owns Life Network, Home and Garden Television, Showcase Television and the History Channel, among other assets. The Astral Group owns virtually all the movie networks, French and English, in Canada. CTV, another major player, owns CTV Network, CTN News, Talk TV and parts of CTV Sports Network and Outdoor Life Network. Pending regulatory approval, CTV will acquire Netstar Communications Group, the company that owns The Sports Network (TSN), as well as the Discovery Channel. CanWest Global has Global Network as well as the specialty Service, Prime TV, and will share in the division of the WIC assets with Shaw. With Chum Group Ltd. (Much Music, Bravo!, Space, *et al*) and CBC interests (Newsworld, RDI, Galaxie) and Radiomutuel for francophone services, this sums up the Canadian industry. While the assets are certainly swapping with greater frequency, the players stay much the same. Broadcasting is a small world.

What does all this mean to the regulatory framework? While vertical integration is not the antithesis of competition in an industry changing from a monopoly to competitive environment, it may stunt the process if unchecked. This brings us back to the new Broadcasting Distribution Regulations and section 9 referred to earlier, which has the title "Undue Preference or Disadvantage". This regulation has been invoked at least three times of note since its inception only 12 months ago.

When Shaw Communications Inc. attempted to increase its holdings in Sportscope Television Network Ltd. the Commission denied the application, stating

that market conditions with respect to channel capacity and competition had not materialized to the extent anticipated, and that there was potential for undue preference, in that Shaw might prefer its own services and give them distribution over other programming services.¹⁸ Similarly, the Commission refused to allow Rogers to increase its stake in CTV SportsNet on the basis there was concern regarding the potential for undue preference¹⁹ (Appeal to the Federal Court denied April 7, 1999). A complaint by Bell Expressvu was dismissed as not being an undue preference by the Commission. Expressvu had alleged that Rogers preferred itself by obtaining an exclusive deal with a signal supplier to distribute NFL Sunday Ticket.²⁰

With the advent section 9 of the Regulations, the CRTC is no longer simply implementing policies and policing administrative issues. Rather, it is now called upon to make judicial determinations. The CRTC is acting as a court, and adjudicating on the basis of legal principles. On the other hand, the Commission is still intended as a forum to canvass public opinion and act on the policies of the government of the day.

Conclusion

Historically, the Commission has been the body that implemented government policies which were outlined in regulations. They worked on an informal, consultative basis, encouraging input from all sources, pursuing inquires and involving Commission staff in regulatory determinations and implementation. With the introduction of competitive issues, and regulations such as section 9 of the Broadcasting Regulations, this procedure is no longer possible. There is too much room for abuse of power, or at least a claim of such conduct. Justice must not only be done but be "seen to be done", meaning the implementation of clear and predetermined procedures to safeguard rights and ensure natural justice. And this does not take into account the role of the Bureau of Competition Policy: Will that government body leave all broadcasting issues to the CRTC or will there be two bodies who govern competition in the communications field?

All of the above objectives, national and social interests, and the benefits of competition in creating the Information Highway, are laudatory but schizophrenic, at least for one governmental body. In a fashion that is distinctly Canadian, we are looking for the protection of social principles and the benefits of a competitive environment, wanting to have our cake and eat it too, so to speak. There is currently an uneasy alliance of principles, resulting in a framework which is still in an uncomfortable state of flux. Canadians may have to decide which interests are the most important to protect and

¹⁸ Government of Canada Convergence Policy Statement, August 6, 1996.

¹⁹ CRTC Decision 98-226.

²⁰ CRTC Decision 98-487.

what structure most efficiently and effectively protects those interests. Failing such a pro-active determination, the framework of the industry will continue be determined by technology , entrepreneurial initiatives and mixture of policies which makes for unpredictable and potentially unfair governance.