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A STUDY OF THE SOCIO-ECONOMIC IMPACT OF DIRECT BROADCAST SATELLITES ON THE CANADIAN TV BROADCASTING INDUSTRY

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Government of Canada
Department of Communications

Gouvernement du Canada
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25th October 1982

Ms. I. Bischoff
Project Authority
Department of Communications
Journal Tower South, 9th Floor (DPP)
365 Laurier Street West
Ottawa, Ontario
K1A 0C8

Dear Ms. Bischoff

We are pleased to present our final report on the socio-economic impact of a Canadian DBS on the Canadian Broadcasting Industry.

We trust that the statistical profile developed in this report of the Canadian television industry and the impact statement based thereon will be of use to you in your further studies. It is evident from our research that, in the scenario developed for this exercise, the potential impact of a restructuring of the CBC/RC and possible fragmentation of advertising revenues caused by the new DBS service far outweigh any possible consideration of changes in programme distribution costs. As such the impact of the possible changes in industry revenue distribution should, in any further analysis, be considered apart from the impact of technical elements more strictly related to the DBS service.

The impact of the postulated scenario is probably small for the economy as a whole, but for the T.V. industry it results in a massive transfer from the public T.V. sector to the private sector, and within the private sector from non-participants in the DBS service to participants. The

likely result of such transfer is an improvement in the profit prospects of all sectors of the private TV broadcasting industry except the CBC/RC affiliates which are probably already too stretched financially to participate in the new service.

The elements in the industry gaining from the introduction of a DBS service and those loosing are not only seperated by network affiliation but can also be diferentiated by the market they serve and their total revenues. The small to medium sized markets, where there exist only CBC/RC affiliates or the CBC/RC affiliates in competition with CTV or TVA affiliates, will be harder hit than the larger urban areas by both market fragmentation and the transfer of CBC/RC advertising revenue to the larger private stations. Even small cable companies or cable companies in small urban centers could be threatened by the market fragmentation that the DBS service might bring about.

Sections 6.3, 6.4 and appendix 4, the profil of and impact on the Private TV sector have been bound seperately owing to the confidentiality of the data contained therein.

Should you have further questions concerning our report please do not hesitate to contact us.

Yours truly,

Raymond, Chabot, Martin, Paré & Cie

RAYMOND, CHABOT, MARTIN, PARE & CIE

CBégin/JBaer

EXECUTIVE SUMMARY

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This study of the socio-economic impact of a Canadian direct broadcast satellite (DBS) television service, on the existing Canadian broadcasting industry is part of a multidisciplinary, planning studies programme of the department of communications regarding the feasibility of and mechanisms for introducing DBS in Canada, and in support of Canada's submission to the R.A.R.C. conference for the Americas in 1983. In this conference, frequency bands and geostationary satellite locations will be allocated to the different countries wishing to develop DBS services.

A DBS system consists of high powered satellites (EIRP between 53 and 63 DBW) which transmit signals that low cost, small antennas can receive. This report evaluates the impact of an interim DBS system on ANIK C transmitting in the 14/12 GHZ frequency and a future dedicated DBS system on a specially designed satellite operating in the 17/12 GHZ frequency on the Canadian Broadcasting Industry.

Study Objectives

The primary objective of this study is to make a preliminary estimate of the likely impact of a DBS service in Canada. The impact statement was to be limited to the broadcast industry and to provide a base for further more detailed analyses. The impact statement was to be based upon a scenario developed in conjunction with the D.O.C. which would be plausible and would limit the possible negative impacts on the off-air broadcasters and cable operators.

A secondary objective was the development of an economic profile of the existing industry on which the impact statement was to be based.

Study Methodology

The study of the economic impact of a DBS service on the Canadian television broadcasting industry was undertaken in two (2) phases: the de-

velopment of a probable scenario for the design of the satellite television system; and the measure of the impact of the postulated scenario upon the broadcast sector.

Phase I was undertaken with intensive consultation with the D.O.C. and terminated with the development of a final scenario for DBS development, acceptable to the client, to be used for the measurement of the likely impact on the sector.

Phase II commenced with a series of wide-ranging interviews with representatives of all sides of the broadcasting, cable, telecommunications, programme production and government sectors. The phase was completed by an in-depth analysis of all data available on the industry in the light of all opinions received. The impact of the DBS service on the broadcasting industry was determined separately for each group of affiliates in the private off-air sector, for CBC/RC and ETV in the public sector, for cable operators and for independent programme producers. Little quantitative impact could be measured either for the advertising industry or for the telecommunications sector owing to a shortage of Data. Both of these sectors, while offering services to the T.V. industry, could be considered peripheral to out analysis. The impact on these two sectors would depend, in the case of the advertising industry, on the growth of the total industry and the DBS does not necessarily impact upon this point and, in the case of the telecommunications industry, on the revenue they earn from this source and on the age of the equipment dedicated to T.V. service. The microwave equipment dedicated to the Broadcasting Industry, which might become redundant, might be at the end of its economic life and, therefore, have only scrap value. However, no information was available on this point for the equipement concerned.

The Potential Scenario

Phase I of the study concluded with the development of a probable scenario which was to be tested for industry opinion and for its impact in

socio-economic terms. The details of the scenario are conclusions of sorts in their own right as they represent the culmination of knowledgeable discussions on the likely path that the development of a DBS service in Canada could take.

The selected scenario postulated two (2) phases of development for Canada's DBS service; an interim service of 16 transponders and 2 to 4 beams on ANIK C requiring a 1.2 metre reception antenna; and a dedicated DBS service on two specially designed satellites covering the country with 6 beams with up to 20 channels in each, requiring an antenna of less than 1.2 metre. The dedicated service would be implemented approximately five (5) years after the interim service; in 1987-1988. The interim service scenario offers the CBC and Radio Canada, Educational TV, Pay TV and two commercial channels in all regions of the country. Building on this base, the postulated dedicated service could add up to twelve (12) special interest, public service or narrowcasting channels, the exact clientele of which was not specified, to the interim service. Management of the system could be through Telesat alone or Telesat in conjunction with the broadcasting industry.

Reception of the DBS service would be possible either by individual antenna, through the cable by means of a head end DBS antenna, or off-air from local stations retransmitting the signals (STV). No obligation is assumed on the part of either the cable or the private broadcasters to carry all or part of the programme content envisaged.

As a corollary to the DBS scenario, a scenario for the development of the off-air broadcast industry was also developed. The role of the CBC/RC in the local market is assumed to decline radically where private industry can take over and as the CBC/RC concentrates on a national/wide regional role centred upon its participation in the DBS service. Local CBC/RC owned and operated stations would be closed where competing private services exist and the publicity which they carry on the air would be pro-

gressively reduced. It is hoped that the withdrawal, both physical and financial, from the local market would enable the private industry to offer an improved, competitive local service to its off-air and cable viewers.

The Reaction of the Industry

The reaction of the Private TV industry, both off-air and cable, was on the whole favourable. Their concerns covered in particular:

- The capacity of the postulated interim service;
- The regulatory environment;
- The cost of the satellite transponders;
- The problem of copyright;
- The competitive position of affiliate TV stations and small cable systems in smaller urban centres;
- The potential fragmentation of the market;
- The planning horizon of the scenario; and
- The possibility of competition from American DBS services.

The cable industry, in particular, expressed concern over the limited capacity of the interim DBS service. The reaction was based upon discussions of only one (1) ANIK C satellite. When one takes into account the transponder capacity available on the other ANIK C satellites and on satellites in other frequency bands, the cable operators criticism ceases to be significant. Rather, the planners' concern as to the Canadian industry's ability to fill the capacity available becomes more understandable. To counteract the false impression of limited initial capacity, emphasis should be placed upon planning collectively for the use of all three (3) ANIK C satellites.

The regulatory environment envisaged for the DBS service and for the off-air broadcasters was not specified in the course of the present study. The private broadcasters expressed concern over the competitive ability

of stations in small urban centres if the present CRTC rules remain in force. Particular emphasis was laid upon the problems created by the difficulties placed in the way of mergers of TV stations and cable companies serving the same market. Evidence presented in this report would support the need to act in this area as competition between the affiliates of the different networks in the same small-town markets cannot be supported by the advertising revenues and viewer demand available. The addition of competition from a DBS service is likely to further aggravate the financial problems of such stations.

The cable operators expressed a concern that they might be limited to the role of a carrier in the DBS service. The cable operators wish to continue their present programming role, share such activities and obligations amongst themselves by satellite and develop other non-TV services. The latter point is beyond the bounds of this study and the former would seem entirely reasonable in the satellite TV era. The point to point capacity of the non-DBS satellites could well be used in part by the cable companies for the building of their own programme schedule in the same way as might the CTV or the CBC networks. Such a practice could possibly offer succour to threatened smaller cable operators in competition with community DBS systems or local off-air stations retransmitting DBS programming and increase the canadian programming available in each area of the country.

A wish was expressed by all parties in the industry that the government, Telesat and the CRTC define the regulatory climate under which the DBS might function and the financial arrangements anticipated for the allocation of transponder space whatever form these might take. Little private planning has been undertaken for possible participation in a future DBS service owing in part to their ignorance on these points. The slow progress achieved in this important area is somewhat irrealistic as the least that the private TV broadcasters or the cable operators could assume would be the regulatory status quo and a continuation of Telesat's current rates.

The problem that the DBS poses for copyright negotiations is difficult but not intractable. The question of whether the Montréal Canadian Hockey match is carried by the DBS service and thereby received at least throughout the eastern half of Canada, preventing possible local blackouts, is hardly an affair for the government, but rather one of commercial contract negotiations. The impact upon existing off-air networks could, however, be serious.

The impact of satellite competition upon local off-air services and, indeed, possibly on local small cable operators could be severe, as will be outlined below. The industry fears that an already difficult financial position for these stations could be made worse to the point where they could no longer function. The present competitive situation in these small cities will not always permit a late entrant, the DBS, to start up and take a part of the market without adverse consequences for the existing market competitors. The evidence introduced concerning the geographic distribution of off-air stations, their financial results and competitive position would tend to confirm much of the private industry's fears. Further fragmentation of the market which might result therefore from the introduction of the DBS service might be dealt with differently in different sized communities. The continuing provision of off-air services in these communities should perhaps be viewed as of greater importance than the maintenance of a competitive local environment.

Finally, the off-air stations and cable operators in the larger urban centres expressed concern that the interim service might offer too little capacity and arrive too late to compete with American DBS services. The industry suggests that the American services' smaller antenna requirements and their service variety would be of considerable interest both to the metropolitan cable operators and to the population they serve. Whilst all agree that they would take the postulated DBS service for the Pay TV service it contains, many felt that the programme package offered by the Americans could give them a marketing advantage over its Canadian rival.

The industry draws two (2) conclusions from such an analysis; that the dedicated DBS service should be brought forward in time, as much as possible, or that the interim service should be expanded on a basis of two (2) TV channels per transponder. However, the progress of the Americans in this field is not as rapid as the industry would like the planners to believe. The argument that the TV industry requires a higher level of channel capacity to compete with the American DBS services is perhaps realistic, however, the criticism thereby implied of the DBS system is misplaced. The DBS service is only one part of a multi-satellite television system which will offer the industry practically all the capacity they might care to buy. At the same time it will meet the objective of improving remote television service reception.

The DBS Market

Using the results of the studies undertaken by Tamec Inc. and Telesat (2) on the DBS system, for the D.O.C., an attempt was made to determine, firstly, all the elements of the existing market place likely to be interested in a new DBS service. Secondly, the likely penetration of each such sector was estimated to give an idea of the size of the service's probable market; or at least the number of likely antenna sales and the possible audience of the antennas once installed.

The estimate for the probable penetration of the isolated household market was based upon Telesat calculation of the optimum demand and supply relationship given an antenna of 1.2 metre offering an 8 channel service. It is estimated that an antenna costing $600 in 1981 would give a probable demand for 325,000 installations. Again for rural communities with more than 21 households, similar Telesat assumptions were used, indicating a market penetration of 25% of the total number of such households; 253,000 probable household subscribers in over 9,000 possible community DBS services. The penetration of the cable market was based upon potential Pay TV penetration rates developed by Tamec to give 1.3

million probable subscribers. Similar rates were applied to the off-air market without cable but with colour television to give a further 338,400 probable subscribers.

The probable demand for the postulated DBS service would appear to be approximately 2.2. million households out of a total potential market of 7.7 million. The probable market is, therefore, nearly 29% of existing television demand. This would not necessarily, however, indicate that the new service would attain such a high penetration of the viewing audience nor that such significant market fragmentation would occur.

For 15% of the probable market, isolated households, the DBS would in part replace poor existing services and in part add new services. The quality of the service would dictate that the households in question would watch the DBS most of the time. The subscribers in the remaining 85% of the market in small and larger urban areas would divide their time between existing off-air and cable channels and the new DBS service.

For the 11% of probable subscribers in rural communities the quality and extra cost of Pay TV might be the determining factors as much of the remaining programming is already available off air. Competition for these subscribers might come from existing point to point multi-channel services such as CANCOM.

The remaining 74% of the probable market is tendencial and would depend upon the competition between off-air and cable for the DBS service market. The penetration of each in this market will depend on the rate of growth of cable penetration and the costs of competing DBS services to the consumer. Much, again, will depend upon the attractiveness of Pay TV.

The Cost of a DBS Service

The distribution of DBS programming requires three (3) basic pieces of equipment; the uplink transmitter, the satellite and the downlink antenna receiver. Telesat estimates that the annual base cost of each ANIK C transponder would be $2.2 million in 1981 dollars. The uplink could be purchased for a little under $250,000 or $83,650 per year, on an annual basis if financed by borrowing on the terms assumed in the report. The downlink, without installation and power costs would, in their calculations, cost $600 for the 1.2 metre antenna and between $4,200 and $5,000, depending on numbers sold, for the 3 metre community antenna.

The estimated cost of the DBS service is far from complete. However, estimates of the distribution elements of the system costs indicate that the cost per channel per month per subscriber might be as low as $1.00 or less. The massive weight of the potential cable market significantly reduces the average cost per subscriber of the system. Isolated households alone, if no cross subsidization from other market segments was possible, might have to pay over $2.30 per channel per month each.

The Impact of the Postulated DBS Scenario on the Canadian TV Broadcast Industry

The major impact of the postulated DBS scenario is a massive transfer of revenue from the Public Television system and its private affiliates to the private networks and independent stations. The reduction of advertising on the CBC/RC and their withdrawal from the local TV market would have injected over $100 million into the Private TV broadcasting companies in 1981. The allocation of the injection amongst the former CBC/RC affiliates, the private affiliates and the independents would depend much on their existing weight in their different markets and the extent to which they presently compete with the CBC/RC owned and operated stations. The CBC/RC owned and operated stations compete only with non-CBC/RC affiliated stations. Much of the benefit of CBC/RC's withdrawal from publicity would, therefore, go to stations other than the CBC/RC affiliates.

The weight of such potential losses for the CBC/RC affiliates combined with possible fragmentation losses as a non-participant in the DBS service would leave this group of stations in an extremely difficult financial position (1). If one should then add the effects on these stations of competing in medium sized towns (50,000 to 150,000 people) with CTV/TVA affiliates who would receive a considerable cash injection the results could be even worse. The survival of many of the CBC/RC affiliates would be in extreme jeopardy. Instead of making a collective profit of $17.7 million in 1980 the CBC/RC affiliates, under the DBS scenario, would only have made between $1.9 and $9.5 million in net pre-tax profit, depending on the percentage market fragmentation assumed.

Effectively, to leave the CBC/RC affiliates a breathing space, a chance to survive, the withdrawal of the CBC/RC from publicity and local affairs should be only partial so as to reduce the affiliates direct revenue losses and to limit the gains of their competitors.

The impact on the CTV/TVA affiliates under the scenario is strongly positive. Only under the assumption the CTV did not participate in the service and that market fragmentation was extremely high would the CTV affiliates be in financial danger. The TVA affiliates, as they face little or no competition for the satellite transponder space allocated to French private commercial services, would be unlikely to face difficulties. Should both TVA and CTV participate in the service their increase in profits could reach respectively 50% and 300%.

The CTV affiliates, under the DBS regime, would have made between $95 and $119 million in 1980 if they had participated in the DBS service, and between $45 and $73 million if they had not. In 1980 their estimated net pre-tax profit was $30.2 million.

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(1) It is assumed that the CBC/RC affiliates would not be participants in the DBS system owing to their generally poor current financial position.

The TVA affiliates, it is estimated, would have seen their profits increase from an estimated $42.1 million in 1980 to $60 million with a DBS service.

Independent stations face a possible 400-600% increase in profits should they participate in the DBS service, achieve high market fragmentation and benefit as predicted from the revenues the CBC/RC is assumed to inject into the sector. Should only the market fragmentation conditions be fulfilled then these stations too could face financial difficulties.

The nine (9) stations in this category made an estimated $12.7 million in net pre-tax profit in 1980. Under the DBS scenario they would have increased that figure to between $56 and $91 million if they participated in the service and $21-$38 million if they did not.

The cable operators, in general, face little perceptible increase in costs through participation in the DBS service and as long as their present equipment can accomadate the increased load they have the chance to increase their revenues considerably. In particular classes of cable systems the picture is somewhat different. Those systems in small urban areas or not offering full converter or American services would be vulnerable to the level of market fragmentation losses assumed for the private broadcasters. Small losses of revenue by these groups through competition of other agents providing the DBS service could have serious financial consequences. All cable systems with less than 1,000 subscribers and those earning less than $90,000 in revenue in 1980 would immediately be at risk as they made no net pre-tax profit at all or insufficient profits to cover necessary DBS cost increases without raising prices.

The impact upon the provincial ETV's would be positive in the sense that the DBS offers a cost effective means to fulfill their mandate of reaching 100% of their provincial population. Inevitably, this development would be none the less costly. The impact is of particular importance

only for Radio Québec as they have a well developed terrestrial microwave distribution system and network of regional programming centres, neither of which would fit into a rationalized service provided on the DBS service.

The independent program producers who, it is hoped, might be one of the principal beneficiaries of the DBS system as the new channel capacity creates a demand for fresh programming, might not receive the boost often predicted through this programme. It is predicted that only the Pay TV service would be likely to require extra programme production from independent producers and their demand might only lead to a 25% increase in the 1979 sector revenues of a little less than $4 million.

The losses that might be suffered by the carriers with terrestrial microwave systems dedicated to the TV industry are limited to at most the $65 millions in revenue that accrues from TV transmission each year and the write off of equipement with a gross book value of $200-300 millions. The losses, however, would in all probility be significally less as the companies would agressively defend their share of the market and adapt to their clients new technological requirements. Such losses if they occur are firstly deemed a natural counterpart to technical innovation and secondly, it has yet to be proved that all such investment has some remaining economic life and thus a net value. The question is hardly of concern to the television industry which should only consider the impact of all elements in the possible participation in the DBS service on their bottom line; their net profits.

Finally, the impact of the postulated scenario on the CBC/RC as a corporation has been shown to be limited on balance. In the analysis it was shown that the removal of the corporation from the local market, a limited reduction in advertising and its participation in the DBS service might indeed be beneficial to the corporation. A net gain of nearly $4 million dollars was found to result from the postulated restructuring.

However, before one concludes that the reduction of the CBC/RC to a non-commercial TV entreprise operating only by satellite is to be recommended, one must consider the possible negative effects of such financial largesse on the rest of the TV broadcasting industry. Massive changes in the operations of the CBC/RC should not be included in a DBS scenario as they effectively cloud the issue of the impact of the change in distribution costs and possible gains and losses from market fragmentation. The potential change of costs of programme distribution incurred by a move to the DBS mode are completely dwarfed by probable changes in revenues either from changes in the CBC/RC operations or from market fragmentation. In the final definition of the DBS service programme package a judicious balance must be maintained between the potential of particular participants to cause or suffer from extreme fragmentation of the market and their probable gains and losses through any restructuring of the CBC/RC.

As such it is probable that the minimum damage would be caused to the existing fabric of the industry if the present CBC/RC relationships with its affiliates were maintained and that cuts in publicity content, if they are required, be made elsewhere. Equally, the least disruptive option for use of the private commercial transponder space on the DBS system would be to offer the space to independent stations in different parts of the country. Such an option would require, for the protection of small local affiliates, a slackening of the CRTC's concern for competition in smaller urban areas.

I N D E X

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CHAPTER 1

INTRODUCTION

1. INTRODUCTION

A Direct Broadcast Satellite (DBS) system consists of high powered satellites (E.I.R.P. between 53 and 63 DBW) which transmit signals that low cost receivers with one (1) metre antenna at less can receive. The difference between a DBS system and a point to point Broadcast Satellite system appears to lie in the size of the TVRO antenna the individual will be required to buy, the intentions of the system planners and the wave-band used. Evidently all television satellites are DBS if a large TVRO is acceptable to the individual and equally no system is DBS if the TVRO is unacceptable to the public at any size.

Satellites officially intended as DBS will, in cooperation with other nations of ITU region 2, the Americas, be allocated geostationary orbits in a regional conference next year (RARC '83). The DBS studies programme will assist in documenting Canada's case for adequate spectrum for Canadian DBS at that conference. An interim DBS on Anik C would be in the fixed 14/12 GHZ frequency. A future dedicated DBS system will be in the 17/12 GHZ frequency.

This report is designed to help the DOC develop a strategic plan for the introduction of a DBS system in Canada. It is part of a multi-disciplinary studies programme undertaken to permit informed decision making by the government and the television industry.

1.1 Objectives of the Study

The primary objective of this study was to establish the likely socio-economic impact of the introduction of DBS (direct to home satellite broadcasting) systems on the Canadian T.V. broadcasting industry in Canada. The impact statement was not to be definitive but rather of a general, preliminary nature which could

lead to further discussion or specific in-depth follow-up studies. The study only concerned the existing participants in the broadcast industry, specifically; television broadcasting licencees; cable television; programme production; and dedicated telecommunications facilities.

The impact statement will, where possible, be in terms of changed revenue and expenditure patterns within the industry. The basis for all measurement will be a profile of the existing industry developed during the current study, analysis of existing literature and similar studies for other countries and interviews with members of the television industry. Throughout the report an attempt will be made to highlight the significance of particular elements of the existing system and the importance of change in the industry's regulatory environment.

1.2 Approach to the Study

The study was split into two (2) phases to facilitate client decision-making concerning the development of a possible scenario for a DBS service in Canada. The first phase entailed the creation, after a detailed analysis of past studies and discussions with officials of the Department of Communications (D.O.C.), of a profile of the existing television industry including programme production and advertising and a number of possible scenarios of DBS systems which would be applicable initially to the ANIK-C series of satellites and thereafter to dedicated DBS systems. The scenarios discussed the possible philosophic and technical approaches to DBS systems and included detailed functional parameters, capacity indicators and program content proposals to enable the industry to judge their feasibility and desirability in the Canadian context.

In the second phase, a reduced number of scenarios were outlined to members of the broadcast community, regulatory authority and provincial governments. The reactions of the representatives interviewed in terms of the likely impact of the DBS scenarios were considered in the final analysis.

1.3 Structure of the Report

The subject matter of this study will be dealt with in three (3) basic parts:

Chapter 2 - The **Development of the Postulated DBS Scenario:** In which the philosophical and technical aspects of DBS will be discussed. Emphasis will be placed upon the role of DBS in the broadcast industry; the system's technical specifications; the likely management configuration of the system; and its possible programme capacity and content.

Chapter 3 - **The Economics of the Postulated DBS Service:** In which an estimate is developed of the probable market of the DBS service and the approximate annual cost of the system to potential subscribers.

Chapter 4-8 - **The Impact on the Various Subsectors of the Broadcasting Industry of the postulated DBS Scenario:** In which the impact of each affiliate grouping and type of industry entity will be examined in terms of revenues, programme expenditures and pretax profits.

The final chapter of this report will bring together conclusions drawn as to the impact of the proposed DBS system. Recommendations will be made as to possible changes in the scenario or the environment of the industry which seem likely either to more closely fit the needs of industry and public in this new high technology era, or to reduce significant disadvantages caused to existing industry members.

CHAPTER 2

THE DEVELOPMENT OF THE POSTULATED DBS SCENARIO

2. DEVELOPMENT OF THE POSTULATED DBS SCENARIO

This chapter will outline the postulated DBS scenario developed for the purposes of measuring the impact of such a system on the existing Canadian television broadcasting industry. The chapter can be divided logically into eight (8) subsections, as follows:

- Methodology;
- Basic Principles;
- Planning Horizon;
- Major System Dimension;
- System Configuration;
- Service Content;
- System Management; and
- Structure of Off-Air TV.

The actual scenario document developed for the impact measurement and interview programme will be found in Appendix I.

2.1 Methodology of Scenario Development

After an in-depth analysis of documentation on possible Canadian DBS systems, a basic work scheme was developed. Decisions required to shape the scenarios and to choose between potentially competing options were defined for the client.

The decision "tree" defined for the client contained the following elements:

- Definition and selection of a number of basic principles and criteria necessary to judge between plausible packages;

- Definition and selection of a number of plausible DBS system packages corresponding to specific combinations of system configurations, service content and system management characteristics.

Based upon decisions taken in conjunction with the client and a series of iterative meetings, the consultant drew up a selection of working scenarios. The working scenarios were jointly evaluated by the consultant and the client. The results of the deliberations were the postulated scenarios which will be discussed in the ensuing sections.

2.2 Basic Principles of DBS System Development

A series of basic principles, based upon broadcasting policy, as defined in the Broadcasting Act, were drawn up to guide the development of DBS scenarios. To be acceptable as a DBS package, a scenario had to fulfill the following conditions:

- Consider the DBS as one technological tool amongst many which offers national and wide regional coverage capability;

- Provide all Canadians with access to the same level of service available anywhere in Canada, in both official languages;

- Offer all Canadians maximum broadcast channel capacity at the lowest feasible total cost to the country in social and economic terms;

- Ensure smooth transition through the various stages of technical development of the DBS system;

TABLE 2.2

TECHNICAL CHARACTERISTICS OF

CANADA'S ANIK SATELLITES

	ANIK A	ANIK B		ANIK C	ANIK D
Status	In orbit	In orbit		In preparation	D1, in orbit D2, in preparation
Number of satellites	3 A1,A2,A3	1 B		3 C1,C2,C3	2 D1,D2
Frequency (GHZ)	6/4	6/4	14/12	14/12	6/4
Number of RF channels per satellite	12	12	6	16	24
RF channels reserved for traffic	10	10	3	16	20
Free channels	2	2	3	0	4
Footprint coverage	All Canada	All Canada	4 x $\frac{1}{4}$ beams	4 x $\frac{1}{4}$ beams	All Canada

Source: Telesat Canada.

- Minimize the negative impact on the present constituent elements of the Canadian broadcasting system;

- Use the new DBS transmission technology to promote, rejuvenate and motivate existing broadcast organizations; and

- Respect, in the allocation of system management responsibilities, the general "carriage/content" split presently upheld in the regulatory environment.

It is evident that more detailed conditions could be defined. In the absence of a clear regulatory environment for the use of DBS technology, such an exercise was not considered relevant at this time.

2.3 The DBS System Planning Horizon

It is intended that the DBS technology be introduced into the Canadian broadcasting industry in two (2) stages: first, a preliminary development using existing satellite technology, and then, a dedicated DBS satellite system.

2.3.1 The Interim DBS System

It is possible to use one of the ANIK-C series of satellites to launch an interim DBS television service in Canada. Table 1 gives the detailed characteristics of Canada's ANIK satellites.

The first ANIK-C will be launched in October 1982 and will be operational in early 1981. Should delays occur in the development of a DBS service it could be transferred to ANIK C 2 or ANIK C 1 which will be launched

respectively in April 1983 and later in 1984. The life cycle of the ANIK C satellites could be prolonged even beyond the end of this decade should it be necessary in order to allow for the development and improve the return on capital of the dedicated DBS system.

2.3.2 The Dedicated DBS System

The development and implementation of a dedicated DBS system is expected to take at least five (5) years. The earliest date at which a dedicated DBS system could be operational is 1987/88. Prior to the phasing out of the ANIK C service a period of overlap with the interim DBS service to allow testing can be expected.

The distinction between Interim and dedicated DBS, denoting the different satellite television systems described above, will be maintained in the detailed discussion of all internal and external aspects of the postulated DBS scenario.

2.4 Major DBS System Dimensions

The postulated scenario of DBS development contains three (3) major elements: system configuration, service content, and system management.

The system configuration must identify the technical specifications for the actual mechanical operation of the system, for instance: the number of satellite locations; the number of beams covering Canada; the number of channels per beam; the size of antenna required in different parts of the "footprint"; and transmission parameters.

The service content refers to the programming expected on each channel and will be discussed with reference to some of the following elements; basic and optional services; regional differentiation in programming; private and public services; and minority language programming.

Finally, the system management parameters must identify the various constituent organizations in the system; their various roles and responsibilities; and the relationships between the different parts. The external element of system management which was not defined in the scenario is the regulatory environment. The comments of the broadcasting industry were sought as to the role the CRTC should play in a DBS service.

The role of the CRTC or other DBS regulatory bodies will arise indirectly in later chapters discussing the attitudes of the industry towards DBS.

2.5 The DBS System Configuration

This section will deal with the technical parameters of the satellite and the specifications of the needed TVRO. An attempt will be made to outline the possible choices and the reasons for the final decision.

In the interim ANIK C system only one (1) satellite location is being assumed despite there being three (3) satellites with television capacity available in three (3) different locations.

This assumption is somewhat limiting but the exact nature of plans for the other ANIK satellites is not available for this study and indeed is not covered by the study. The capacity available for the interim system under the potential scenario is, therefore, limited.

Within the satellite-TVRO system there are a series of design decisions which have a serious impact upon the capacity and the cost of the system. ANIK C is a moderately powered satellite. Lower power reduces the satellite cost of the system but increases the cost per earth station. To enable ANIK C to offer a large number of TV channels, compromises have to be made; the number of beams used to cover Canada, the number of TV channels per satellite transponder and the ultimate size of the individual antenna are important elements to consider. American satellites now planned are likely to be of considerably higher power than ANIK C and will probably require TVRO antennas of between 60 and 90 centimeters. Such a configuration will limit the number of TV channels available for broadcast by the U.S. satellite system.

ANIK C can cover conveniently the whole of the country with two (2) beams. With two (2) beams each covering half the country, some basic differentiation along classic East/West lines is permitted. In fact four (4) separate "footprints" covering each a quarter of Canada can be produced which would allow considerable scope for time zone and regional programming difference. The postulated interim scenario mixes half and quarter Canada beams and thus allows different programming in the Atlantic provinces/ Québec, Ontario, Manitoba/Saskatchewan and Alberta/British Columbia.

A second factor impinging on the TV channel capacity is the number of TV channels per satellite transponder. Each transponder can theoretically carry two (2) TV channels but only at the expense of either antenna size or reception quality. The postulated scenario maintains only one (1) TV channel per transponder in order to offer the chance of a TVRO antenna of 1.2 meters diameter instead of a receiver dish of 1.8 meters.

The size of the antenna is an important determinant of basic picture reception quality. In the middle of a footprint the antenna size required for similar quality reception is smaller than at the outer limits of the footprint. To maintain reasonable channel capacity a TVRO size of 1.2 meters was chosen. At the outer limits of the footprint an antenna of 1.8 meters would be required. However, the number of people in the potential market so inconvenienced would be minimal. An antenna size of 1.8 meters in itself is unlikely to discourage those presently underserved from buying a TVRO.

A dedicated DBS system would offer considerably higher capacity in total number of satellites, beams and channels and at the same time would reduce the size of antenna required. The dedicated system envisaged by the postulated scenario would be a two (2) satellite location system with each location covering half the country with three (3) beams. The arrangement effectively gives a regional structure more in keeping with cultural affinities in Canada: Atlantic provinces and Québec are separted as are Alberta and British Columbia, each of which would then be serviced by their own beam, the other beams are the same as for ANIK C. This configuration gives six (6) one sixth (1/6) Canada beams to cover the entire country. In the interim system, each beam would have 8-10 transponders. Additional channels could be added later should they be warranted in commercial terms. The capacity of the system in each region would, therefore, be between 8-20 TV channels available to any individual TVRO antenna or 48 to 120 channels, in all, across the country.

The dedicated DBS system thus described would, it is felt, require a TVRO of no more than 1 meter in diameter.

2.6 DBS Service Content

The interim ANIK C DBS system could offer a basic package of programming comprising a mixture of Public and Private TV, PAY TV and Educational TV. English and French would be given equal treatment except in educational and private TV in the West. Such a decision is both a concession to the present commercial non-viability of a private French language TV channel covering the whole of the West and the regional cultural differences apparent between the provinces. Thereby eight (8) channels would be offered to Eastern Canada and only six (6) in the West for reception by individual TVRO.

The dedicated DBS service, with its expanded capacity, allows the possibility of adding optional services to the interim ANIK-C package. The first eight (8) channels would be similar to that offered on the interim service allowing for time zone differentials right across the country. The layout of each channel on each beam would, however, be the same in each footprint.

Ideas on how to fill the remaining 12 channels have not crystallized as yet and would depend greatly on the entrepreneurial spirit of the broadcasting industry. It is, however, intended that certain well-defined elements be included in the package: CBC II/TELE 2; Regional PAY TV; Public Interest/House of Commons TV; and a multilingual private TV service. Such programming would require half of the remaining capacity. The remainder could be offered to special programming of one sort or another. High resolution TV experiments, narrowcasting and even the relay of the American networks and PBS are ideas that have been suggested.

Some of these services are indeed already well known and, of others, we intentionally only give an indicative description. It would pay here, however, to define clearly what we intend by certain of the more well known services as they differ in some respects from common conceptions.

The public TV service would be the basic building block of the system and would be offered by the CBC. It has, however, been suggested that the CBC's mandate should change. The public TV service would be national or wide-regional in scope and the CBC would gradually withdraw from coverage of local issues. English and French programming would be equally available in all regions. The DBS satellite would become increasingly the prime vehicle for the CBC to fulfill its national coverage mandate, reducing the need for the CBC to participate in off-air broadcasting.

CBC II and Tele 2, the CBC's second channel would be intended for DBS distribution only and would not be offered concurrently off-air. The style of programming is not yet fixed. It is anticipated in the scenario that, as the CBC as a whole moves away from financing through the sale of air time, it will move upmarket to a more intellectual style and away from direct competition with CTV.

The private counterpart to the CBC on the DBS system would most probably be provided either by the existing French and English private networks in a new form or by individual independent stations. In the dedicated DBS system English and French services will be offered equally in each footprint. The service is expected to be financed by advertising of a national or wide regional character. Local advertising would be excluded from the DBS system as not fitted to its national mandate.

The Multilingual TV service would be expected to finance its programming from ethnic advertising revenues. All programming would be in languages other than English and French and be produced by the various ethnic linguistic communities themselves. Evidently the subject matter must reflect the mandate of the DBS system and be of national or wide regional interest, but some allowance must be made for the pattern of different ethnic populations in Canada.

Pay TV services are expected to be provided in a scrambled form. Their availability in the DBS package offers a real alternative to subscribing to cable and offers access to services otherwise not available to non-cabled areas. The service content would be that recently licensed by the CRTC.

Educational TV services are the various provincial government television broadcast companies: Radio Québec, TVO, Access and Knowledge Network. It is expected that Radio Québec will be made available to all other regions and that TVO will be available in Québec and the Atlantic Provinces to balance linguistic offerings. Such arrangements would necessitate interprovincial agreements regarding transmission and reception of their respective services.

Finally, the Public Interest/House of Commons channel would perform the function now offered on cable only, offering live transmission of federal political debates in both official languages. When the House of Commons is not sitting it is envisaged that the channel would carry general public interest events, or specially sponsored events of high national interest.

2.7 System Management

System management refers to the management and ownership of the physical equipment required to operate the satellite: the uplink facilities and the satellites. No distinctions are made here between arrangements for the interim and the dedicated DBS system.

The postulated scenario assumes that the uplink facilities, both fixed and mobile for each channel, would be offered at competitive price by the satellite operating authority. The programme content suppliers, the lessees of the channel, would however not be prevented from purchasing or leasing their own equipment. Thereby the prices for such uplink services would remain at a minimum.

The principal operating authority for the dedicated DBS or ANIK C DBS satellites is assumed to be Telesat Canada. No presumption, however, is thereby intended as to monopoly of ownership of such systems. Two possibilities concerning satellite ownership are considered in the preferred scenario: the status quo with minority carrier interest in Telesat; and a new expanded consortium including Telesat, the broadcasters and cable operators.

The role of Telesat in the system would include: satellite system planning and procurement; satellite system operation and maintenance; satellite uplink provision in competition with private sources; and satellite channel capacity management on a commercial basis.

Funding for the system is not specified in the scenario but it is assumed to be a mix of public and private financing; the operating costs of the system, if not necessarily all of the capital cost of satellite development, being borne by the lessees of TV channel capacity.

2.8 The Off-Air TV Industry

The DBS satellites could become the primary vehicle for fulfilling national and wide regional mandates of the national Broadcasting Act and the various public and private bodies concerned in the Broadcasting Industry. This mandate requires the use of the same satellite in a distribution capacity as a feed to cable operators or local TV stations, and in a DBS capacity for those individuals equipped with an appropriate TVRO.

The principle purveyor of television services to the home in the DBS era would be the cable operator. The wiring of the larger urban centres and their effective penetration of households will probably approach the maximum shortly after the advent of a dedicated DBS system. The cable operator will thereby operate in competition with the DBS system, carrying the same content and in many cases, supplementing it with other services not necessarily available to individual, non-cabled TVRO owners.

The role of the cable operator in service to the local community would be maintained. Restrictions presently in place as to possible financial arrangements between local off-air broadcasting and cable would be removed to strengthen their collective position in the marketplace.

The postulated scenario assumes that the off-air broadcasting industry in Canada would be based, where possible, upon local,

competitive markets. Where alternatives exist, the local CBC-owned and operated stations will be closed in deference to the CBC's national and wide-regional mandate. The remaining private stations would compete for the part of urban market place the CBC/RC vacates and amongst each other for advertising dollars and audience ratings.

It is anticipated in the scenario that the removal of the burden of local investment could have a salutary impact upon the public corporations finances. Such a move might partly compensate the loss of advertising revenue occasioned by the withdrawal from commercial broadcasting and a move up-market in programme content. Any financial shortfalls and extra transmission costs occasioned by the DBS satellite mode and the CBC's primary role in the DBS system would have to be made up either by a charge on TVRO and cable operators and owners or by the public purse.

It is evident that the changes assumed in the postulated scenario for private affiliates of the two networks and independent TV station operators are considerable. Not all may survive in the competitive environment created by the system. It is assumed that the CRTC would remove regulatory obstacles to these operators' survival and that the concept of the private network would change to accommodate itself to the new game rules.

CHAPTER 3

THE ECONOMICS OF DIRECT BROADCAST TELEVISION SATELLITES USING ANIK C

3. THE ECONOMICS OF DIRECT BROADCAST TELEVISION SATELLITES USING ANIK C

This section will identify the potential market and annual cost of using ANIK C in an interim DBS mode, based upon calculations already developed in the Tamec (1) and Telesat Reports (2). The costs developed will be limited to distribution costs as it is postulated that Pay TV expenditure on new programming will be covered by a supplementary charge. No new programming is deemed essential for other postulated participants in the DBS service.

3.1 The Market For a DBS Service

The market for DBS services can effectively be reduced to four (4) basic groups within the TV broadcasting industry:

- Isolated households receiving either no television signals or only a few channels with poor reception;

- Communities of more than twenty (20) households with poor existing services which can be cabled, or cover costs of an off-air community retransmitter and DBS earth station;

- Existing cable systems in large urban areas; and

- Existing off-air stations in poorly served areas.

The first category of isolated households differs markedly from the three (3) other categories, specifically in the size of dish receiver that would be bought.

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(1) "A Canadian Satellite Program Package - Feasibility Study", Tamec Inc. and DGB Consultants for D.O.C., prepared March 1980.

(2) "A Study of the Use of Anik C for Direct to Home and Community Television Distribution Services", Telesat Canada, September, 1981.

3.1.1 The Isolated Household Market

The scenario of DBS development postulated in this report opts for a receiver dish of 1.2 meter diameter. The market potential for the DBS in this group depends on three (3) factors: existing service provision; the postulated service content; and the cost of the dish receiver.

Telesat Canada developed figures for the probable market in this category based upon existing reception, the total number of households in the category and the probability of achieving a certain penetration of the market.

TABLE 3.1.1

DEVELOPMENT OF PROBABLE MARKET

	Households Not Receiving TV	Households Receiving or Less 2 Channels	Total Households in Communities With Less Than 21 Households
Total Households (1)	72,000 (2)	720,700 (2)	1,278,000
Conceivable Maximum Penetration (3)	95%	81.5%	60.6%
Maximum Potential Market	68,400	588,000	774,000
Probable Penetration of Maximum Potential Market	42%	40%	42%
Probable Market	29,000	235,000	325,000

Table 3.1.1 gives the maximum potential market of 774,000 households market in this sector. Consideration of price sensitivity for the services suggested for the Interim DBS System in this group is necessary before one can arrive at a probable market penetration.

(1) Household totals are cumulative.
(2) Source: "Statistics of Television Broadcast Covered in Rural and Remote Canada", Telecommunications Research Group, 1979.
(3) Telesat Maximum Scenario.

To estimate the price sensitivity of the demand for 1.2 meter dish receivers Telesat, in their report on DBS distribution, developed a range of market penetration for the postulated service package which vary from 12% of the maximum market at $1,200 per DBS terminal to 79% penetration at $100 per DBS terminal. The probable markets for the service at these hypothetical penetration rates would be respectively 62,500 and 609,785 households.

Telesat plotted demand for terminals as represented by the terminal cost sensitivity analysis and supply as developed from capital cost data to determine the optimum market size for the 1.2 meter antenna. Following their calculations the scenario postulated here could expect, for the 6 to 8 channel service, a market of approximately 325,000 households at $600 per terminal; or 42% of the maximum potential market established in Table 3.1.

3.1.2 Uncabled Rural Communities of More Than 20 Households

Telesat established a potential market size for this group as follows:

TABLE 3.1.2

DBS MARKET POTENTIAL IN RURAL COMMUNITIES (1)

Size of Community	Total Number of Communities	Total Number of Households
21 - 300 households	8,312	566,476
300 + households	750	446,715
Total	9,062	1,013,191

(1) Source: CRTC Statistics on Service Availability in Remote and Rural Areas.

For the group illustrated in Table 3.1.2 the antenna used for community DBS services would be significantly larger. Telesat estimates the cost of a 3.0 meter dish would vary from $5,500 for a market of 500 terminals to $4,200 for 1,000 terminals. Using similar penetration rates to those established for the isolated communities approximately 25% of the total number of communities identified in Table 3.1.2 could be expected to participate in the DBS service; a market potential of approximately 2,265 communities with 253,300 households.

3.1.3 Existing Cable Systems

According to the CRTC (2), there are 562 licensed cable systems in Canada (3), with 4.3 million subscribers out of a total of 7.7 households. It is undoubtedly reasonable to suggest that at least 500 systems, if not all of them, would equip themselves with an antenna to receive the postulated DBS service. The antenna would doubtless cost as much or more than those for the small rural communities as the cable companies would be looking for reliable high quality reception.

In building its scenario for penetration of the isolated household market, Telesat postulates a Pay TV penetration of the cable market of 30%. If this figure was to be applied to cable subscribers acceptance of the full 6 or 8 channel Interim DBS service, the potential market would be almost 1.3 million households or 16% of total households, slightly less than the January 1st 1981 penetration of cable converters (19% of total households).

3.1.4 Existing Off-Air Stations

Existing off-air stations represent potentially competing suppliers of DBS services in the cabled market and in the rural community market. However, if the cable operator and the rural community equip themselves with DBS antennas, it would be difficult for the off-air stations to compete as a DBS supplier "off-air" in these markets. Although the community antenna could in fact be operated by a local off-air station wishing to increase service availability, the true market area for such stations would be those households which are not cabled in larger urban areas which, according to the CRTC, represented a total market of approximately 1.7 million households in 1980. These households could all benefit from off-air reception of all the DBS channels including the Pay TV segment, as long as charging method could be devised. Such a service would be similar to STV services in the US and could be made addressable with the latest technical innovations. If all households without cable, but with a colour TV set in the 11 largest canadian cities could be counted as representative of this segment of the market, 1,128,200 households could be added to the total potential market. This total is calculated by deducting the cable penetration rate from the Colour TV penentration rate and defining the residual as the potential market. Under such a hypothesis no market would exist in Vancouver for a STV type service.

Table 3.1.4 gives the details of such a calculation. If 30% of these households took the Pay TV service, in this fashion, as is postulated for cable subscribers, fully 338,400 households could be added to the probable DBS service market.

TABLE 3.1.4

DETERMINATION OF THE NUMBER OF

NON-CABLED HOUSES WITH COLOUR TV IN LARGE URBAN AREAS

(Fall 1980)

Market	% Cabled (2) Households	% With (2) Colour TV	Number of (1) Households with TV	Market Potential for Off-Air DBS
Halifax	71	88	174,000	296,000
Saint John/ Moncton	74	92	196,000	35,300
Québec	53	89	265,000	95,400
Montréal	42	86	1,209,000	556,100
Ottawa	71	87	358,000	57,300
Toronto/ Hamilton	73	87	1,351,000	189,100
London	81	86	192,000	9,600
Winnipeg	80	92	323,000	25,800
Calgary	75	94	265,000	50,300
Edmonton	69	93	332,000	79,700
Vancouver	88	87	641,000	-
				1,128,200

3.1.5 Market Summary

The probable market for the postulated DBS service would appear to be approximately 2.2 million households out of a total potential market of 7.7 million households. The total potential market excludes only some households be smaller urban areas in Canada not considered rural, and those households in the larger urban areas without cable or colour TV, and differs from the 1980 total of Canadian households by only 150,000 households. The probable market for the postulated DBS package is therefore nearly 29% of potential demand. This would not necessarily, however, indicate that the new service would attain such a high penetration of the viewing audience nor that such

(1) Canadian Television Bureau, January 1979.
(2) BBM, Fall 1980.

significant market fragmentation would occur, but that such a number would be in all probability prepared to subscribe to the service.

Estimates of the fragmentation of the existing market and their impact on the Canadian Broadcasting industry will be undertaken in a later chapter.

TABLE 3.1.5

SUMMARY OF PROBABLE MARKET DEMAND FOR DBS

Market	Potential Households	Probable Market
Isolated Households	1,278,000	325,000
Rural Community	1,013,191	253,000
Cable System	4,300,000	1,300,000
Off-Air Broadcast	1,128,200	338,400
	7,719,391	2,216,400

3.2 The Cost of the Postulated DBS Scenario

Three (3) elements of the postulated DBS system will be costed in this section: the uplink transmitters, the satellite and the earth station receivers. The latter has in part been covered in the preceding section and the information already offered in terms of the antennas likely cost will be brought forward here to give a relatively complete view of the distribution cost of a DBS service. No programming costs will be included as it is felt that this element will be covered by an extra charge which will cover costs and offer a profit to the service providers. We will here simply try to establish the likely cost of programme distribution for each potential subscriber on an annualized basis.

3.2.1 The Uplink Transmitters

The postulated scenario calls for 16 transponders with one (1) TV channel per transponder. For the purposes of costing it will be assumed that the user of each transponder will buy his own single user uplink earth station. Telesat in their report quote a capital cost for such a station of the order of $247,000 (1), annualized to $83,650 per year. A requirement for 16 uplink stations would therefore indicate an annual cost of $1,338,400.

3.2.2 The Satellite Costs

In their 1981 report on the feasibility of a Canadian DBS package, (2) Tamec Inc. quote a capital cost for one satellite of $22 million and a cost of $12 million per launch, giving a total cost for launching Anik C and a spare satellite of $68 million. Using an 8 year service life, a 12% interest rate and a 75% load factor combined with 2 TV channels per transponder, they quote a proposed Telesat rate for Anik C of $825,000 per year per channel. Given that interest rates over the past three years have averaged approximately 16%, only one TV channel per transponder and full capacity utilization is being proposed, one might expect the proposed rate to more than double. Telesat, in their report on Anik C as a DBS medium, quote an annual charge for the postulated mode of $2.2 million per year. Given the scenario, such a figure would appear reasonable for purposes of preliminary analysis, the limit of our intention in this study.

(1) Excludes support facilities, foundations and prime power.
(2) "A Feasibility Study for a Canadian DBS Programme Package", Tamec Inc., July 1981.

At $2.2. million per year per transponder, the annual satellite cost of Anik C in a DBS mode would be $35.2 million.

3.2.3 The TVRO Receiver Cost

The costs of Community (3.0 meters) and Individual (1-2 meters) TVRO receivers specified in previous sections were respectively $4,200 and $600. The section of the report dealing with the probable market of the DBS system would suggest, following these prices, that the individual viewer would have to assume the capital cost or the leasing equivalent of an outlay of $195 million. Rural communities would have to support, not counting foundations, support facilities, retransmission or cable equipment and prime power, an outlay of $38.1 million, or $150 per probable subscriber. Under the same conditions the cable companies would have to finance the acquisition of at most 562 antennas at a cost of $2.4 million or $1.85 per probable subscriber. The comparable figure for the off-air retransmission segment would depend on the state of competition but might require at most 2 antennas for each named city; a capital cost of $100,800 on the above basis or $0.30 per probable subscriber.

In the above calculations much has evidently been omitted in terms of necessary investment at all levels. However, the cost advantages available to cable subscribers are evident. The average cost per subscriber of the above equipment would not exceed $107.

3.2.4 DBS Cost Summary

Table 3.2.4 outlines the costs for the distribution of DBS services inherent in the use of Anik C. The figures presented do not pretend to be all inclusive but only to give an idea of the order of magnitude.

TABLE 3.2.4

DBS DISTRIBUTION COST SUMMARY

Market Scenario	Probable Subscribers	Satellite Cost ($ Million/year)	Uplink Receiver Cost ($ Million/year)	Downlink Receiver Cost ($ Million/year) (1)	Total Annual Cost ($ Million)	Annual Cost ($) per subscriber	($) Cost per Channel per Month per Subscriber (2)
1) Isolated Households Only	325,000	35.20	1.34	35.50	72.04	222.00	2.31
2) Isolated Households and Rural Communities	588,000	35.20	1.34	130.85	167.39	285.00	2.07
3) Isolated Households, Rural Communities and Cable	1,888,000	35.20	1.34	136.85	173.39	92.00	0.96
4) Total Probable Market	2,216,400	35.20	1.34	137.15	173.69	78.40	0.82

(1) Financed at 15% over 10 years: personal loan for households and call loan for others.
(2) Using average of 8 channels.

CHAPTER 4

THE IMPACT OF THE POSTULATED DBS SCENARIO ON THE CBC/RC

4. IMPACT OF THE POSTULATED DBS SCENARIO ON THE CBC/RC

The CBC/RC has been allocated the pivotal role in the postulated DBS scenario. It has been assumed that CBC/RC would be available by DBS satellite in all regions of the country in both English and French, filling 25% of the system's capacity in the interim. In the final stage, the dedicated DBS system, the role of the CBC/RC would decline as private broadcasters take up the new transponder space available. In the off-air system the CBC/RC role would be equally important. It has been assumed here that CBC/RC would withdraw partially from the off-air market to leave a greater role and greater advertising revenues to private industry.

4.1 The Role of the CBC/RC in the DBS Era

The role of the CBC/RC in the DBS era in the postulated scenario is to provide a national and wide-regional television service. The local roles assumed by the public corporation at present would be fulfilled, where possible, by private broadcasters. Where no local broadcasting role could be assumed by the private TV industry, the CBC/RC would maintain their present service.

The partial or total withdrawal of the CBC/RC from local programming services would be accompanied by an increasing reliance by the corporation on the DBS service, as its principal vehicle of programme distribution. The structure of the CBC/RC, it is assumed, would probably evolve towards a smaller number of programme production centres reflecting Canada's major regions each feeding the DBS service with programming for wide-regional or national distribution. The CBC/RC programme production centres, most likely situated in Canada's largest cities would not, it is postulated, compete in their local off-air market.

The postulated scenario also suggests that the CBC/RC partially or totally withdraw from the commercial TV advertising market. As the CBC/RC is assumed to withdraw from local broadcasting, the scenario assumes that the corporation would at least withdraw from the local air time sales market. Some reduction in the amount of air time available on a national and a network basis would also be possible if it was necessary to alleviate economic hardship in the private sector.

4.2 The Reaction of the CBC/RC to the Postulated Scenario

The CBC/RC's present mandate is to provide a public broadcasting service free of charge to all Canadians. The Corporation feels that this mandate includes, where necessary, local programming services. It is opposed to any scenario which would result in retrenchment in the existing structure of regional and local stations.

The CBC/RC is an important user of existing Broadcast satellites. It uses satellites to reach northern locations which would not otherwise receive the CBC/RC signals and to prepare programs regrouping inputs from different locations. The Corporation is, however, opposed to any scenario which would impose greater reliance on satellite communications than pure economic calculation would dictate.

The CBC/RC presently enjoys a considerable share of the TV publicity market; earning nearly $140 million in 1981 from TV advertising revenues. This revenue is shared with its affiliates as will be illustrated in the next section of this chapter. The Corporation, however, retains for its own use over 78% of that sum; approximately $111 million in 1981. Local air time sales during the years 1978-1981 represented between 39 and 47%

of the CBC/RC retained revenue. The Corporation would be opposed to any scenario that would lead to a loss of such a large proportion of its self-generated revenue without concrete promises of compensation in other areas.

The reaction of the CBC/RC is hardly surprising and is a common one from organizations asked from without to accept a change not of its own choosing, which it would view as a reduction in its own importance. The Corporation's reaction is understandable considering the large sums involved.

4.3 Profile of the CBC/RC

The following profile has been developed from Statistics Canada catalogues, CRTC Publications and the CBC/RC Annual Reports. Unfortunately, more detailed information which would have permitted an improved split between TV and Radio, a regionalization of revenues and programme expenditures, and an estimation of existing terrestrial and satellite telecommunications costs was not forthcoming from the CBC/RC not was it available from other sources.

Table 4.3-A gives an estimate, for the years from 1978 to 1981, of CBC/RC TV revenues and parliamentary appropriations. Total net, self-generated advertising revenues have covered on average less than 24% of total TV operations, programming and distribution costs over the last four (4) years, and of that revenue, only 78% could be applied against those costs in 1981 as an average of nearly 22% of gross revenues have been, during the same years, turned over to the CBC/RC affiliates and the Corporation's advertising agencies.

TABLE 4.3-A

CBC/RC AIR TIME SALES

BY TYPE OF ADVERTISING

($ Million)

Category	1978	1979	1980	1981
Local Time Sales:				
Sold Locally	9.7	10.1	10.5	11.6
Sold by Head Office	24.5	29.5	33.2	30.8
National Time Sales	27.0	33.4	39.5	43.7
Network Time Sales	12.2	13.5	17.0	16.0
Other Revenues	1.0	2.7	3.2	6.8
Total Revenue Net of Agency Commissions and Station Payments	75.0	89.2	103.4	108.9
Agency Commissions	11.9	15.6	17.7	18.7
Payments to Private Stations	9.3	9.5	10.9	11.7
	95.8	114.3	132.0	139.3
Estimated Parliamentary Appropriations for TV Only (1)	302.1	352.0	351.3	398.5
Total Gross TV Revenue	397.9	467.3	483.5	537.8

(1) Estimate: 75% TV - 25% Radio.

Source: Statistics Canada 56 204.
CBC/RC Annual Reports.
CRTC.

The Corporation's net advertising earnings grew by 45% over the period 1978 to 1981 whilst estimated parliamentary appropriations for TV grew by only 32%. Table 4.3-B, which shows the expenditures of the public corporation on programming, distribution and operational management over the same period, indicates that total variable television programming, operations and distribution expenses have grown at the same rate as parliamentary appropriations: from $369.8 million in 1978 to $486.9 million in 1981. The share of total programming, operations and distribution expenditure accounted for by TV programme distribution, which DBS satellite services amongst other categories of expenditure would replace, has remained stable at 12.7% increasing slowly from an estimate of $45.8 million in 1978 to $61.4 in 1981.

Table 4.3-C gives a breakdown of CBC/RC property and equipment assets for both TV and Radio. Over the period from 1978 to 1981 the CBC/RC invested over $100 million, 90% of which was in technical equipment. Much of the investment was probably in new transmitter facilities or in replacing worn out facilities which could be replaced by a DBS service. In 1981, the Corporation bore a depreciation cost of nearly $30 million, and on average a cost of over $17 million per year for the past three (3) years. This element is not, naturally, a cash expenditure but its partial removal by the closure and write-off of a large number of retransmitters and smaller stations might improve the Corporation's balance sheet.

4.4 Impact of the Scenario on the CBC

The impact of the DBS scenario, postulated in this report on the CBC/RC would not be as severe as it might initially seem. The scenario assumes that a considerable part of its advertising revenue would be removed, but, at the cost of moving part or all

TABLE 4.3-B

CBC/RC TV PROGRAMME AND DISTRIBUTION COSTS

($ Million)

	1978	1979	1980	1981
TV Programmes Costs				
English - Network	104.6	121.8	120.2	134.2
English - Regional	65.9	79.8	80.5	93.6
French - Network	86.7	102.9	104.3	113.9
French - Regional	18.1	20.4	23.0	27.4
Programme Sub-Total:	275.3	324.9	328.0	369.1
TV Distribution Costs				
Network Distribution	27.6(1)	32.6(1)	33.0	36.8
Station Transmission	18.2(1)	20.4(1)	22.4	24.6
Payments to Private Stations	-	-	-	-
Distribution Sub-Total:	45.8	53.0	55.4	61.4
TV Operational Management	39.4(1)	45.6(1)	47.9	54.7
Total Programmes, Distribution, and Operational Costs:	360.5	423.5	431.3	485.2

(1) Estimation based on 1980 proportions between TV and Radio.
Source: CBC Annual Report.

TABLE 4.3-C

CBC PROPERTY AND EQUIPMENT

TV AND RADIO

($ Million)

Category \ Year	1978	1979	1980	1981
Land	16.5	36.5	37.0	37.3
Buildings	146.3	157.6	162.8	173.3
Technical Equipment	275.6	325.3	357.8	385.2
Furnishings and Fixtures	14.6	16.3	17.3	19.3
Automotive Equipment	4.7	6.0	7.2	7.5
Leasehold Improvements	-	-	0.7	0.7
Property under Capital Lease	-	-	-	1.5
Gross Book Value	457.8	541.8	582.8	624.9
Accumulated Depreciation	195.4	216.8	233.8	262.6
Net Book Value	262.4	325.0	349.0	362.3

Source: CBC/RC Annual Reports.

of its operations to the DBS service, the considerable terrestrial communications expense and station operating expenses should be reduced. The restructuring of the CBC's operation and closing of a significant proportion of its owned and operated stations would allow a considerable reduction in operating and distribution costs.

Table 4.4 uses information available from the CRTC and CBC published reports to illustrate the possible impact on the CBC/RC.

TABLE 4.4

FINANCIAL IMPACT OF THE POSTULATED DBS ON THE CBC/RC (1980)

($ Million)

Category	PreDBS CBC/RC	DBS Era CBC/RC
Air Time Sales Revenue:		
Local	43.7	-
National	39.5	39.5
Network Payments	17.0	17.0
Other	3.2	3.2
	103.4	59.7
Distribution Expense:		
Network Distribution	(43.7)	(29.0)
Station Transmission	(37.1)	(25.0)
	(80.8)	(54.0)
Operational Management and Services - Programme and Distribution	(61.7)	(41.0)
DBS Cost Increase	-	(9.1)
Depreciation Expense	(17.0)	(8.0)
CBC/RC DBS Service's Net Gain (Loss) in Revenue with Regard to Expenditure	-	3.7

In Table 4.4 it has been assumed that the impact of station closure on operations and distribution expenses would be to reduce them by approximately 33%. Reductions in depreciation expenses would, it is felt, at least be sufficient to cover the extra cost of using the postulated Anik C DBS service.

In the example given in the table only local air time sales have been removed from the CBC/RC service. This reduction in advertising content is felt to be a minimum reduction in terms of the CBC/RC. Such a reduction would benefit mostly the commercial operations of the largest affiliates of TVA and CTV operating in the biggest urban markets. All the independent stations would also benefit as they operate exclusively in the markets from which it is postulated that the CBC/RC would withdraw.

The calculations are, to say the least, tentative and highly simplistic , but do give an indication of the limits to which one might be able to push the CBC/RC without the corporation having to cut back on programming expenditure or to ask parliament to increase appropriations. The example illustrates that under the above assumptions the CBC/RC might have been $3.7 million better off if it had indeed implemented this limited form of the postulated scenario in 1980.

CHAPTER 5

THE IMPACT OF THE POSTULATED DBS SCENARIO ON THE EDUCATIONAL TELEVISION NETWORKS

5. IMPACT OF THE POSTULATED DBS SCENARIO ON THE EDUCATIONAL TELEVISION NETWORKS

In this chapter we will analyze the likely impact of the postulated DBS system, and indeed the coming large influx of point to point satellite capacity on ANIK C and D on the Educational TV networks: Knowledge Networks of British Columbia, Access of Alberta, TV Ontario and Radio Québec. In the course of the discussion we will also mention the potential use that others such as Sask Media might make of the coming satellite capacity.

5.1 The Role of Educational TV

The role of Educational TV varies from province to province; from the fully fledged public television station in Ontario and Québec to the more strictly educational activities in the west. Knowledge Networks exists at present only as a conduit for university and other institutions' programming on cable systems in the province.

In the postulated DBS scenario the ETV service, one transponder in English and French in the east and two (2) English quarter beam transponders in the west, would complement the service offered by the CBC/RC.

The role of the ETV networks in the DBS service would not differ essentially from its present mandate. The DBS would offer a cost effective means of fulfilling that mandate.

5.2 The Reaction of the ETV Networks

The reaction of the ETV networks might be said to vary inversely with their current expenditure on terrestrial microwave equip-

ment Access and Radio Québec currently utilize extensive terrestrial microwave systems: Radio Québec leases long term facilities from private operators, and Access is obliged to use the facilities of Alberta Tel.

Knowledge Networks and TV Ontario use an extensive network of earth stations, cable head ends and off-air retransmitters fed by satellite. Both would welcome the transponder space allocation on the DBS service as a cost effective means of reaching beyond the current point to point arrangement to the isolated households presently deprived of service. Sask Media would also be an ideal candidate for provision of educational TV services in the prairie provinces.

Access TV would welcome the advent of DBS services despite its present commitment to terrestrial microwave links. The station at present uses land lines to feed private TV stations with programming, the time for which Access is forced to buy in competition with other users. Access currently spends $800,000 per year purchasing air time from local stations.

Radio Québec would welcome the DBS service as it would enable it to achieve coverage of other areas of the country if intergovernmental agreement could be achieved. For its operations in the Province of Québec, however, the network is in two minds. The DBS service would give an instant 100% fulfillment of one part of its mandate to reach all of the people with a public TV service. In achieving this objective, however, the DBS service would run counter to the objective of encouraging the closest possible connection of the network with the regions served. The connection is presently being served by the production and airing of a certain number of hours of local programming from each station each day.

The integration of local programming with the province-wide satellite programme creates considerable problems; either local programmes are aired throughout the province displacing higher quality centrally produced or purchased programming, or the local production centres are abandoned. The problem is likely to be solved in the short term at the expense of the taxpayer as Radio Québec will superimpose the DBS service over the top of the microware terrestrial/local network with the concomitant cost increases that such a move would involve. In the long term, budget restrictions would force a rationalization of the network around the DBS service.

Radio Québec also aired the problem of copyright. The increased audience potential of locally produced programmes that are aired on the DBS service would lead to increased payments to programme participants and thus to increased programming costs. The impact would be particularly severe on local TV production where previously payments were made to artists according to the local viewing audience. Satellite transmission of such programming on a province wide basis or over the whole of Eastern Canada would radically increase the viewing audience and thus the necessary rights payments for such programming and possibly price it out of the market place.

5.3 A Profile of Educational TV

The most important point to make in the development of a profile of Educational TV Networks in Canada is that the four (4) networks outlined above are neither easily comparable nor meaningfully aggregated to show a total picture for the sector. Table 5.3 shows a brief breakdown of information available on Access TV, Knowledge Network, Radio Québec and TV Ontario. The figures for Access include their FM Radio service and the cost of air time on private stations ($800,000 in 1981). Knowledge

TABLE 5.3

REVENUES AND EXPENDITURES OF EDUCATIONAL TELEVISION

1979

($ Million)

	Access	Knowledge	R.Q.	TVO	Total
Expentidures:					
Labour			10.0		
Transport and communications			1.2		
Professional services			2.1		
Amortization payment for rights			1.1		
Rent			1.5		
Programme purchases			0.1		
Other expenditures			1.0		
	11.0(1)	2.6(2)	17.0	23.2	53.8
Revenues:					
Sales and services	0.2(1)	-	0.3	1.2	1.7
Interest	0.2(1)	-	0.6	-	0.8
Total Revenues	0.4	-	0.9	1.2	2.5
Government Subsidy	10.6(1)	2.6	22.4	22.0	57.6
Surplus on Subsidy	-	-	6.3	-	

Source: Annual reports.
(1) Approximate.
(2) Including Capital Budget.

Network's expense of $2.6 million includes its capital budget. It in fact represents only the cost of uplink equipment and the coordination function for varied programming developed by different B.C.institutions who wish to use Knowledge Networks' statutory channel on all of B.C. cable systems. The cost of programme development, again carried by the government, is hidden in each institution's budget. The figures for Radio-Québec and TV Ontario would be comparable but for the lack of detail available on the Ontario ETV Network. Expenditures for both systems have expanded rapidly in recent years as both try to achieve 100% coverage of the province and increase the sophistication of their programming.

5.4 Impact of the Postulated DBS Scenario on the ETV Networks

From the foregoing analysis the biggest impact from the postulated DBS scenario would be felt by Radio Québec who have been developing and plan to continue expanding, using a terrestrial distribution system. The other ETV systems either use satellites already or have included their eventual use in their longer-range plans.

The impact of the DBS service will be to increase the absolute cost of this service which provincial governments finance for their respective populations. The service will, however, greatly increase the access of those populations to the service available. The DBS service will probably lead to a rapid escalation of development in this field as each attempts to reach the level of sophistication of TVO and Radio Québec.

CHAPTER 6

THE IMPACT OF THE POSTULATED DBS SCENARIO ON THE PRIVATE TV BROADCASTING INDUSTRY IN CANADA

6. THE IMPACT OF THE POSTULATED DBS SCENARIO ON THE PRIVATE TV BROADCASTING INDUSTRY IN CANADA

This chapter will present an analysis of two (2) basic elements: the attitude of the industry to the scenario presented in Chapter 2 and the likely impact of that scenario upon the individual stations and networks. To facilitate the latter analysis a profile of the sector has been developed with the aid of published Statistics Canada material and information supplied for previous studies by individual stations.

6.1 The Role of Private TV Broadcasters in the Postulated Scenario

The role of Private TV in the interim and dedicated DBS scenarios is twofold; to participate in the satellite service to the limit of the number of channels offered to them; and to compete in the off-air and cable markets and continue the services presently available. Over and above the assumption that some part of the private industry would participate in the DBS system, no specific assumptions were made concerning likely changes in the structure of this private sector. However, assumptions made concerning the role and structure of CBC/RC might be of some importance in consideration of Private TV's response to the postulated scenario.

Nevertheless, the private TV broadcasting industry will have an important role both in the DBS system and in the off-air industry. The success with which it plays both roles will depend heavily on the costs of satellite transmission, the regulatory environment within which they are asked to operate, and the potential revenues available through satellite broadcasting.

The role of the private stations in the DBS would be entrepreneurial in that it is envisaged that the market will determine who shall have access to the channels reserved for private commercial broadcasters. This concept allows for the development of Canadian superstations as well as the extension of the present private network cooperative concept.

In the off-air market, the private stations could be the only commercial operations. Competition between the different local stations and the DBS service would provide the variety of programming required by the viewing audience. Obviously, only the stronger stations will survive in such an environment.

6.2 The Attitude of the Private TV Broadcasters to the Postulated Scenario

In discussing of the Private TV broadcasters' attitude to the postulated DBS scenario, the industry will be taken as a whole. The points of view expressed in interviews with the representatives of the competing networks were indeed sufficiently similar to permit this approach.

Analysis of the discussions undertaken with this group will be subdivided into four (4) basic components: general concerns for the introduction of the DBS system, technical considerations concerning the system configuration, criticism of the postulated service package, and ideas on the possible system management options.

6.2.1 General Comments on the DBS

The general attitudes of the Private TV Broadcasters are conditioned by the following factors:

- Potential American DBS incursion in the Canadian market;

- Potential net gains or losses occasioned by a change-over to satellite transmission by the DBS service participants;

- Potential market fragmentation and its impact upon the stations serving particularly smaller communities.

The Private TV Broadcast industry is worried about potential American DBS competition in the Canadian market and foresee significant inroads into the market being made by foreign competition. This anxiety is basically caused by the following factors:

- The long planning horizon for the dedicated DBS service in Canada may permit American services to penetrate the market as they will be operational somewhat earlier than the Canadian system;

- The comparatively large antennas required by the Interim DBS service on Anik C (1.2 meters) might discourage Canadian subscribers. The American systems require smaller and probably cheaper antennas as will the dedicated Canadian DBS service in five (5) years time. The industry fears that the extra cost of the large size and probable conversion costs later on will reduce their share of the probable market.

To give a counterweight the industry suggests that the satellite transponders should be tilted southward to allow high quality reception of Canadian TV in the northern states. The Canadian industry would hope to recover in these states any revenues that they might lose to American systems entering the Canadian market. The American public could, however, still pick up the Canadian signals even with a northern tilt with a slightly larger antenna. In the context, the industry's suggestion would be unacceptable as one of the aims of the system is to increase services to presently deprived Canadian communities, especially in the north.

The industry fears do not appear to be of great consequence to the impact of the DBS service in Canada as yet. American satellite television systems are already in service and have not achieved any significant penetration of the Canadian market. Such penetration will indeed become even more difficult as the existing non-scrambled signal services move towards a scrambled signal to maintain the integrity of their revenue base. Such scrambling devices can be bought on the market but they increase the cost of Canadian subscription to the American service and thereby reduce any cost disadvantage of the Canadian Interim service.

The question of the planning horizon of dedicated DBS service in Canada is, however, more delicate. The full DBS service of possibly 20 channels per beam will not be available until towards the end of the decade. In the meantime, however, the 6 to 8 channel Interim service could be available from early 1983 and shortly thereafter, significantly greater transponder capacity will be

available on other Canadian satellites shortly thereafter. A considerable amount of satellite TV capacity will therefore be on offer in Canada well before many American DBS services commence serious operations.

The question of the cost to the subscriber of moving from the interim to the dedicated service in five (5) years time is also less serious than thought. Indeed Telesat, in their report on the use of Anik C as a DBS satellite, calculate the cost of the receiver dish that would be replaced at less than $100 (excluding fitting).

The fears of the industry in general, with regard to this programme, could be reduced considerably if more emphasis were placed upon planning together the use of all the Anik C and, possibly, Anik D satellites. The industry would then be able to see more readily that several options are indeed open to them and that a large amount of capacity is being provided in the near future.

The question of the comparative cost advantage of satellite transmission with regard to terrestrial transmission is one of considerable importance to the Private TV Broadcast industry and one which will not be definitively settled in this report. The industry is of two minds over the issue. Most representatives stated categorically that they could service all the major urban areas, a massive majority of their viewers, more cheaply by terrestrial means than by satellite. On the other hand, the satellite is significantly cheaper if one wishes to reach 100% of the Canadian population.

In a national system, however, if the increased revenues gained through access to new markets, which are not available by terrestrial communications, exceed the costs thereby incurred, the Private TV will use the DBS system. The argument of comparative cost would appear therefore to be spurious as the industry does not have the choice of one system of communications or the other. Later in this chapter we will examine this question in detail.

The most important TV markets in Canada are already highly fragmented. In Toronto, Montréal or Vancouver, or indeed any other of the larger Canadian cities, extensive cable penetration has lead to a high degree of market fragmentation. At present, such markets are generally split between local network services, local community services and the American 3 + 1 services (ABC, CBS, NBC and PBS). Indeed by duplication of services from nearby towns each is sometimes available several times over to make a complement of over 30 stations.

The DBS service might introduce a new element into these markets, the private commercial station from another part of Canada. In the large urban areas, such an intrusion was not viewed unfavourably. It was felt that one more station would not significantly increase competition for the available advertising dollar. Such a reaction was indeed common amongst representatives of stations well implanted in their own market. However, each seemed to feel that it was less certain for markets that they might wish to penetrate: other large urban areas. In the new markets to which the postulated scenario might give them access they felt that they could become a significant competitive force.

All, however, felt the need for a little protection from the superstation concept and often stipulated that no station should be allowed to monopolize all the DBS channels available for private commercial TV in every region of the country.

The smaller urban centres represent a different case. The DBS service was universally seen as a threat to the private station in the smaller town where perhaps only two stations presently divide the market; one CBC Affiliate and one affiliate of CTV or TVA. The entry of a big city station would doubtless be welcomed by the viewing public but most assuredly not by the local stations, especially when two affiliates of CTV or TVA are pitted against each other. CRTC policy on local media monopolies should be reviewers in the light of this new technology.

Two solutions were offered to the above predicaments; that the local stations be allowed to merge with each other, with cable operators or with radio stations to better withstand the shock; or that the local stations act as off-air relays for the DBS system and collecting, at the same time, a charge for the service. Both seem reasonable solutions to the problem of the local stations and indeed could be combined to form a local media conglomerate which would provide a better, more financially sound service than at present, to the local population, in competition with the DBS. However the off-air relay of DBS service would be limited by the local frequency spectrum capacity. It might be possible if the stations in question used their existing frequency allocation for this purpose.

In a later section of this chapter the possible impact of market fragmentation on small stations and stations in small communities will be examined.

6.2.2 Comments on the Technical Configuration

The Private TV industry expressed little concern as to the postulated technical configuration of the interim or the dedicated DBS system other than general questions of antenna size mentioned above.

6.2.3 Comments on the Service Content

The principal concern of representatives of the Private TV Broadcasting industry was the small amount of space allocated to Private commercial TV services in the interim DBS service scenario. It was felt that one transponder for English TV in each beam was insufficient and would inevitably lead to domination by one station. It was felt that less space should be accorded to Public TV (CBC/RC and ETV) and that Pay TV could use other means of transmission to reach its market. The latter argument of course applies equally to any future superstation wishing to be carried by cable systems in far-off cities.

Given the differing mandates of Public and Private TV, respectively to reach 100% of the population and to make a profit, the arguments of the private broadcasters can hardly be accepted. If the industry felt that the DBS venture would be so profitable that they would need more transponder space they would, in general, be manifesting a much stronger desire to take part in the program and indeed to hurry it along with their own resources.

Any perceived capacity bottleneck for Private industry would be dispersed by the postulated dedicated DBS scenario where 14 channels might be open to private exploitation by 1987-88.

Considerable concern was also expressed over the questions of programme rights, copyright and payments to artists. As the DBS service would cut across existing network territory boundaries for which programme rights are presently sold, new arrangements would have to be made. The use of the DBS service to broadcast major sporting events instead of selling the broadcast rights to individual stations or networks might remove an important source of revenue from the off-air market. The increased market to which such programming would then be exposed would undoubtedly increase the advertising rates which the service could demand. Such gains would however be partially offset by increased payments to TV performers consequent upon the larger audience.

6.2.4 Comments on the System Management Scenario

In general the industry expressed a wish that:

- Telesat should not be allowed to monopolize uplink services;

- That the option should be open for the industry to participate in the equity of the satellite control organization;

- That private industry satellites should not be excluded in future service plans.

Such concerns were in part dealt with in the scenario, especially the first two points; however, the industry was not at all clear whether they would put their own money into the development of this venture nor whether they would indeed take up the option of a private DBS service if it was allowed.

6.3 & 6.4 The Profile and Impact of the Private TV Broadcasting Industry are not Included here for Reasons of Confidentiality of Data

CHAPTER 7

THE IMPACT OF THE POSTULATED DBS SCENARIO ON THE CABLE TV INDUSTRY

7. THE IMPACT OF THE POSTULATED DBS SCENARIO ON THE CABLE TV INDUSTRY

The Cable TV industry will inadvertently be the most important element in the postulated DBS system in Canada. Despite the intention of planners that the DBS service fill primarily a role with regard to underserved parts of the Canadian TV market area, the major part of the DBS audience would probably be the existing cable subscribers in large urban areas.

7.1 The Role of the Cable Industry in the Postulated Scenario

The cable industry will play an important role in both the interim and the dedicated DBS scenarios postulated in this report. Table 7.1 illustrates the importance of Cable TV distribution to the majority of Canadian TV viewers in the largest urban areas. Only Québec and Montréal lag behind in the wiring of the largest cities as respectively 53% and 42% of households in these metropolitan areas are equipped with cable.

TABLE 7.1

CABLE, CONVERTER, COLOUR AND MULTI-SET PENETRATION

IN MAJOR CANADIAN MARKETS

FALL, 1980

	Cable	Cable Converters	Colour TV	Multiple TV Sets
1. Halifax	71%	11%	88%	54%
2. Saint John/ Moncton	74%	12%	92%	57%
3. Québec	53%	24%	89%	64%
4. Montréal	42%	23%	86%	64%
5. Ottawa	71%	39%	87%	61%
6. Toronto	73%	50%	87%	58%
7. Hamilton	64%	37%	88%	54%
8. London	81%	49%	86%	48%
9. Winnipeg	80%	11%	92%	60%
10. Calgary	75%	14%	94%	54%
11. Edmonton	69%	14%	93%	55%
12. Vancouver	88%	12%	87%	42%

By comparison, the number of households so equipped in Vancouver, Winnipeg and London has passed 80% of total households, with the former reaching 88%. The province of Québec has reached penetration rates of converter or colour TV sets in the order of, 23% and 86% of households respectively.

The ready market that cable represents for a new television service (58% of total households in the fall of 1980) cannot be ignored by television broadcasters in preparing their response to the postulated DBS service. Any service offered would probably need to reach this market to achieve profitability. The profits gained through penetration of the cable market could subsidize effectively services offered to less well endowed communities and the north.

Despite the possibility that the DBS service might offer the cable companies, according to the scenario, the only means of access to the CBC/RC service, Pay TV and the Local ETV, the cable operator might not be obliged to carry the services thereby offered. Effectively, the cable operator will have to decide on the economic feasibility for himself of offering the service. One element which would be of considerable importance would be the possibility of competition as off-air stations could capture the same signal and broadcast it off-air in one form or another.

7.2 The Reaction of the Cable Industry

The reaction of cable operators interviewed and their industry association was positive with regard to the development of increased satellite TV broadcast capacity in Canada. The industry however regrets that the capacity of one satellite as postulated in the scenario should be restricted to accommodate a DBS service which would use only one (1) TV channel per transponder.

Operators would have preferred a system designed around the use of a larger antenna which would have permitted a doubling of the DBS satellite capacity: two (2)TV channels per transponder.

The industry recognizes that such a design would effectively increase the cost of the downlink receiver necessary for programme systems but they do not feel that a 50% increase in antenna size would be a disincentive to potential rural community or isolated household markets. The 1.8 metre receiver could easily be placed on the grand whilst the 1.2 metre could be fixed to the roof.

Effectively, the cost of such a 1.8 meter antenna could at optimum be only $100 more than the proposed 1.2 meter antenna, but the market for individual households might be significantly reduced. Telesat estimates that a system designed around a 1.8 meter dish would reduce the market for the individual antenna by up to 100,000 subscribers. The thrust of the argument, however, for the cable operators is that a system based upon a 1.8 meter antenna would be much less attractive to the large urban market; it would offer much less competition to the cable TV distributors.

The cable operators are afraid that the postulated interim/ dedicated DBS scenario would be "too little and too late". The industry suggested that competitive American products would be on the market earlier than the proposed system and their programme content would be more marketable. To allow Canadian systems to compete, the Cable industry would like a higher capacity system to enable the companies to offer greater variety to potential Canadian subscribers. The concern of the planners is, however, that even the smaller capacity interim DBS system might not be used to capacity. Such considerations on the part of the operators tend to mask the very large increases in capacity that will become available in the near future on point to point, non-

DBS, satellites. To reassure the Cable industry on this point, consideration might be given to planning together the use of all the Anik C and D satellites on which TV transponder space is available. Under such conditions there might even be room for both American and Canadian DBS programme services to be delivered to the cable by satellite.

The final concern of the cable operators is that such a system should be implemented and operated without their participation other than described above. The Cable industry would like to step beyond their current role and participate in the control of the DBS satellite. They even expressed interest in the idea of having their own satellite transponder capacity to enable cable operators to share programming and possibly, to organize their own network.

Such a development would go somewhat further than regulations would presently permit but, given the growing competition in their market, there would appear to be few a priori reasons why it should not be allowed.

7.3 A Profile of the Cable TV Industry

Over 560 cable systems have been licensed to operate in Canada by the CRTC. Between them the cable operators brought TV services to over 4.4. million households in 1980 out of a total of 7.6 million with television. Only 6.1 million households have, however, at present, access to the cable should they wish to subscribe to the cable operators' services.

Table 7.3-A shows the growth of the cable industry in terms of market penetration over the five (5) years leading up to 1980. Over the period in question, total subscriptions to cable have

increased by nearly 42%: from 3.1 million to 4.4 million. The percentage of households with access to cable has increased from 66% to 72% of total households and of those households with access to cable, the percentage which actually subscribe to the service has increased from 68 to 80%.

Table 7.3-B gives the regional breakdown of the market penetration of cable TV in 1980. The table indicates that existing franchises have practically saturated their market as the percentage of households wired, out of all households in the licensed areas, has past 95% for the whole of Canada; it has even reached 97% in the Pacific Region and in Ontario.

TABLE 7.3-A

CABLEVISION SUBSCRIBERS AND HOUSEHOLDS

1976 - 1980

Category	Year 1976	1977	1978	1979	1980
Subscribers (Million):					
Direct	2.5	2.8	3.1	3.4	3.7
Indirect	0.6	0.6	0.7	0.7	0.7
	3.1	3.4	3.8	4.1	4.4
Households (Million):					
Passed by Cable	4.7	5.0	5.5	5.9	6.1
% Penetration of Houses Passed	66.0	68.0	69.0	69.0	72.0
Total Households in Canada	6.9	7.0	7.3	7.6	7.8
Total Households with TV	6.7	6.8	7.1	7.4	7.6
% Penetration by Cable of Houses with TV	45.0	50.0	53.0	55.0	58.0

Source: Statistics Canada, Catalogue 56205 "Cable Television".

TABLE 7.3-B

SELECTED STATISTICS ON CABLE TELEVISION PENETRATION BY REGION

August 1980

	Atlantic Region	Québec Region	Ontario Region	Prairies Region	Pacific Region	Canada
SUBSCRIBER HOUSEHOLDS (000)						
Direct Subscribers	235	799	1,451	577	578	3,640
Idirect Subscribers	17	27	360	92	193	689
Total Subscribers (S)	252	826	1,811	669	771	4,329
HOUSEHOLDS (000)						
Households Wired (HW)*	339	1,605	2,351	906	854	6,055
Households in Licensed Area (HL)	357	1,746	2,420	978	876	6,377
Total Households (TH)	639	2,053	2,932	1,333	912	7,869
PENETRATION						
% Households Subscribing (S/TH)	39.3%	40.2%	61.7%	50.2%	84.4%	55.1%
% Households With Access (HW/TH)	52.9%	78.1%	80.1%	67.9%	93.4%	77.4%
Market Penetration (S/HW)	74.3%	51.5%	77.1%	73.9%	90.3%	71.5%
Franchise Penetration (HW/HL)	95.1%	92.1%	97.1%	92.5%	97.5%	95.1%
CABLE KILOMETERS	7,262.4	18,392.0	31,134.4	11,283.2	14,921.6	82,993.6

* Households Wired: Households with access to cable which may or may not subscribe to the service.
Source: Industry Statistics and Analysis Division and Statistical Information Centre, CRTC.

TABLE 7.3-C

REVENUE AND EXPENSES OF CANADIAN CABLE SYSTEMS

1976 - 1980

($ Million)

Category \ Year	1976	1977	1978	1979	1980
Revenues:					
Subscriptions	181.4	215.0	254.4	292.4	328.5
Installations	11.3	13.1	16.1	18.1	20.3
Other	6.6	4.9	2.7	3.2	3.3
Total	199.2	233.0	273.2	313.7	352.2
Expenses:					
Program Origination	10.2	13.5	16.4	20.4	22.1
Technical Services	45.2	53.8	67.7	81.6	92.8
Sales and Promotion	9.3	9.7	11.4	12.4	12.0
Administration and General	43.4	49.8	57.2	68.8	75.5
Subtotal Departmental Expenses	108.1	126.9	152.7	183.3	202.4
Depreciation	39.6	43.3	49.2	56.1	64.2
Interest	17.7	19.6	23.2	27.4	34.3
Other Adjustments - Income	2.3	1.9	4.7	2.7	2.2
NET PROFIT before Income Taxes	36.0	45.1	52.8	49.6	53.4
Provision for Income Taxes	17.5	30.6	24.8	24.5	25.8
NET PROFIT after Income Taxes	18.6	24.5	28.0	25.1	27.6

(1) Figures may not add up due to rounding.
Source: Statistics Canada, Catalogue 56205 "Cable Television".

TABLE 7.3-D

OPERATING AND FINANCIAL SUMMARY OF CABLE TELEVISION 1980

BY SIZE OF COMPANY

($ Million)

Category:	$0.273 - $0.185 Million	$0.185 - $0.139 Million	$0.139 - $0.090 Million	$0.090 Dollars
	32	33	32	32
Operating Revenue				
Direct Subscribers	6.5	4.6	3.3	1.0
Indirect Subscribers	0.3	0.2	0.1	-
Installation	0.4	0.3	0.2	0.2
Education	-	-	-	-
Other	0.1	0.2	0.1	-
Total Operating Revenue	7.3	5.3	3.6	1.2
Operating Expenses				
Program	0.3	0.2	0.1	-
Technical	2.4	1.8	1.1	0.1
Sales and Promotion	0.2	0.1	-	0.1
Administration	1.8	1.4	1.1	0.3
	4.7	3.5	2.3	0.8
Depreciation	1.3	0.8	0.7	0.2
Interest	0.9	0.7	0.4	0.1
Other Adjust. Income (Expense)	0.1	0.1	-	-
	2.1	1.4	1.1	0.3
Total Operating Expenses	6.8	4.9	3.4	1.1
Net Profit (Loss) Before Income Tax	0.5	0.3	0.3	0.1
Provision for Income Tax	0.2	0.1	0.1	0.1
NET PROFIT (Loss) After Income Tax	0.3	0.2	0.1	-
Salaries and Other Staff Benefits Incurred in Expenses	2.0	1.4	1.0	0.3
Average Number of Employees	149	118	93	35
Number of Subscribers	85,532	57,696	45,553	17,590
Households in Licensed Area	124,635	78,825	63,866	30,401
Penetration Rate %	69	73	71	58

Over the period 1976 to 1980 revenue per subscriber has increased from $64 to $80 per year: well below the rate of inflation experienced during those years. Table 7.3-C shows the revenue, expenditures and profits of the Cable industry over the period.

Expenditures made for operating purposes by the cable operators increased by 87% over the five (5) year period; 10% faster than the increase in revenue. The result has been a decline in the ratio of net profit before tax to revenue from 18% in 1976 to 15% in 1980.

Table 7.3-D examines the financial performance of the cable operators by revenue size groups and by subscriber size groups for 1980. The ratio of net profit before tax to revenue for the small cable system was only 5% while the larger systems with over 1,000 subscribers achieved a ratio of 15%. The same differential can be found through an examination of revenue size groupings of cable companies. The 32 largest systems, earning over $2.7 million each in revenue in 1980, had a ratio of 16% and earned over 56% of the Industry's total revenue. The smallest class, 32 systems earning less than $90,000 each in 1980, made only $100,000 profit between them on a total group revenue of $1.2 million, a ratio of 8%.

7.4 The Impact of the DBS Scenario on the Cable TV Industry

Two (2) major elements must be considered in the measurement of the impact of the postulated DBS scenario on the Cable TV industry:

- The direct cost of equipment;

- The possibility of increased competition with other broadcasting modes.

7.4.1 The Cost Impact

The actual direct cost to each licensed cable system should not be large if the installed capacity is sufficient to take the extra load. It will depend really upon the size of antenna that the system wishes to procure. For sake of argument, one can assume that all will buy an antenna the total cost of which, including installation, amounts to $10,000 or $2,500 per year if financed over ten (10) years at 15%.

The impact of the necessary expenditure for an antenna will vary depending on the size and profitability of the cable system and its ability to raise prices to cover increased costs. For this exercise we will not consider the probability of indirect costs such as rewiring a franchise area to increase channel capacity.

Table 7.4.1 gives an indication using the data from Table 7.3-D, of the range of impacts possible and the revenue that would have to be raised to cover direct costs.

TABLE 7.4.1

DBS IMPACT UPON DIFFERENT SIZED CABLE SYSTEMS

	Less than 1,000 Subscribers	More than 1,000 Subscribers	Revenue over $2.7 Million	Revenue less than $0.09 Million
Annual Antenna Cost	$ 2,500	2,500	2,500	2,500
Number of Subscribers in Group	46,230	4,293,038	2,533,067	17,590
Number of Systems Reporting in Group	117	324	32	32
Average Number of Subscribers per System	395	13,250	79,158	550
Cost Per Year Per Subscriber	$ 6.33	0.19	0.03	4.54
Net Before Tax Profit	$ 0.2 Million	53.1 Million	32.3 Million	0.1 Million
Net Profit Before Tax Per Subscriber (1980)	$ 4.33	12.37	12.75	5.68

The analysis presented above indicates clearly that the larger systems, mostly in the larger urban areas, will have much less difficulty in offering the DBS service to their clients than the smaller services. The smaller systems would have to raise more in extra revenue than they made in profit before tax in 1980 whilst the larger systems could easily absorb the cost of purchasing and installing the antenna, even at $50,000 or $100,000 per antenna in existing profits. The smaller systems might equally suffer more than the larger systems from the indirect costs not covered here: the investment required to increase the systems' channel capacity. Turning the argument around, however, the subscribers of smaller systems have perhaps more to gain from this addition to

service than subscribers of larger systems, as their existing service packages are often inferior to those offered in the larger urban areas. Even if indirect costs tripled or quadrupled, the extra revenue requirement of the smaller systems would still be no more than $2.0 per month per subscriber or $0.25 per channel per month per subscriber.

The answer to the question of where the revenue will be raised will depend greatly upon the financial arrangements agreed for Pay TV distribution. The extra revenue requirements outlined in this section fall well within possible gains from Pay TV services.

7.4.2 The Competition Impact

It is extremely unlikely that the DBS service or off-air retransmission of the DBS service by local stations will attract existing subscribers to cable systems in large urban areas. In the big cities of Canada the DBS offered by a non-cable mode might succeed in slowing future growth of the Cable industry and give a boost to MATV's. In smaller urban areas, where DBS service and the cable service offering might be synonymous in terms of programme or channels offered, off-air retransmission, direct DBS reception and competitive private DBS cable delivery systems might pose a threat to existing cable operators. All will, in the small town, depend upon the economics of each mode. Using cheaper antenna community groups or apartment block owners could succeed in undercutting the cable operators market. All the cable systems with less than 1,000 subscribers and those earning less than $90,000 in revenue in 1980 would be at risk as

they either made no after-tax profit or insufficient to pay for the new equipment without increasing prices. Even if prices did not increase with the inception of the cable DBS service, many stations would be at risk; less than 27% of all licensed systems offered the full basic service and only 19% offered the converter service in 1980. Indeed, a large proportion of existing systems offer little more than will be found on the interim DBS service; nearly 19% of systems offer no American channels at all (although a recent application by Cancom to carry the american channels (3 + 1) might change this picture).

If one considers the 73% of systems (410 systems) that do not offer a full service to be at moderate risk and the 19% that do not offer American services to be at extreme risk, one can calculate the possible revenue loss in the groups (by revenue size) possibly affected. If one assumes a slight risk to be worth a 5% loss in revenue, for those not offering cable converter service, a moderate risk to be worth a 10% loss of revenue, and an extreme risk to be 15% of revenue, one can gain an impression of the possible impact of competition on existing systems. Table 7.4.2 illustrates the possible competition impact on the existing systems.

TABLE 7.4.2

DBS IMPACT ON EXISTING MARKET OF CABLE SYSTEMS

	8% of Systems With Full Service But No Converter	54% of Systems Not Offering Full Service But Offering Some American Options	19% Without American Services
Number of Systems	45	303	107
Probable System Size Category	Less than $ 498,000 Revenue/Yr.	Less than $ 353,000 Revenue/Yr.	Less than 1,000 Subscribers
Group Revenue 1980 (From Table 7.3-D)	$ 13.4 Million	28.8 Million	3.6 Million
Loss of Revenue Assumed	5%	10%	15%
DBS Era Revenue Loss	$ 0.7 Million	2.9 Million	0.5 Million
1980 Pre-Tax Profit for Group	$ 0.8 Million	2.4 Million	0.2 Million

It is evident from the above scenario that large numbers of existing cable systems would be extremely vulnerable to small losses in revenue should the postulated DBS system lead to increased competition for their present market share. All systems not offering a full service with converter would appear to be susceptible to encroachment by potential competitors in their communities.

CHAPTER 8

THE IMPACT OF THE POSTULATED DBS SCENARIO ON THE INDEPENDENT PROGRAMME PRODUCTION INDUSTRY, THE ADVERTISING INDUSTRY AND THE TELECOMMUNICATIONS INDUSTRY

8. THE IMPACT OF THE POSTULATED DBS SCENARIO ON THE INDEPENDENT PROGRAMME PRODUCTION INDUSTRY, THE ADVERTISING INDUSTRY AND THE TELECOMMUNICATIONS INDUSTRY

This chapter will deal with the role in and reaction to the postulated DBS scenario and the profile of and DBS impact on the independent programme producers, the advertising industry and the telecommunications industry.

8.1 The Independent TV Programme Production Industry

The role of the independent TV programme production industry in the postulated DBS scenario is to help the broadcasters and cable operators fill the increased channel capacity that the service will make available. Although the system is not specifically designed for the purpose, it is intended that the development of a DBS service in Canada should give the independent programme producers an incentive to improve the quality and increase the quantity of their production. It is hoped that the impetus which the system will provide would improve programme quality to the level that would enable Canada to become a major TV programme exporter.

The reaction of the industry to the potential market offered by the postulated DBS scenario is mixed. Firstly, in the interim scenario, only the transponders allocated to Pay TV offer new TV capacity and therefore new markets for the independent producers. The instigation of a DBS service, it is felt, would not oblige the existing networks or independents to change their present programme purchasing and production policies. Only the production of higher quality programming could achieve that end. The industry sees a veritable "chicken and egg" problem in the development of their sector which some members are trying to

solve by attacking directly the export market. In the dedicated DBS scenario significantly greater channel capacity is offered which will doubtless provide considerable increase in outlets for the sector's production; outlets not dependent on existing network attitudes and policies.

Table 8.1 gives a breakdown of sales and expenses of two (2) programme production companies affiliated with networks (Glen Warren and Productions J.P.L.) and four (4) independent production companies (KF Films, Nielsen Films International Ltd., Wilks, Close Productions, and Norfolk Productions) for the 1979 financial year.(1) The Affiliated production companies clearly dominate the market earning between the two of them nearly 50% of total sector revenues, of $18.7 million. The table also shows the poor profitability performance of the sector. The independents lost $2.4 million in 1979 on revenues of $9.7 million. The affiliates appeared to make a profit of $1.7 million on sales of $9.0 million but such an optimistic picture probably hides a pattern of cross subsidization by the respective networks; CTV and TVA.

The major domestic market of the independent producers is the CBC/RC. The Public TV Corporation spent $7.4 million on independent Canadian programme purchases in 1980, a decrease of 15% from the level established in 1978. The companies included in Table 8.1 account, therefore, for at most a little under half of the Canadian industry. The inclusion of other markets, such as the independent stations and global would further reduce the market share attained by the companies; the four (4) largest independent TV programme producers in Canada in 1979.

One conclusion that we are obliged to draw is that the sector is by no means large. The development in a relatively short space

TABLE 7.3-D

OPERATING AND FINANCIAL SUMMARY OF CABLE TELEVISION 1980

BY SIZE OF COMPANY

($ Million)

Category:	Less than 1,000 Subscribers	More than 1,000 Subscribers	$2.7 Million Plus	$2.7 - $1.2 Million	$1.2 - $0.75 Million	$0.754 - $0.498 Million	$0.498 - $0.353 Million	$0.353 - $0.273 Million
Business Organization:	112	223						
Reporting Units:	117	324	32	33	32	33	32	33
Operating Revenue								
Direct Subscribers	3.2	297.9	165.1	51.8	26.9	17.9	11.8	9.3
Indirect Subscribers	0.1	27.3	19.5	3.8	1.3	0.9	0.6	0.4
Installation	0.2	20.1	11.8	3.0	1.7	1.1	0.7	0.6
Education	-	-	-	-	-	-	-	-
Other	0.1	3.2	1.4	0.3	0.4	0.3	0.2	0.1
Total Operating Revenue	3.6	348.6	197.8	58.9	30.4	20.3	13.4	10.4
Operating Expenses								
Program	0.1	22.0	12.5	3.8	2.2	1.5	0.9	0.6
Technical	1.3	91.6	51.0	14.0	8.1	5.4	4.2	3.2
Sales and Promotion	0.1	12.0	8.5	1.5	0.7	0.5	0.2	0.2
Administration	1.0	74.5	38.2	13.1	7.2	5.0	3.6	2.7
	2.4	200.0	110.3	32.4	18.1	12.4	8.9	6.7
Depreciation	0.6	63.6	37.9	10.0	5.0	3.6	2.4	1.6
Interest	0.3	34.0	18.3	6.0	3.0	2.2	1.4	1.0
Other Adjust. Income (Expense)	-	2.2	1.0	0.1	0.2	0.4	0.2	0.1
	0.9	95.4	55.2	15.9	7.8	5.4	3.6	2.5
Total Operating Expenses	3.4	295.4	165.5	48.3	25.9	17.8	12.5	9.2
Net Profit (Loss) Before Income Tax	0.2	53.1	32.3	10.7	4.4	2.5	0.8	1.2
Provision for Income Tax	N/A	25.8	16.4	5.4	1.7	1.0	0.4	0.4
NET PROFIT (Loss) After Income Tax	N/A	27.3	15.9	5.3	2.7	1.4	0.4	0.8
Salaries and Other Staff Benefits Incurred in Expenses	0.7	92.0	44.0	13.7	6.8	5.1	3.7	2.7
Average Number of Employees	84	5,396	2,876	894	472	330	234	195
Number of Subscribers	46,230	4,293,038	2,533,067	696,397	347,683	234,605	156,308	118,607
Households in Licensed Area	66,659	6,311,666	3,871,089	980,090	464,780	317,645	213,150	167,185
Penetration Rate %	69	68	65	71	75	74	73	71

Source: Statistics Canada 56205.

TABLE 8.1

REVENUES AND PRODUCTION EXPENSES

OF INDEPENDENT AND AFFILIATED TV PRODUCTION COMPANIES

1979

($ Million)

Category	Affiliated	Independent	Total
Revenues:			
Sales in Canada	8.8	3.7	12.5
Foreign Sales	0.2	6.0	6.2
Total Revenues	9.0	9.7	18.7
Production Expenses:			
Direct Costs	4.4	8.5	12.9
Indirect Costs	2.9	3.6	6.5
Total Productions Expenditures	7.3	12.1	19.4
(DEFICIT) Surplus of Revenues Over Production Expenditure	1.7	(2.4)	(0.7)

Source: Confidential Company Reports, and Bélanger, Chabot & Associates report for the DOC, December 1st 1980 "Financial Data on Canadian TV Programme Production".

of time of the DBS system opens the prospect of a fairly rapid increase in demand that the existing industry might not at first sight be able to meet. Three (3) options are, therefore, probable:

- That new companies could enter the field, specifically attracted by the Pay TV market;

- That American production houses could increase their penetration of the Canadian market;

- That the Canadian companies, presently working at less than full capacity, could expand efficiently to meet the demand.

Studies undertaken by Tamec on the feasibility of certain types of DBS service suggest that the annual amount available to be spent on original productions would not necessarily be large in relation to the existing industry revenue. Tamec (1) estimates that only $3.8 million would be available for original programme production in their medium scenario, for the English Pay TV service. An approximately similar amount would be available for French language productions designed to feed a French Pay TV service.

The increase in demand Tamec foresees for Pay TV services in both languages represents approximately 66% of 1979 total industry revenues and two times the domestic sales of the above independent producers. As much as the relative increase in demand is large, the absolute value is not. It can not of course be assumed that all new original production would be Canadian. If the Pay TV suppliers were to follow present CBC purchasing practices only 25% of the increase in demand would be filled by Canadian productions. If one considers equally that few major

(1) "A Feasibility Study for a Canadian DBS Programme Package", Tamec Inc. A report prepared for the Department of Communications, Ottawa, July 1981.

French non network affiliated independent producers have been able to break into the market, then the existing English producers would only be asked to increase their domestic sales by 25%. Such an objective would seem reasonable if somewhat disappointing for the Canadian independent programme producers.

8.2 The Advertising Industry

The Canadian Television broadcasting industry earned $631.0 million in gross revenue in 1980; $192.0 million from local publicity; $336.0 million from national publicity; and $103.0 million from network sources. The rate of increase of total advertising revenue over the period from 1978 to 1981 was approximately 39%; for local publicity 26%; for national publicity 40%; and for network revenues 45%. Net revenue to the television stations would amount to roughly 85% of gross revenue; the difference being paid to advertising agencies in commissions.

The postulated DBS system might have a significant impact upon the advertising revenues of its members and advertising agencies buying time for their clients. Trends which are now becoming evident, such as the increasing fragmentation of the market for publicity, would grow with greater force than if the DBS service were not implanted in the TV distribution system. New trends might however appear such as indicated in the previous chapters. The smaller and medium sized local affiliate stations, particularly those affiliated to CBC/RC might disappear where they are in competition with other stations. Smaller cable systems might not be able to compete with off-air retransmission of the DBS service or with community DBS reception.

The advertising industry might be faced with an increasing polarization of the television media; increasing fragmentation

of publicity within the TV industry. The DBS technology would put a greater emphasis on national publicity as the satellite service would offer the possibility to reach both particular markets and to saturate the market, reaching 100% of the market. Local off-air stations would concentrate increasingly upon local publicity revenues. The rate of change of the structure of industry revenues is difficult to predict. Much of the impact would only be apparent with the advent and utilization of the dedicated DBS service offering a high level of channel capacity.

In the interim the number of outlets for publicity might, in fact, diminish. The space available on the CBC/RC would be reduced and effectively little extra capacity for commercial publicity will replace this important medium.

The advertising industry will thus face the demand for higher rates on the DBS service due to its greater audience potential, and higher rates on remaining off-air time sales owing to a certain constriction on the supply side. The probable reaction of the advertising industry would be to concentrate its advertising dollar even more effectively on the exact target market for its product, thus further encouraging market fragmentation. Such a scenario would tend to suggest that the 15% fragmentation hypothesis suggested in the preceding chapter might be near reality than 5%.

8.3 The Telecommunications Industry

The involvement of the telecommunications industry in TV broadcasting is large. Three (3) elements need to be considered in any discussion of the impact of a DBS service on existing terrestrial microwave telecommunications services:

- Services supplied by crown corporations;
- Services supplied by private companies; and
- Services supplied by the television broadcasters themselves.

In the same vein one should consider existing satellite and retransmission facilities that might be replaced by the postulated DBS service. In all such analyses one must consider the short effective economic life of high technology equipment. By such we mean that the effective life of a piece of high technology equipment, before it is rendered obsolete and expensive to run by innovation, is short. Any new service utilizing new developments in telecommunications technology should not be penalized by the weight of such investment in the existing system.

Discussions with representatives of the provincial governments on the prairies helped confirm such opinions. Both the governments of Manitoba and Saskatchewan have considerable financial and moral investments in existing terrestrial communications networks either through public investment in high powered land lines to bring American programming to their population, Canadian programming to isolated residents, or in provision of general services through public utilities. Both recognized the need for progress and that satellite services would offer a significantly cheaper technology with which either to replace existing terrestrial based systems at the end of their economic life or to extend existing systems to reach 100% of their potential TV audiences.

Private corporations providing telecommunications services which do not have necessarily the choice to switch to the new technology at the effective end of the economic life of their principal assets are necessarily unhappy that they should be supplanted in

the television distribution market. Two (2) different attitudes have been expressed: CNCP, has stated quite simply that any equipment presently dedicated to TV distribution will either be offered to other customers as is, or modified to meet their requirements, or written off. TCTS which has the lion's share of the TV market however feels more threatened by the loss of such business. They have declared that the TV equipment was too specialized to be of use to other clients and that they would be forced to write off a large investment.

Both companies, it is felt, are exaggerating their position, neither is as interested or as disinterested as they would like to seem. The prospect of being able to influence government policy concerning subsidy for their apparent losses or the rates at which Telesat would be able to sell transponder space are doubtless paramount in TCTS's approach. CNCP, however, apart from declining to expose their real interests, would probably like to move in on TCTS's share of the market and become more involved in the TV distribution market if possible through greater involvement or remaining involved in satellite telecommunications. Faced with the conflicting attitudes apparent within the industry, one conclusion must be drawn, that the existing terrestrial microwave service providers should not be allowed to influence the development and pricing of the newer satellite technology. According to TCTS, the annual revenue of telecommunications companies derived from TV Broadcast carriage is $65 millions, $45 millions being billed by TCTS, $15 millions separable by TCTS members and $5 millions by CNCP. Gross Investment dedicated to the TV industry in the communications industry amounts to roughly $200-300 millions. The value of the equipment could not, however, be estimated, nor could the average economic life of the equipment be quantified. The net income impact on this sector would depend upon the extent to which

these companies maintained their present markets or managed to adapt to their clients new technological requirements. If they maintained their income level from this sector the net impact would be the necessary write off of obsolete equipment.

Many TV broadcasters lease terrestrial microwave or point to point satellite equipment, either for dissemination or preparation of programming, on a long term basis. At the end of each lease, each company should re-examine the cost of all options open to it. Should the newer Anik C or later satellites either offer a lower delivery cost for existing services or a lower cost of fulfilling long-term objectives than terrestrial systems then simple financial common sense will indicate that they reorientate their telecommunications efforts. Considerable difficulties are, however, encountered where reorientation of the distribution system has wider implications. The use of DBS services reduces the potential audience for local production in existing networks or within multi-station provincial government services.

The argument for the broadcaster will, in all probability, not stop at that point. Potential revenue gains through the DBS services' fragmentation of the market must also be calculated by the user, added to cost reductions and compared with possible cost increases before the decision is taken. The interests of the carriers in the market potential of the DBS services are far from being the most important for the television industry.

CHAPTER 9

CONCLUSIONS

9. CONCLUSIONS

The study of the economic impact of a DBS service on the Canadian television broadcasting industry was undertaken in two (2) phases: the development of a probable scenario for the design of the satellite television system; and the measure of the impact of the postulated scenario upon the broadcast sector.

9.1 The Potential Scenario

Phase I of the study concluded with the development of a probable scenario which was to be tested for industry opinion and for its impact in socio-economic terms. The details of the scenario are conclusions of sorts in their own right as they represent the culmination of expert discussions on the likely path that the development of a DBS service in Canada could take.

The selected scenario postulated two (2) phases of development for Canada's DBS service; an interim service of 16 transponders and 2 to 4 beams on ANIK C requiring a 1.2 metre reception antenna; and a dedicated DBS service on two specially designed satellites covering the country with 6 beams with up to 20 channels in each, requiring an antenna of less than 1.2 metre. The dedicated service would be put into service approximately five (5) years after the interim service; in 1987-1988. The interim service scenario offers the CBC and Radio Canada, Educational TV, Pay TV and two commercial channels in all regions of the country. Building on this base, the postulated dedicated service could add up to twelve (12) special interest, public service or narrowcasting channels, the exact clientele for which was not specified. Management of the system could be through Telesat alone or Telesat in conjunction with the broadcasting industry. Present indirect contacts between these two potential

partners would, it is assumed, be dropped for direct commercial relations.

Reception of the DBS service would be possible either by individual antenna, through the cable by means of a head end DBS antenna, or off-air from local stations retransmitting the signals. No obligation is assumed on the part of either the cable or the private broadcasters to carry all or part of the programme content envisaged.

As a corollary to the DBS scenario, a scenario for the development of the off-air broadcast industry was also developed. The role of the CBC/RC in the local market is assumed to decline radically where private industry can take over and as the CBC/RC concentrates on a national/wide regional role centred upon its participation in the DBS service. Local CBC/RC owned and operated stations would be closed where competing private services exist and publicity carried on the air would be progressively reduced. It is hoped that the withdrawal, both physical and financial, from the local market would enable the private industry to offer an improved, competitive local service to its off-air and cable viewers.

9.2 The Reaction of the Industry

The reaction of the Private TV industry, both off-air and cable, was on the whole favourable. Their concerns covered in particular:

- The capacity of the postulated interim service;
- The regulatory environment;
- The cost of the satellite transponders;
- The problem of copyright;

- The competitive position of affiliate TV stations and small cable systems in smaller urban centres;
- The potential fragmentation of the market;
- The planning horizon of the scenario; and
- The possibility of competition from American DBS services.

The cable industry in particular expressed concern over the limited capacity of the interim DBS service. The reaction was based upon discussions of only one (1) ANIK C satellite. When one takes into account the transponder capacity available in a point to point mode on the other ANIK C satellites and on satellites in other frequency bands, the cable operators criticism ceases to be significant. Rather, the planners' concern as to the Canadian industry's ability to fill the capacity available becomes more understandable. To counteract the false impression of limited initial capacity, emphasis should be placed upon planning collectively for the use of all three (3) ANIK C satellites.

The regulatory environment envisaged for the DBS service and for the off-air broadcasters was not specified in the course of the present study. The private broadcasters expressed concern over the competitive ability of stations in small urban centres if the present CRTC rules remain in force. Particular emphasis was laid upon the problems created by the difficulties placed in the way of mergers of TV stations and cable companies serving the same market. Evidence presented in this report would support the need to act in this area as competition between the affiliates of the different networks in the same small-town markets cannot be supported by the advertising revenues and viewer demand available. The addition of competition from a DBS service is likely to further aggravate the financial problems of such stations.

The cable operators expressed a concern that they might be limited to the role of a carrier in the DBS service. The cable operators wish to continue their present important programming role, share such activities and obligations amongst themselves by satellite and develop other non-TV services. The latter point is beyond the bounds of this study and the former would seem entirely reasonable in the satellite TV era. The point-to-point capacity of the non-DBS satellites could well be used in part by the cable companies for the building of their programme schedule in the same way as might the CTV or the CBC networks. Such a practice could possibly offer succour to threatened smaller cable operators in competition with community DBS systems or local off-air stations retransmitting DBS programming.

A wish was expressed by all parties in the industry that the government, Telesat and the CRTC define the climate under which the DBS might function and the financial arrangements anticipated for the allocation of transponder space. Little private planning has been undertaken for possible participation in a future DBS service owing in part to their ignorance on these points. The slow progress achieved in this important area is somewhat irrealistic as the least that the private TV broadcasters or the cable operators could assume would be the regulatory status quo and a continuation of Telesat's current rates. Most changes to the existing charges contemplated would improve the financial position of participants and participants in the DBS service.

The problem that the DBS poses for copyright negotiations is difficult but not intractable. The question of whether the Montréal Canadian Hockey match is carried by the DBS service and thereby received at least throughout the eastern half of Canada, preventing possible local blackouts, is hardly an affair for the

government, but rather one of commercial contract netotiations. The impact upon existing off-air networks could however be serious.

The impact of satellite competition upon local off-air services and indeed, possibly on local small cable operators could be severe as will be outlined below. The industry fears that an already difficult financial position for these stations could be made worse to the point where they could no longer function. The present competitive situation in these small cities will not always permit a late entrant, the DBS, to start up and take a part of the market without adverse consequences for the existing market competitors. The evidence introduced concerning the geographic distribution of off-air stations, their financial results and competitive position would tend to confirm much of the private industry's fears. Further fragmentation of the market which might result, therefore, from the introduction of the DBS service might be dealt with differently in different sized communities. The continuing provision of off-air services in these communities should perhaps be viewed as of greater importance than the maintenance of a competitive local environment.

Finally, the off-air stations and cable operators in the larger urban centres expressed concern that the interim service might offer too little capacity and arrive too late to compete with American DBS services. The industry suggests that the American services' smaller antenna requirements and their service variety would be of considerable interest both to the metropolitan cable operators and to the population they serve. Whilst all agree that they would take the postulated DBS service for the Pay TV service it contains, many felt that the programme package offered by the Americans could give them a marketing advantage over its Canadian rival.

The industry draws two (2) conclusions from such an analysis; that the dedicated DBS service should be brought forward in time as much as possible or that the interim service should be expanded on a basis of two (2) TV channels per transponder. However, the progress of the Americans in this field is not as rapid as the industry would like the planners to believe. The argument that the TV industry requires a higher level of channel capacity to compete with the American DBS services is perhaps realistic, however, the criticism thereby implied of the DBS system is misplaced. The DBS service is only one part of a multisatellite television system which will offer the industry practically all the capacity they might care to buy. At the same time it will meet the objective of improving remote television service reception.

9.3 The Demand for a DBS Service

The probable demand for the postulated DBS service would appear to be approximately 2.2. million households out of a total potential market of 7.7 million. The probable market is therefore nearly 29% of existing television demand. This would not necessarily however indicate that the new service would attain such a high penetration of the viewing audience nor that such significant market fragmentation would occur.

For 14.66% of the probable market, isolated households, the DBS would in part replace poor existing services and in part add new services. The quality of the service would dictate that the households in question would watch the DBS most of the time. The subscribers in the remaining 85.34% of the market in small and larger urban areas would divide their time between existing off-air and cable channels and the new DBS service.

9.4 The Cost of a DBS Service

The estimated cost of the DBS service is far from complete, however, estimates of the distribution elements of the system costs indicate that the cost per channel per month per subscriber might be as low as $1.00 or less. The massive weight of the potential cable market significantly reduces the average cost per subscriber of the system. Isolated households alone, if no cross subsidization from other market segments was possible, might have to pay over $2.30 per channel per month each.

9.5 The Impact of the Postulated DBS Scenario on the Canadian TV Broadcast Industry

The major impact of the postulated DBS scenario is a massive transfer of revenue from the Public Television system and its private affiliates to the private networks and independent stations. The reduction of advertising on the CBC/RC and their withdrawal from the local TV market would have injected over $100 million into the Private TV broadcasting companies in 1981. The allocation of the injection amongst the private affiliates and independents would depend much on their existing weight in their different markets. The CBC/RC owned and operated stations compete only with non-CBC/RC affiliated stations and much of the benefits of CBC/RC's withdrawal from publicity would go to these stations.

The weight of such potential losses for the CBC/RC affiliates combined with possible fragmentation losses as a non-participant in the DBS service would leave this group of stations in an extremely difficult financial position. If one should then add the effects on these stations of competing in medium sized towns (50,000 to 150,000 people) with CTV/TVA affiliates who would

receive a considerable cash injection the results could be even worse. The survival of many of the CBC/RC affiliates would be in extreme jeopardy.

Effectively to leave the CBC/RC affiliates a breathing space, a chance to survive, the withdrawal of the CBC/RC from publicity and local affairs should be only partial so as to reduce the affiliates direct revenue losses and to limit the gains of their competitors.

The impact on the CTV/TVA affiliates under the scenario is strongly positive. Only under the assumption the CTV did not participate in the service and that market fragmentation was extremely high would the CTV affiliates be in financial danger. The TVA affiliates, as they face little or no competition for the satellite transponder space allocated to French private commercial services, would be unlikely to face difficulties. Should both TVA and CTV participate in the service their increase in profits could reach respectively 50% and 300%. Independent stations face a possible 400-600% increase in profits should they participate in the DBS service, achieve high market fragmentation and benefit as predicted from the revenues the CBC/RC is assumed to inject into the sector. Should only the market fragmentation conditions be fulfilled then these stations too could face financial difficulties.

The cable operators in general face little perceptible increase in costs through participation in the DBS service and have the chance to considerably increase their revenues. In particular classes of cable systems the picture is somewhat different.

Those systems in small urban areas or not offering full converter or American services would be vulnerable to the level of market fragmentation losses assumed for the private broadcast-

ers. Small losses of revenue by these groups through competition of other agents providing the DBS service could have serious financial consequences.

The impact upon the provincial ETV's would be positive in the sense that the DBS offers a cost effective means to fulfill their mandate of reaching 100% of their provincial population. Inevitably, this development would be none the less costly. The impact is of particular importance only for Radio Québec as they have a well developed terrestrial microwave communications system and network of regional programming centres, neither of which would fit into a rationalized service provided on the DBS service.

The independent program producers who, it is hoped, might be one of the principal beneficiaries of the DBS system as the new channel capacity creates a demand for fresh programming, might not receive the boost often predicted through this programme. It is predicted that only the Pay TV service would be likely to require extra programme production from independent producers and their demand might only lead to a 25% increase in the 1979 sector revenues of a little less than $4 million.

The losses that might be suffered by the carriers with terrestrial microwave systems dedicated to the TV industry have only been quantified from the point of view of their maximum potential income exposure in the case of all their TV broadcasting clients turning to competing suppliers of satellite services. The losses due to write off of assets again are shown as a maximum possible gross book value and no estimate of remaining economic value could be made. Such losses if they occur are deemed a natural counterpart to technical innovation. The issue is hardly of concern to the television industry which should only

consider the impact of all elements in the possible participation in the DBS service on their bottom line; their net profits.

Finally, the impact of the postulated scenario on the CBC/RC owned and operated stations has been shown to be limited on balance. In the analysis it was shown that the removal of the corporation from the local market and its participation in the DBS service might indeed be beneficial to the corporation. A net gain of nearly $4 million dollars was found to be result from the postulated restructuring.

However, before one concludes that the reduction of the CBC/RC to a non-commercial TV entreprise operating only by satellite is to be recommended, one must consider the possible negative effects of such financial largesse on the rest of the TV broadcasting industry. Massive changes in the operations of the CBC/RC should not be included in a DBS scenario as they effectively cloud the issue of the impact of the change in distribution costs and possible gains and losses from market fragmentation. The potential change of costs of programme distribution incurred by a move to the DBS mode are completely dwarfed by probable changes in revenues either from changes in CBC/RC operations or from market fragmentation. This is not to say, however, that they should not be considered as a seperate issue.

In the final definition of the DBS service programme package a judicious balance must be maintained between the potential of particular participants to cause or suffer from extreme fragmentation of the market and their probable gains and losses through any restructuring of the CBC/RC.

As such it is probable that the minimum damage would be caused to the existing industry structure if the present CBC/RC relationships with its affiliates were maintained and that cuts in publicity content, if they are required, be made elsewhere. Equally, the least disruption will probably be felt in the market if independent stations in different parts of the country are invited to take up the private commercial transponder space on the DBS system. Such a scenario requires, however, some degree of softening of the position of the CRTC towards the necessary level of competition in smaller urban centres.

APPENDIX I

POSTULATED SCENARIO DISCUSSION DOCUMENT

DBS PREFERRED PACKAGE DEVELOPMENT

SCENARIO DEVELOPMENT FRAMEWORK FOR SOCIO-ECONOMIC IMPACT EVALUATION

SCENARIOS DEVELOPED IN THIS DOCUMENT ARE PRESENTED FOR DISCUSSION PURPOSES AND IN ORDER TO ASCERTAIN POSSIBLE RANGES OF IMPACT UPON THE EXISTING CANADIAN BROADCASTING INDUSTRY.

THEY DO NOT REPRESENT GOVERNMENT PLANS FOR FUTURE ACTION NOR NECESSARILY A DEFINITIVE STATEMENT OF OPTIMUM SYSTEM CONFIGURATIONS.

IMPACT ASSESSMENT OF DBS PACKAGE

INTERVIEW AGENDA

I - GENERAL PRESENTATION AND DISCUSSION OF DBS SCENARIO

II - DISCUSSION OF INTERVIEWEE'S ROLE IN DBS SCENARIO

III - DISCUSSION OF EXISTING AND FUTURE INSTITUTIONAL AND STATISTICAL PROFILE OF INDUSTRY (IN GENERAL) AND THE INTERVIEWEE'S SEGMENT IN PARTICULAR

IV - INTERVIEWEE'S RECOMMANDED MODIFICATIONS TO SCENARIO FOR CONSIDERATION IN IMPACT STUDY

DBS PREFERRED PACKAGE DEVELOPMENT

SCENARIO DEVELOPMENT FRAMEWORK FOR SOCIO-ECONOMIC IMPACT EVALUATION

THE OVERALL PROCESS

THE SELECTION PROCESS OF A DBS PREFERRED PACKAGE FOR THE PURPOSE OF IMPACT EVALUATION ON THE CANADIAN TELEVISION BROADCASTING INDUSTRY INVOLVES MAKING A NUMBER OF "A PRIORI" DECISIONS ON THE FOLLOWING ASPECTS:

- DEFINITION AND SELECTION OF A NUMBER OF PLAUSIBLE DBS SYSTEM PACKAGES CORRESPONDING TO SPECIFIC COMBINATIONS OF SYSTEM CONFIGURATIONS, SERVICE CONTENT AND SYSTEM MANAGEMENT CHARACTERISTICS.

- DEFINITION AND SELECTION OF A NUMBER OF BASIC PRINCIPLES AND CRITERIA FOR MAKING SELECTIVE DECISIONS AMONG PLAUSIBLE PACKAGES.

- EVALUATION OF THE PLAUSIBLE PACKAGES IN RELATION TO THE SELECTED PRINCIPLES AND CRITERIA.

- DESCRIPTION OF THE PREFERRED PACKAGE.

NOTE: A DECISION "A PRIORI" IS A DECISION MADE WITH NO PRIOR KNOWLEDGE OF THE STUDY RESULTS.

SCENARIO DEVELOPMENT FRAMEWORK FOR SOCIO-ECONOMIC IMPACT EVALUATION

BASIC PRINCIPLES

TO BE ACCEPTABLE AS A PREFERRED DBS PACKAGE FOR THE PURPOSE OF SOCIO-ECONOMIC IMPACT EVALUATION, A SPECIFIC GROUPING OF DBS SYSTEM CHARACTERISTICS SHOULD MEET THE FOLLOWING CRITERIA OR REQUIREMENTS:

- PROVIDE ALL CANADIANS WITH ACCESS TO THE SAME LEVEL OF SERVICE AVAILABLE ANYWHERE IN CANADA IN BOTH OFFICIAL LANGUAGES.

- PROVIDE ALL CANADIANS WITH MAXIMUM BROADCASTING CHANNEL CAPACITY AT THE LOWEST POSSIBLE TOTAL COST.

- FAVOR AND PROMOTE THE ATTAINMENT OF NATIONAL OBJECTIVES AS DESCRIBED IN THE BROADCASTING ACT.

- MINIMIZE THE NEGATIVE IMPACT ON THE PRESENT CONSTITUENTS OF THE CANADIAN BROADCASTING SYSTEM.

- ENSURE THAT A SMOOTH TRANSITION CAN BE PLANNED AND IMPLEMENTED FROM THE PRE-DBS TO THE INTERIM-DBS AND THEN TO THE PURE DBS CONDITIONS THROUGH THE FORESEEN TRANSITION PERIOD.

SCENARIO DEVELOPMENT FRAMEWORK FOR SOCIO-ECONOMIC IMPACT EVALUATION

BASIC PRINCIPLES (CONT'D)

- CONSIDER DBS AS A TECHNOLOGICAL TOOL WITH WIDE REGIONAL AND NATIONAL COVERAGE CAPABILITY TO BE USED FOR THE FULFILMENT OF WIDE REGIONAL AND NATIONAL SERVICE NEEDS AND GOALS.

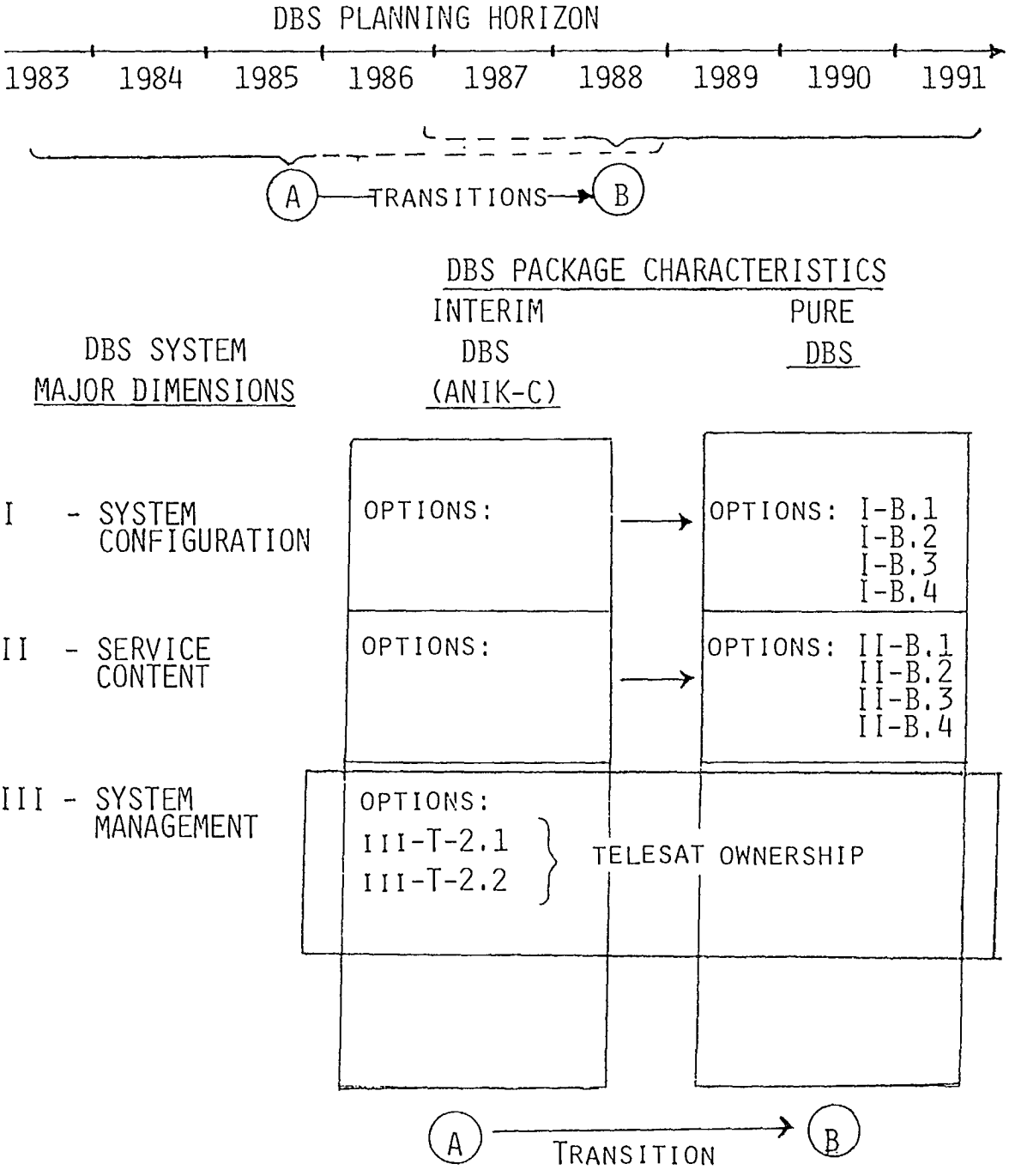
- SYSTEM MANAGEMENT RESPONSIBILITIES TO FOLLOW THE GENERAL "CARRIAGE/CONTENT" OR "TELECOMMUNICATIONS/PROGRAMMING" SPLIT PATTERN.

- BENEFIT FROM THE ADVENT OF A NEW TRANSMISSION TECHNOLOGY (DBS) TO PROMOTE, REJUVENATE AND MOTIVATE EXISTING ORGANIZATIONS.

- HAVE TECHNOLOGY TO SERVE MAN - NOT THE REVERSE.

DBS PREFERRED PACKAGE DEVELOPMENT

SCENARIO DEVELOPMENT FRAMEWORK
FOR SOCIO-ECONOMIC IMPACT EVALUATION



DBS PREFERRED PACKAGE DEVELOPMENT

THE DBS PREFERRED PACKAGE IS DEFINED BY THE DESCRIPTION OF ITS CHARACTERISTICS ALONG THREE MAJOR DIMENSIONS:

I - SYSTEM CONFIGURATION

II - SERVICE CONTENT

III - SYSTEM MANAGEMENT

THE DBS PREFERRED PACKAGE IS ALSO DEFINED IN TERMS OF THE EVOLUTION OF ITS CHARACTERISTICS THROUGH THE FOLLOWING TIME PERIODS:

A - INTERIM DBS - ANIK-C - 1983 TO 1986-88

B - PURE DBS SYSTEM - 1987-88 TO 1995 +

DBS PREFERRED PACKAGE DEVELOPMENT

FOR BOTH THE INTERIM DBS AND THE PURE DBS SYSTEMS THE CHARACTERISTICS OF THE PREFERRED PACKAGE ARE DESCRIBED ALONG THREE MAJOR DIMENSIONS:

I - SYSTEM - CONFIGURATION

EX:
- NO OF SATELLITES/LOCATIONS
- NO OF BEAMS AND CHANNELS PER BEAM
- TVRO SIZE
- TRANSMISSION PARAMETERS
- AREA COVERAGE
- OTHERS

II - SERVICE CONTENT

EX:

. BASIC SERVICE	. FRENCH
. EXTENDED SERVICE	. ENGLISH
. PAY SERVICE	
. PUBLIC	. NATIONAL
. PRIVATE	. REGIONAL

FOR BOTH THE INTERIM DBS AND THE PURE DBS SYSTEMS THE CHARACTERISTICS OF THE PREFERRED PACKAGE ARE DESCRIBED ALONG THREE MAJOR DIMENSIONS:

III - SYSTEM MANAGEMENT

EX: . IDENTIFICATION OF THE VARIOUS CONSTITUENT ORGANIZATIONS OF THE SYSTEM

. ROLES AND RESPONSIBILITIES OF CONSTITUENTS

. RELATIONSHIPS BETWEEN CONSTITUENTS

- CBC/RADIO CANADA - TELESAT
- PRIVATE TELEVISION BROADCASTERS, LARGE & SMALL
- CABLE TV INDUSTRY - TELECOM, CARRIERS.
- REGULATORY AGENCIES - OTHERS

DBS PREFERRED PACKAGE DEVELOPMENT

DIMENSION I - SYSTEM CONFIGURATION

I-A INTERIM DBS ON ANIK-C SATELLITE 1983 TO 1986-88

CHARACTERISTICS

A)	TV CHANNELS PER RF CHANNELS	1
B)	NO. OF BEAMS (CONFIGURATION)	2 AND 4 (MIXED)
C)	NO. OF TV CHANNELS/BEAMS	6-8
D)	TOTAL NO. OF CHANNELS (CAP.)	12-16
E)	TVRO SIZE (METER)	1.2M
F)	NO. OF SATELLITE LOCATION	1

BEAM CONFIGURATION

2 BEAMS	4 BEAMS	COVERAGE
E	E-1	ATLANTIC/QUÉBEC
	E-2	ONTARIO
W	W-1	MANITOBA/SASKATCHEWAN
	W-2	ALBERTA/BRITISH-COLUMBIA

DIMENSION I - SYSTEM CONFIGURATION

I-B PURE DBS SYSTEM AFTER 1987-88

CHARACTERISTICS	OPTIONS I-B.1	I-B.2	I-B.3	I-B.4
A) No. of satellite locations	2	2	2	2
B) No. of beams/satellite	2	3	2	3
C) Beam coverage (config.)	1/4 can.	1/6 can.	1/4 can.	1/6 can.
D) TV channels/beam	8	8	16	16
E) Total channel capacity	32	48	64	96
F) TVRO size (meter)	1m	1m	1m	1m

BEAM CONFIGURATION

4 - BEAMS	6 - BEAMS
E-1 Atlantic/Québec	E-1 Atlantic
E-2 Ontario	E-2 Québec
	E-3 Ontario
W-1 Manitoba/Saskat.	W-1 Manitoba/Saskat.
W-2 Alberta/B.C.	W-2 Alberta
	W-3 British-Columbia

DIMENSION II - SERVICE CONTENT

II-A INTERIM DBS ON ANIK-C SATELLITE 1983 TO 1986-88

SYSTEM CONFIGURATION - MIX OF 2 & 4 BEAMS COVERAGE
- 1.2 METER TVRO

2-BEAMS	E		W	
4-BEAMS	E_1	E_2	W_1	W_2
	ATL./QUÉ.	ONTARIO	MAN./SASK.	ALTA./B.C.

SYSTEM CONTENT - 6-8 CHANNELS

CHNL NO.	DESCRIPTION			
1	CBC-(E)	←E→	←W→	
2	RADIO-CANADA-(F)	←E→	←W→	
3	PAY-TV - (E)	←E→	←W→	
4	PAY-TV - (F)	←E→	←W→	
5	EDUCAT.-TV - (E)	←E→	W_1	W_2
6	(F)	←E→	(NOT AVAILABLE)	
7	PRIVATE COMMERCIAL (E)	←E→	W_1	W_2
8	(F)	←E→	(NOT AVAILABLE)	

NOTE: THERE MAY BE VARIATIONS TO THE ABOVE LAYOUT DEPENDING ON PROGRAM PACKAGES AVAILABILITY.

DIMENSION II - SERVICE CONTENT

II-B PURE DBS SYSTEM AFTER 1987-88

OPTION II-B.1 → 4 BEAMS, 8 TV CHNLS/BEAM, 32 CHNLS DBS CAP.

OPTION II-B.2 → 6 BEAMS, 8 TV CHNLS/BEAM, 48 CHNLS DBS CAP.

CHNL 1	CBC - (E)
" 2	RADIO-CANADA (F)
" 3	EDUCATIONAL-TV (E OR F)
" 4	NATIONAL PAY-TV (E)
" 5	NATIONAL PAY-TV (F)
" 6	PRIVATE COMMERCIAL-TV (E OR F)
" 7	PRIVATE COMMERCIAL-TV (E OR F)
" 8	PRIVATE COMMERCIAL-TV (E OR F)

NOTE: SIMILAR CHANNEL CONTENT LAYOUT ON ALL BEAMS.

DIMENSION II - SERVICE CONTENT

II-B PURE DBS SYSTEM AFTER 1987-88

OPTION II-B.3 → 4 BEAMS, 6 TV CHNLS/BEAM, 64 CHNLS DBS CAP.

OPTION II-B.4 → 6 BEAMS, 6 TV CHNLS/BEAM, 96 CHNLS DBS CAP.

CHNLS 1 TO 8	SAME AS OPTIONS II-B.1 AND II-B.2 ABOVE	
CHNL 9	PUBLIC INTEREST H. OF C.	BILINGUAL - ENGLISH AND FRENCH AUDIO ON DBS RADIO CHANNELS.
" 10	MULTILINGUAL-TV	
" 11	CBC-II (E)	
" 12	TELE-2 (RADIO-CANADA) (F)	
" 13	REGIONAL PAY-TV (E OR F)	
" 14	SPECIALIZED PROGRAMMING SERVICES	
" 15	SPECIALIZED PROGRAMMING SERVICES	
" 16	NARROW CASTING (SPECIALIZED PROG.)	

NOTE: SIMILAR CHANNEL CONTENT LAYOUT ON ALL BEAMS.

DIMENSION II - SERVICE CONTENT

NOTES ON CHANNEL CONTENT

CBC-(E) RADIO-CANADA-(F)	- REGULAR PROGRAMMING CONTENT OF EXISTING CBC/ RADIO-CANADA CHANNELS . NATIONAL OR WIDE REGIONAL SCOPE . PUBLICITY RESTRICTED TO NATIONAL/WIDE REGIONAL . FRENCH AND ENGLISH CHANNELS ACROSS CANADA
CBC-II (E) TELE-2 (F)	- PROGRAMMING AS PLANNED BY CBC/RADIO-CANADA'S PROPOSALS FOR THESE TWO ADDITIONAL CHANNELS . PART OF PURE DBS SERVICE CONTENT INSTEAD OF ACTUAL PLAN LIMITED TO CABLE . FRENCH AND ENGLISH CHANNELS ACROSS CANADA

DIMENSION II - SERVICE CONTENT

NOTES ON CHANNEL CONTENT

MULTILINGUAL-TV - NATIONAL/WIDE-REGIONAL COVERAGE

- PROGRAMMING ORIGINATED BY VARIOUS ETHNIC/ LINGUISTIC COMMUNITIES FOR THEIR OWN SPECIFIC NEEDS BUT REQUIRING WIDE COVERAGE, NATIONAL OR REGIONAL
- GENERALLY PRODUCED IN LANGUAGES OTHER THAN FRENCH AND ENGLISH
- COMMERCIAL OPERATION FUNDING

DIMENSION II - SERVICE CONTENT

NOTES ON CHANNEL CONTENT

PUBLIC INTEREST/ HOUSE OF COMMONS	- CHANNEL DEDICATED IN PRIORITY TO THE DIFFUSION OF CANADIAN PARLIAMENTARY DEBATES - (LIVE COVERAGE AND REPEATS) . FLOOR VERSION - BILINGUAL (FRENCH AND ENGLISH AUDIO VERSIONS ON DBS RADIO) - IN PERIODS OF NO DELIBERATIONS, CHANNEL WOULD BE USED FOR SPECIAL PROGRAMMING PURPOSES SUCH AS: - RELIGIOUS PROGRAMS ON SUNDAYS - SPECIAL EVENTS OF GENERAL PUBLIC INTEREST (LIVE COVERAGES) - SPECIALLY SPONSORED PROGRAMMING OF HIGH NATIONAL INTEREST

DIMENSION II - SERVICE CONTENT

NOTES ON CHANNEL CONTENT

PAY-TV (E) - NATIONAL AND/OR WIDE REGIONAL PROGRAMMING CONTENT

PAY-TV (F)

- CRTC LICENSING PROCESS UNDERWAY
- SAME PAY-TV SERVICE PLANNED FOR CABLE DELIVERY CAN BE PART OF DBS SERVICE CONTENT
- WOULD OFFER A REAL ALTERNATIVE TO POTENTIAL USERS:
  - PAY-TV WITH OR WITHOUT PRIOR SUBSCRIPTION TO CABLE SERVICE
- WOULD MAKE PAY-TV AVAILABLE IN AREAS NOT SERVED OTHERWISE
- FRENCH AND ENGLISH CHANNELS ACROSS CANADA

DIMENSION II - SERVICE CONTENT

NOTES ON CHANNEL CONTENT

EDUCATIONAL-TV (E) (F)	- REGULAR PROGRAMMING PRESENTED BY PROVINCIALLY FUNDED EDUCATIONAL TV ORGANIZATIONS SUCH AS TVO (ONTARIO) AND RADIO-QUÉBEC . ONE CHANNEL PER BEAM IN EITHER OR BOTH LANGUAGES IN PURE DBS SYSTEM . INTERPROVINCIAL AGREEMENTS NECESSARY FOR BEAMS COVERING MORE THAN ONE PROVINCE
PRIVATE COMMERCIAL TELEVISION STATIONS (E) (F)	. COMMERCIAL, NATIONAL OR REGIONAL IN SCOPE . REVENUES FROM NATIONAL/WIDE-REGIONAL ADVERTISING . POSSIBLY THE DBS VERSION OF CTV, GLOBAL, AND TVA NETWORKS . FRENCH AND/OR ENGLISH CHANNELS ACROSS CANADA IN PURE DBS SYSTEM

DIMENSION III - SYSTEM MANAGEMENT

PROGRAMMING FUNCTIONS - CONTENT MANAGEMENT

ASSUMPTIONS ON RESPONSIBILITIES MADE FOR IMPACT ASSESSMENT PURPOSES

	PUBLIC SECTOR	PRIVATE SECTOR
DBS	UNDER CBC/RADIO-CANADA CBC - REGULAR PROGRAMS - NATIONAL AND WIDE REGIONAL - ENGLISH & FRENCH - MINIMUM ADVERTISING CBC-II/TELE-2 - NATIONAL & WIDE REGIONAL - ENGLISH & FRENCH - MIN. ADVERTISING PUBLIC INTEREST CHNL/ HOUSE OF COMMONS UNDER PROVINCIAL AUTHORITY EDUCATIONAL-TV	PRIVATE - COMMERCIAL - NATIONAL & WIDE REGIONAL . ENGLISH AND/OR FRENCH CHANNELS - REGIONAL . ENGLISH OR FRENCH PAY-TV - NATIONAL - COMMERCIAL - ENGLISH AND FRENCH CHNLS. MULTILINGUAL-TV - COMMERCIAL SPECIALIZED PROGRAMMING

DIMENSION III - SYSTEM MANAGEMENT

PROGRAMMING FUNCTIONS - CONTENT MANAGEMENT

ASSUMPTIONS ON RESPONSIBILITIES MADE FOR IMPACT ASSESSMENT PURPOSES

	TV - PUBLIC SECTOR	TV - PRIVATE SECTOR
OFF-AIR	- CBC GRADUALLY WITHDRAWS FROM LOCAL TV OFF-AIR BROADCASTING MARKET - EDUCATIONAL PUBLIC-TV GRADUALLY WITHDRAWS FROM OFF-AIR BROADCASTING	- LOCAL TV STATIONS & REGIONAL TV NETWORKS TAKE OVER FROM CBC AND OCCUPY FULL LOCAL TV MARKET - LOCAL INDEPENDANT COMMUNITY TV . PARTIALLY SUBSIDIZED BY PROV. OR LOCAL GOVMTS AND ORGANIZATIONS . PARTIALLY COMMERCIAL
CABLE		- VOLUNTARY CARRIAGE OF DBS CHANNELS CONTENT - MANDATORY CARRIAGE OF LOCAL TV PROGRAMMING - CARRIAGE OF OTHER SERVICES

DIMENSION III - SYSTEM MANAGEMENT

TELECOMMUNICATIONS FUNCTIONS - INTERIM AND PURE DBS

CONSTITUENT: TELESAT CANADA

RESPONSIBILITIES:

- SATELLITE SYSTEM PLANNING, SHORT & LONG TERM.
  ANIK-C AND PURE DBS
- SATELLITE(S) OWNERSHIP
- SATELLITE(S) SYSTEM OPERATIONS AND MAINTENANCE
- SATELLITE CHANNEL CAPACITY MANAGEMENT
  - LEASING OF CHANNELS
  - MARKETING, CHANNEL CAPACITY
- SATELLITE UPLINKS PLANNING, PROVISIONNING AND MANAGEMENT
  ON A COMPETITIVE BASIS.

OWNERSHIP

OPTION III-T-2.1 STATUS QUO

OPTION III-T-2.2 DBS CONSORTIUM OF TELESAT, PUBLIC AND PRIVATE BROADCASTERS, AND POSSIBLY CARRIERS.

RELATIONSHIPS:

. WITH CHANNEL PROGRAMMING MANAGERS (CBC AND OTHERS)

- TELESAT OR DBS CONSORTIUM TO MAINTAIN A "PROVIDER" TO "CLIENT" RELATIONSHIP.

DIMENSION III - SYSTEM MANAGEMENT

PROGRAMMING FUNCTIONS - INTERIM AND PURE DBS

CONSTITUENT: CBC/RADIO CANADA

RESPONSIBILITIES:

- THE DBS SYSTEM - A TECHNOLOGICAL TOOL WITH NATIONAL SCOPE AND COVERAGE

  BECOMES THE PRIVILEGED VEHICLE USED BY THE CBC TO FULFIL
  - A PROGRAMMING MISSION WITH NATIONAL AND WIDE REGIONAL GOALS AND COVERAGE REQUIREMENTS.
- CBC TO PLAN AND MANAGE SMOOTH TRANSITIONS FROM A TERRESTRIAL TO A DBS DOMINATED PROGRAM DISTRIBUTION SYSTEM.
- CBC TO PERFORM THE PROGRAMS' PORTFOLIO MANAGEMENT FUNCTIONS FOR THE FOLLOWING DBS CHANNELS:
  - CBC - REGULAR - ENGLISH - INTERIM AND PURE DBS
  - RADIO-CANADA-REGULAR - FRENCH - INTERIM AND PURE DBS
  - CBC-II AND TELE-2 - PURE DBS
  - PUBLIC INT. CHNL./H. OF C. - PURE DBS

DIMENSION III - SYSTEM MANAGEMENT

PROGRAMMING FUNCTIONS - INTERIM AND PURE DBS

CONSTITUENT: CBC/RADIO-CANADA

FINANCING

- MOSTLY PUBLIC FUNDING THROUGH FEDERAL PARLIAMENTARY APPROPRIATIONS

- PARTIAL FUNDING FROM LIMITED NATIONAL ADVERTISING

DIMENSION III - SYSTEM MANAGEMENT

PROGRAMMING FUNCTIONS - INTERIM AND PURE DBS

CONSTITUENTS - PRIVATE BROADCASTING INDUSTRY

. CANADIAN PRIVATE COMMERCIAL STATIONS

- PERFORM THE PROGRAMS' PORTFOLIO MANAGEMENT FUNCTIONS FOR THE NEW DBS CANADIAN PRIVATE COMMERCIAL STATIONS - FRENCH AND ENGLISH

- PROGRAMMING CONTENT COULD BE PARTIALLY AVAILABLE "OVER THE AIR" THROUGH ARRANGEMENTS WITH PRIVATE LOCAL TV BROADCASTERS AND REGIONAL NETWORKS.

- FUNDING WOULD BE ORIGINATING FROM NATIONAL AND WIDE REGIONAL ADVERTISING AND FROM SALES OF PROGRAM CONTENT TO PRIVATE LOCAL TV BROADCASTERS AND REGIONAL NETWORKS.

. PRIVATE LOCAL BROADCASTERS AND TV NETWORKS

- PERFORM THE PROGRAMS' PORTFOLIO MANAGEMENT FUNCTIONS FOR THE LOCAL TV "OFF-AIR" MARKET
  - . COMMERCIAL OPERATIONS
  - . LOCAL ORGANISATIONS SPONSORSHIP FOR LOCAL COMMUNITY INTEREST PROGRAMMING CONTENT

- TV NETWORKS CONTINUE TO PROVIDE COMMON PROGRAMMING AND ADVERTISING MARKETING EFFORTS AS DESIRED AND REQUIRED BY GROUPS OF AFFILIATES OR SMALLER PRIVATE BROADCASTERS
  - . EXISTING NETWORKS TO PLAN AND MANAGE SMOOTH TRANSITIONS WHERE AND WHEN NECESSARY TO NEW DBS ENVIRONMENT.

APPENDIX II

LIST OF INTERVIEWS

IMPACT ASSESSMENT OF DBS PACKAGE

PLANNED INTERVIEWS

Institution	Contact	Position
CBC/RC	J. Shewbridge	A. V-P. Planning
CTV	J. Coleman	V-P. Planning & Dev.
TVA	C. Blain	Adjoint au président
GLOBAL	Seymour Epstein	Chairman
CCTA	George Cormack	V-P. Engrg.
Cable TV Research Institute	Joe Halina	General Manager
TVO	Peter Bowers	General Manager, Operations
Radio Québec	C. Robert	V-P. Technique
B.C. TV	T. Negoro *	V-P. Engrg.
CFCF-12 (Montréal)	Don Martz	Executive V-P.
CANCOM	Bob Short	General Manager
TVFQ (La SETTE)	R. Myre	Dir. général
CAB	W. Stacey	Vice President
Prov. Saskatchewan	R. Simpson	Comm. Dept.
Prov. Manitoba	S. Smith	Comm. Dept.
Prov. Québec	D. Doucet	Dépt. des Communications
TELESAT	A. Wallace	V-P. Marketing
	M. Lester	V-P. Business Dev.
TCTS	R. Montgomery	Director Satellite Services Development
CNCP	J. Schmitt	V-P. Reg. & Cost Affairs
(Personal basis)	M. Eric	(General Perspective)
CRTC	L. Durr	D.G. Planning and Development, Broadcasting
GLENN WARREN	G. Ashworth	Exec. V-P.

APPENDIX III

INTERVIEW GUIDE

IMPACT ASSESSMENT OF DBS PACKAGE

INTERVIEW GUIDE

ALL INTERVIEWS TO BE DIVIDED INTO FOUR SECTIONS

I - GENERAL PRESENTATION AND DISCUSSION OF DBS SCENARIO

II - DISCUSSION OF INTERVIEWEES ROLE IN DBS SCENARIO

III - DISCUSSION OF EXISTING AND FUTURE INSTITUTIONAL AND STATISTICAL PROFILE OF INDUSTRY (IN GENERAL) AND THE INTERVIEWEES SEGMENT IN PARTICULAR

IV - MODIFICATIONS AND ADDITIONS TO SCENARIO FOR CONSIDERATION IN STUDY

INTERVIEW GUIDE

SECTION I - GENERAL DISCUSSION OF DBS SCENARIO

I.A - SCENARIO DOCUMENT TO BE EXAMINED IN DETAIL IN ITS TOTALITY

I.B - DOCUMENT NOT TO BE LEFT WITH INTERVIEWEE

I.C - COMMENTS TO BE DRAWN AS TO BASIC PRINCIPLES AND TO LOGIC OF SCENARIOS, THE TIMING, THE CAPACITY, THE ACCESS TO AND THE MANAGEMENT OF THE SYSTEM

I.D - IMPLICATION FOR CANADIAN PRODUCTION

I.E - ROLE OF FOREIGN PRODUCTIONS

I.F - ROLE OF NON-TELEVISION SERVICES

INTERVIEW GUIDE

SECTION II - INTERVIEWEES ROLE IN DBS SCENARIO

II.A - TV NETWORKS (PRIVATE & PUBLIC)

II.A 1 - SYSTEM CONFIGURATION

- BEAM COVERAGE QUESTIONS
- CAPACITY QUESTIONS
- TECHNICAL FACTORS IMPACT ON MARKET

II.A 2 - SERVICE CONTENT

- CAPACITY ALLOCATION
- LOCAL VS WIDE-REGIONAL/NATIONAL VOCATION
- COPYRIGHTS PROBLEMS
- MANAGEMENT OF PORTFOLIO CAPACITY
- MULTILINGUAL TV
- PUBLIC INTEREST/ H. OF C.
- CBC-II/TELE-2
- CBC/R.C. REGULAR

II.A 3 - SYSTEM MANAGEMENT

- NO ROLE (TELESAT MONOPOLY)
- CONDOMINIUM (SATELLITE OWNERSHIP)
- COOPERATION WITH TELESAT
- UPLINK: COMPETITIVE SOURCE PROVISION
- REVENUE IMPLICATIONS

SECTION II - INTERVIEWEES ROLE IN DBS SCENARIO

II.B - TV LOCAL STATIONS (PRIVATE)

II.B 1 - SYSTEM CONFIGURATION

- REGIONAL TV ACCESS IMPLICATION
- BICYCLING POSSIBILITIES
- NEW NETWORK DEFINITION

II.B 2 - SERVICE CONTENT

- COMPETITION IN LOCAL MARKET
- IMPACT ON CANADIAN CONTENT PRODUCTION

II.B 3 - SYSTEM MANAGEMENT

- EXCLUSION FROM DBS MANAGEMENT
- REVENUE IMPLICATIONS

II.B 4 - NON-SYSTEM IMPACTS

- INTERFACE WITH CABLE-TV, COMMUNITY-TV

SECTION II - INTERVIEWEES ROLE IN DBS SCENARIO

II.C - CABLE-TV

II.C 1 - SYSTEM CONFIGURATION

- COMPETITION OF TVRO, MATV SYSTEMS
- INVESTMENT REQUIREMENTS
- CAPACITY PROBLEMS
- CATV NETWORK ARCHITECTURE
- PROGRAM BICYCLING

II.C 2 - SERVICE CONTENT

- OBLIGATORY COVERAGE
- COMMUNITY CHANNEL
- LOCAL COMPETITION
- OTHER NON-TV SERVICES
- PAY-TV POSSIBILITIES

II.C 3 - SYSTEM MANAGEMENT

- COSTING SYSTEM AND PRICING
- MULTI-TIER PRICING
- REVENUE IMPLICATIONS

II.C 4 - NON-SYSTEM IMPACTS

- INTERFACE WITH LOCAL-TV, COMMUNITY-TV
- NON-TELEVISION SERVICES

SECTION II - INTERVIEWEES ROLE IN DBS SCENARIO

II.D - TELECOM CARRIERS

II.D 1 - SYSTEM CONFIGURATION

- CAPACITY ACCESS
- TIMING AND FEASIBILITY - SERVICE INTRODUCTION
- SYSTEM DEVELOPMENT, R & D

II.D 2 - SERVICE CONTENT

II.D 3 - SYSTEM MANAGEMENT

- MONOPOLY, CONDOMINIUM, COOPERATION OR OTHER METHOD OF SATELLITE SYSTEM MANAGEMENT
- UPLINK MANAGEMENT
- PRICING POLICIES
- COSTING QUESTIONS

II.D 4 - NON-SYSTEM IMPACTS

- NON-TV USAGE
- ROLE OF MICRO-WAVE TERRESTRIAL SYSTEM

INTERVIEW GUIDE

SECTION II - INTERVIEWEES ROLE IN DBS SCENARIO

II.E - PRODUCERS / PAY-TV

II.E 1 - SYSTEM CONFIGURATION

- TIMING, ACCESS, CAPACITY, BEAM COVERAGE

II.E 2 - SERVICE CONTENT

- INDUSTRY CAPACITY
- FOREIGN COMPETITION
- RELATION WITH PUBLIC AND PRIVATE NETWORK, CABLE AND LOCAL-TV

II.E 3 - SYSTEM MANAGEMENT

- CHANNEL CONTROL
- UPLINK CONTROL
- SYSTEM COSTING AND PRICING

II.E 4 - NON-SYSTEM IMPACTS

- EXPORTS
- COMPETITION

SECTION II - INTERVIEWEES ROLE IN DBS SCENARIO

II.F - REGULATORS

II.F 1 - SYSTEM CONFIGURATION

- INTERGOVERNMENTAL QUESTIONS
- BEAM COVERAGE
- CAPACITY

II.F 2 - SERVICE CONTENT

- INTERGOVERNMENTAL QUESTIONS
- SPECIALIZED PROGRAMMING
- CANADIAN CONTENT AND PRODUCTION
- PUBLICITY CONTENT

II.F 3 - SYSTEM MANAGEMENT

- INTERGOVERNMENTAL QUESTIONS
- RETURN ON CAPITAL REGULATION

II.F 4 - NON-SYSTEM IMPACTS

- NON-PROGRAMMING-SERVICES

INTERVIEW GUIDE

SECTION III - INTERVIEWEE PROFILE STATEMENT

III.A - EXISTING PROFILE

III.A 1 - REVENUES - 1975 - 80 ACTUAL

- 1980 - 85 FORECAST

	PROGRAMS' PRODUCTION AND MARKETING	PROGRAMS' PORTFOLIO MANAGEMENT	TELECOM.
III.A 2 ASSETS			
III.A 3 EXPENSES			
III.A 4 MANPOWER			

SECTION III - INTERVIEWEE PROFILE STATEMENT

III.B - DBS IMPACTED PROFILE

III.B 1 - REVENUES 1985 - 90 FORECAST

1990 - 95 "

	PROGRAMS' PRODUCTION AND MARKETING	PROGRAMS' PORTFOLIO MANAGEMENT	TELECOM.
III.B 2 ASSETS			
III.B 3 EXPENSES			
III.B 4 MANPOWER			

III.B 5 - ADDITIONAL QUESTIONS

- SOURCES OF STATISTICAL INFORMATION
- COMPARISON OF INTERVIEWEES WITH COMPETITORS
- PLANNING ALREADY UNDERTAKEN IN COMPANY FOR DBS/PAY-TV

INTERVIEW GUIDE

SECTION IV - MODIFICATIONS AND ADDITIONS TO SCENARIO

OPINIONS OF INTERVIEWEE AND HIS RECOMMENDATIONS FOR SCENARIO MODIFICATIONS COLLECTED FOR CONSIDERATION IN STUDY IF POSSIBLE AND FEASIBLE.

APPENDIX IV

DATA BASE FOR PRIVATE TV BROADCASTERS

DEVELOPED BY RAYMOND, CHABOT, MARTIN, PARE & CIE

IN A STUDY FOR THE SECRETARY OF STATE AS PART OF

THE WORK OF THE APPLEBAUM/HEBERT COMMISSION

NOT SHOWN HERE FOR REASON

OF CONFIDENTIALITY OF DATA

APPENDIX 5

DETAILED PROFILE OF

PRIVATE TV BROADCASTING INDUSTRY

IN CANADA

TABLE V.1

DETAIL OF PROPERTY PLANT AND EQUIPMENT OF

THE PRIVATELY OWNED TELEVISION BAROADCASTING INDUSTRY

BY REVENUE GROUP - 1980

Category	$9.0 Million Plus	$3.1 Million to $9.0 Million	$1.7 Million to $3.1 Million	Less than $1.7 Million
Historical Cost				
Land	5.6	0.8	0.4	0.2
Land Improvements and Buildings	55.5	6.6	5.4	1.4
Tower Antennas	7.9	6.4	5.5	1.6
Transmitter Equipment	17.2	9.9	9.6	4.4
Studio and Technical Equipment	87.1	22.1	17.7	8.0
Mobile Equipment	7.0	0.5	0.4	0.1
Automobiles and Trucks	0.1	0.7	0.4	0.4
Furniture and Fixtures	8.0	1.9	1.3	0.6
Other	19.0	0.4	0.3	0.1
Leasehold Improvements	4.3	1.5	0.7	0.1
	212.7	50.8	41.6	16.9
Accumulated Depreciation	99.1	28.5	23.8	7.1
Net Value	113.6	22.3	17.8	9.9

Source: Statistics Canada 56204.

TABLE V.2

VALUE PROPERTY, PLANT AND EQUIPMENT OF

THE PRIVATE TELEVISION BROADCASTING INDUSTRY

1975 - 1980

($ Million) (1)

Category	Year 1975	1976	1977	1978	1979	1980
Land	3.4	3.4	4.0	4.3	5.3	7.0
Land Improvements and Buildings	26.3	44.3	41.8	53.6	63.8	68.9
Tower and Antenna Systems	14.7	16.6	27.0	18.4	18.9	21.4
Transmitter Equipment	26.3	28.8	32.6	35.5	37.7	41.1
Studio and Technical Equipment	80.1	87.0	95.3	104.6	118.5	135.0
Mobile Equipment	3.3	3.7	5.5	6.7	7.4	7.9
Automobiles and Trucks	1.3	1.3	1.4	1.7	2.2	2.5
Furniture and Fixtures	6.2	6.7	7.9	9.6	11.0	11.8
Other property, Plant and Equipment	26.9	15.1	13.1	15.0	17.7	19.7
Leasehold Improvements	4.0	4.5	5.9	6.8	5.4	6.6
Total Gross Value	192.6	211.4	234.6	256.3	288.0	322.0
Accumulated Depreciation	100.9	110.6	118.6	134.0	148.8	158.4
Total Net Value	91.7	100.8	116.0	122.3	139.2	163.6

(1) Figures may not add up due to rounding.
Source: Statistics Canada, Catalogue 56204 "Radio and Television Broadcasting".

TABLE V.3

REVENUE AND EXPENSES OF THE PRIVATELY OWNED

TELEVISION BROADCASTING INDUSTRY

($ Million) (1)

	1975	1976	1977	1978	1979	1980
Reporting Units	65	65	65	65	73	75
Operating Revenue:						
Revenue from Air Time Sales:						
Local	63.3	76.1	88.9	103.4	121.4	140.9
National	114.6	142.7	172.8	207.8	253.9	290.2
Network	36.9	45.4	48.6	57.2	64.8	78.9
Total Revenue from Air Time Sales	214.8	264.2	310.3	368.4	440.1	510.0
Production and Other Revenue:						
Syndication Revenue	1.9	0.5	1.1	5.5	3.0	8.0
Production Revenue	12.8	15.2	17.0	26.2	25.6	36.3
Other Revenue	4.1	2.3	2.5	3.4	3.8	7.8
Total Production and Other Revenue	18.8	18.0	20.7	35.1	32.4	52.0
Total Operating Revenue	233.6	282.2	331.0	403.5	472.5	562.0
Departmental Expenses:						
Programme	96.3	110.5	138.0	176.5	209.1	255.2
Technical	21.5	23.4	27.4	28.6	32.6	37.5
Sales and Promotion	22.6	26.1	31.4	38.1	45.8	53.4
Administration and General	43.1	49.0	57.6	66.1	76.5	87.4
Subtotal Departmental Expenses	183.4	209.0	254.5	309.3	364.0	433.5
Depreciation	11.2	12.0	14.1	15.5	17.1	19.7
Interest Expense	4.6	6.6	8.3	8.2	10.7	17.0
Other Adjustments - Income (Expense)	5.2	5.3	7.1	10.2	15.0	11.1
Total expenses	194.0	222.8	269.8	322.8	376.8	459.0
Net Profit before Income Taxes	39.6	60.0	61.2	80.7	95.8	103.0
Provision for Income Taxes	21.0	27.1	29.4	37.2	42.8	47.2
Net Profit after Income Taxes	18.6	32.8	31.8	43.5	53.0	55.8

Source: Statistics Canada, Catalogue 56204 "Radio and Television Broadcasting".
(1) Figures might not add up due to rounding.

TABLE V.4

TOTAL PRIVATE TELEVISION COMPANIES OPERATING REVENUES

BY PROVINCE 1975 - 1980

($ Million) (1)

Province \ Year	1975	1976	1977	1978	1979	1980
Atlantic Provinces	13.6	16.8	14.4	23.0	26.2	30.2
Québec	59.7	73.7	59.6	98.7	119.7	144.5
Ontario	96.6	111.3	100.3	161.5	183.2	217.1
Manitoba/Saskatchewan	17.8	24.6	21.7	33.5	38.2	44.4
Alberta	27.5	33.1	30.7	46.6	57.5	71.4
British Columbia/Yukon	18.4	22.7	27.7	40.0	47.6	54.4
	233.6	282.2	254.5	403.5	472.5	562.0

(1) Totals may not add up due to rounding.
Source: Statistics Canada, Catalogue 56204 "Radio and Television Broadcasting".

TABLE V.5

TOTAL DEPARTMENTAL EXPENSES BY PRIVATE TELEVISION BROADCASTING INDUSTRY

BY PROVINCE 1975 - 1980

($ million) (1)

Province/Category	Year 1975	1976	1977	1978	1979	1980
Atlantic Provinces:						
Programme Expenses	4.6	6.2	6.8	9.2	10.8	11.9
Technical Expenses	1.7	1.8	2.3	2.6	2.7	2.9
Sales and Promotion	1.5	1.8	2.1	2.4	2.8	3.3
Administration and General	2.6	3.1	3.2	3.8	4.2	4.5
Subtotal:	10.4	12.9	14.4	18.1	20.6	22.7
Québec:						
Programme Expenses	20.0	23.3	27.9	29.8	38.8	47.1
Technical Expenses	6.9	7.6	8.8	9.6	10.9	12.4
Sales and Promotion	4.8	5.6	6.7	9.8	13.1	14.5
Administration and General	11.6	13.2	16.2	19.7	23.8	25.4
Subtotal:	43.3	49.6	59.6	68.8	86.5	99.3
Ontario:						
Programme Expenses	46.3	49.3	60.5	84.0	93.3	117.2
Technical Expenses	6.9	7.1	7.5	8.0	9.3	11.0
Sales and Promotion	9.8	10.8	12.1	14.0	16.0	19.2
Administration and General	16.2	17.5	20.0	22.8	25.3	31.4
Subtotal:	79.3	84.7	100.3	128.9	144.0	178.7
Manitoba/Saskatchewan:						
Programme Expenses	7.2	9.6	11.5	14.0	16.0	19.0
Technical Expenses	1.6	2.2	2.4	2.5	3.0	3.3
Sales and Promotion	1.9	2.6	3.1	3.3	3.7	4.1
Administration and General	2.8	4.3	4.6	5.2	6.1	7.3
Subtotal:	13.5	18.8	21.7	25.0	28.8	33.7
Alberta:						
Programme Expenses	12.0	13.8	16.5	19.5	25.2	30.5
Technical Expenses	2.8	2.6	2.8	3.0	3.5	4.1
Sales and Promotion	2.8	3.2	4.1	4.9	5.8	7.1
Administration and General	5.5	6.5	7.3	8.1	10.2	10.9
Subtotal:	23.1	26.0	30.7	35.6	44.8	52.6

TABLE V.5 (Cont'd.)

TOTAL DEPARTMENTAL EXPENSES BY TELEVISION BROADCASTING INDUSTRY

BY PROVINCE 1975 - 1980

($ Million) (1)

Province/Category \ Year	1975	1976	1977	1978	1979	1980
British Columbia/Yukon:						
Programme Expenses	6.3	8.3	14.7	19.9	24.9	29.4
Technical Expenses	1.6	2.2	3.6	3.0	3.3	3.9
Sales and Promotion	1.6	2.0	3.3	3.5	4.3	5.1
Administration and General	4.1	4.4	6.1	6.5	6.8	7.9
Subtotal:	13.7	16.9	27.7	32.9	39.4	46.3
Total:	183.4	209.0	254.5	309.3	364.0	433.5

(1) Figures may not add up due to rounding.
Source: Statistics Canada, Catalogue 56204 "Radio and Television Broadcasting".

TABLE V.6

PERCENTAGE OF TOTAL OPERATING REVENUES AND EXPENDITURES

IN THE LARGEST PRIVATE TELEVISION BROADCASTING COMPANIES

1975 - 1980

	1975 (1)	1976 (1)	1977 (2)	1978 (3)	1979 (4)	1980 (5)
Operating Revenue						
Local Time Sales	53	55	54	56	59	59
National Time Sales	76	78	77	78	81	81
Network Time Sales	44	44	44	42	43	42
Syndication Revenue	96	54	76	97	98	96
Production Revenue	87	87	88	90	89	89
Other Revenue	60	46	58	45	45	70
Total	65	67	67	68	70	71
Departmental Expenditures						
Programme	67	67	67	70	72	73
Technical	62	61	62	61	62	63
Sales and Promotion	59	60	58	61	64	93
Administration and General	61	61	62	63	65	64
Total	64	64	64	66	69	69

Source: Statistics Canada, Catalogue 56204 "Radio and Television Broadcasting".
(1) Companies with operating revenues over $4.5 millions.
(2) Companies with operating revenues over $5.9 millions.
(3) Companies with operating revenues over $7.0 millions.
(4) Companies with operating revenues over $7.6 millions.
(5) Companies with operating revenues over $9.0 millions.

TABLE V.7

SALARIES, BENEFITS PAID AND AVERAGE NUMBER

OF EMPLOYEES IN PRIVATE TELEVISION BROADCASTING

IN CANADA

1975 - 1980 (1)

Year	Province / Category	Atlantic Provinces	Québec	Ontario	Manitoba and Saskatchewan	Alberta	British Columbia and Yukon	Total
1975	Salaries and Benefits ($ million)	4.4	19.2	28.5	5.9	8.5	5.2	71.7
	Employees	368	1,525	2,069	412	616	406	5,396
1976	Salaries and Benefits ($ million)	5.2	22.5	29.1	7.8	9.9	7.0	81.5
	Employees	379	1,451	1,895	518	656	439	5,338
1977	Salaries and Benefits ($ million)	6.0	26.1	33.6	9.0	11.1	11.0	96.8
	Employees	379	1,485	1,961	563	672	622	5,682
1978	Salaries and Benefits ($ million)	6.9	29.4	38.7	10.0	12.7	12.1	109.7
	Employees	415	1,543	2,103	587	716	580	5,944
1979	Salaries and Benefits ($ million)	7.8	35.2	45.0	11.3	15.4	14.0	128.7
	Employees	452	1,699	2,168	602	770	674	6,365
1980	Salaries and Benefits ($ million)	8.7	39.9	52.1	13.2	17.8	17.0	148.7
	Employees	451	1,739	2,376	608	825	686	6,685

Source: Statistics Canada, Catalogue 56204 "Radio and Television Broadcasting".
(1) Figures might not add up due to rounding.

APPENDIX VI

CABLE TV STATISTICS

TABLE VI.1

LICENSED CABLE TELEVISION UNDERTAKINGS

BY PROVINCE AND REGION - 1970-1981*

1975 - 1980

Region / Province	1977	1978	1979	1980	1981
Newfoundland	8	8	9	11	10
PEI	2	2	2	2	2
Nova Scotia	21	19	21	20	21
New Brunswick	16	20	20	20	21
ATLANTIC	47	49	52	53	54
QUEBEC	167	175	175	176	176
ONTARIO	141	147	147	150	145
Manitoba	6	38	35	35	35
Saskatchewan	11	11	11	11	11
Alberta	24	26	54	54	55
PRAIRIES	41	75	100	100	101
British Columbia	77	78	74	81	84
Yukon & NWT	2	2	2	2	2
PACIFIC	79	80	76	83	86
CANADA	475	526	550	562	562

* As of 31 March of each year.
Source: Secretariat, CRTC.

TABLE VI.2

CANADIAN CABLE TELEVISION - SERVICE PROVISION

MARCH 1980

Province / Service	Atlantic	Québec	Ontario	Prairies	Pacific	Canada
Number of systems authorized	53	176	150	100	83	562
Number of systems in service	49	176	144	100	77	546
Number offering complete basic ervice (1)	0	36	68	24	17	145
Number offering incomplete basic service	49	140	76	76	60	401
Number offering Converter service	1	26	68	0	9	104
Number offering:						
No. American Channels	6	68	7	14	7	102
1 American Channel	2	45	12	6	4	69
2 American Channels	40	19	35	48	13	155
3 American Chennels	1	44	90	32	53	220
PBS	18	25	78	61	44	226

(1) Channels 2 - 13 are occupied.
Source: CRTC Secretariat.

TABLE VI.3

REMUNERATION BY FUNCTION PAID

BY CABLE TELEVISION COMPANIES WITH MORE THAN 1,000 SUBSCRIBERS

1975 - 1980 BY PROVINCE

($ Million)

Province/Category	Year 1976	1977	1978	1979	1980
Atlantic Provinces:					
Programme organization	0.3	0.4	0.5	0.7	0.7
Technical services	0.7	1.1	1.6	1.9	2.1
Sales and promotion	0.1	0.1	0.2	0.3	0.2
Administration general	0.8	1.0	1.5	1.8	2.3
Provincial total	1.9	2.6	3.8	4.7	5.3
Québec:					
Programme organization	1.4	1.8	1.9	2.2	1.8
Technical services	7.3	8.9	10.5	11.4	10.6
Sales and promotion	1.4	1.5	1.5	1.5	1.2
Administration general	3.7	4.4	4.7	5.6	5.6
Provincial total	13.8	16.6	18.6	20.7	19.2
Ontario:					
Programme organization	2.1	2.5	2.8	3.4	3.9
Technical services	11.8	13.2	15.0	17.1	19.5
Sales and promotion	3.1	2.6	2.6	2.8	2.8
Administration general	6.9	8.0	9.0	10.2	10.5
Provincial total	23.9	26.3	29.4	33.5	36.7
Manitoba/Saskatchewan:					
Programme organization	0.2	0.2	0.4	0.7	0.8
Technical services	0.5	0.6	0.9	1.4	1.5
Sales and promotion	0.1	0.2	0.4	0.4	0.3
Administration general	0.5	0.5	0.9	1.5	1.5
Provincial total	1.3	1.5	2.6	4.0	4.1

TABLE VI.3 (Cont'd.)

REMUNERATION BY FUNCTION PAID

BY CABLE TELEVISION COMPANIES WITH MORE THAN 1,000 SUBSCRIBERS

1975 - 1980 BY PROVINCE

($ Million)

Province/Category	Year 1976	1977	1978	1979	1980
Alberta:					
Programme organization	0.4	0.5	0.7	0.9	1.0
Technical services	1.8	2.4	3.0	3.8	4.3
Sales and promotion	0.5	0.4	0.4	0.7	0.5
Administration general	1.2	1.3	1.5	1.7	3.1
Provincial total	3.9	4.6	5.6	7.1	8.9
British Columbia/Yukon:					
Programme organization	0.9	1.3	1.6	2.0	2.2
Technical services	5.8	6.8	7.5	8.6	9.6
Sales and promotion	0.8	1.1	1.1	1.2	1.0
Administration general	3.5	3.6	3.9	4.5	5.0
Provincial total	11.0	12.8	14.1	16.3	17.8
Canada:					
Programme organization	5.2	6.8	7.8	10.0	10.4
Technical services	28.0	33.1	38.5	44.3	47.5
Sales and promotion	5.9	5.9	6.2	6.9	6.1
Administration general	16.5	18.9	21.5	25.3	28.0
Total Canada	55.6	64.7	74.0	86.5	92.0

TABLE VI.4

AVERAGE WEEKLY STAFF IN CABLE COMPANIES

BY PROVINCE

1975 1980

(Companies with more than 1,000 subscribers)

Province \ Year	1975	1976	1977	1978	1979	1980
Atlantic Provinces	155	200	249	320	372	381
Québec	959	1,172	1,365	1,369	1,495	1,178
Ontario	1,901	2,038	2,024	2,139	2,224	2,221
Manitoba/Saskatchewan	105	130 (1)	118	240	270	260
Alberta	319	351	375	385	442	566
British Columbia/Yukon	524	657	707	749	766	790
Total	3,963	4,548 (1)	4,838	5,202	5,569	5,396

(1) Estimate.

Source: Statistic Canada, Catalogue 56205 "Cable Television".

TABLE VI.5

EMPLOYMENT BY FUNCTION IN

CABLE TELEVISION INDUSTRY

1975 - 1980

(Companies with more than 1,000 subscribers)

Function \ Year	1975	1976	1977	1978	1979	1980
Programme Organization	377	411	592	710	776	737
Technical Services	1,908	2,261	2,343	2,435	2,722	2,556
Sales and Promotion	426	423	409	425	412	323
Administration	1,252	1,453	1,494	1,632	1,659	1,780
	3,963	4,548(1)	4,838	5,202	5,569	5,396

Source: Statistics Canada, Catalogue 56205 "Cable Television".
(1) Estimate after diminution of Statistics Canada error.

TABLE VI.6

GROSS AND NET INVESTMENT BY PROVINCE

FOR CABLE TELEVISION INDUSTRY

1975 - 1980

Province/Category	Year 1975	1976	1977	1978	1979	1980
Atlantic Provinces:						
Gross	12.2	15.6	21.2	30.1	37.9	42.6
Net	8.8	10.6	14.0	19.5	23.3	23.9
Québec:						
Gross	67.8	91.7	110.9	129.4	149.7	177.6
Net	40.3	53.5	64.5	75.7	82.2	94.8
Ontario:						
Gross	164.0	186.7	208.8	236.9	258.2	271.9
Net	93.5	95.5	105.5	115.4	118.5	132.9
Manitoba/Saskatchewan:						
Gross	13.4	15.0	16.5	21.1	25.5	29.4
Net	6.6	6.6	6.5	9.2	11.5	13.2
Alberta:						
Gross	32.0	37.1	44.4	52.4	63.3	77.9
Net	21.5	22.9	26.1	29.1	34.5	41.7
British Columbia/Yukon:						
Gross	59.4	68.1	80.6	88.3	97.7	107.1
Net	28.5	36.4	43.9	46.7	60.1	56.3
CANADA:						
Gross	348.8	414.2	482.4	558.1	632.2	706.6
Net	199.2	225.5	260.5	295.5	330.3	363.0

Source: Statistics Canada, Catalogue 56205 "Cable Television".

TABLE VI.7

DETAIL OF PROPERTY PLANT AND EQUIPMENT

OF CABLE TELEVISION LICENCEES

WITH MORE THAN 1000 SUBSCRIBERS

1975 - 1980

($ Million) (1)

Category \ Year	1975	1976	1977	1978	1979	1980
Land	2.0	2.4	3.3	4.2	5.1	5.9
Buildings	5.5	7.7	9.5	12.6	15.6	18.8
Head-end and Components	16.5	22.0	28.5	33.5	35.2	44.4
Distribution System Plant	194.3	227.0	259.2	292.2	332.0	364.3
Cost of Subscribers Drops and Devices	97.7	110.6	129.2	149.7	168.8	186.4
Test Equipment and Tools	5.1	6.7	8.2	9.7	10.8	12.2
Cable-casting Equipment	12.0	15.6	19.0	24.0	28.4	32.9
Automobiles and Trucks	5.8	7.3	8.9	10.9	12.6	16.5
Furniture and Fixtures	3.5	4.5	5.4	6.7	7.6	8.7
Other Property and Equipment	3.7	6.9	6.9	9.1	9.2	9.0
Leasehold Improvements	2.7	3.5	4.4	5.4	6.9	7.4
Total Gross	348.8	414.2	482.4	558.1	632.2	706.6
Accumulated Depreciation	149.6	188.7	221.9	262.6	301.9	343.7
Total Net	199.2	225.5	260.5	295.5	330.3	362.9

(1) Figures may not add up due to rounding.
Source: Statistics Canada, Catalogue 56205 "Cable Television".

TABLE VI.8

TV MARKET PENETRATION BY CABLE IN CANADA

JANUARY 1, 1981

% of Population	Service
23%	Households without cable where service available.
20%	Households without cable where service is not available.
43%	Subtotal, households without cable.
19%	Households with cable and converter.
21%	Households have cable without converter where service is available.
17%	Households have cable without converter as converter service not available.
57%	Subtotal with cable.
100%	Total households.

APPENDIX VII

FINANCIAL DATA ON THE

CANADIAN T.V. PROGRAMME PRODUCTION INDUSTRY

TABLE VII.1

INDEPENDENT PROGRAMME PRODUCERS

	1977		1978		1979	
	($000)	%	($000)	%	($000)	%
Television Programme Sales						
Joint Productions	1,762	36.2	726	15.7	385	4.0
Sales in Canada	1,435	29.5	2,047	44.3	3,266	33.7
Foreign Sales	1,665	34.3	1,849	40.0	6,030	62.3
	4,862	100.0	4,622	100.0	9,681	100.0
T.V. Programme Production Costs						
Direct Costs	6,453	75.8	5,712	75.0	8,453	69.8
Indirect Costs	2,062	24.2	1,904	25.0	3,654	30.2
	8,515	100.0	7,616	100.0	12,107	100.0

TABLE VII.2

AFFILIATED PRODUCTION HOUSES

	1977		1978		1979	
	($000)	%	($000)	%	($000)	%
Television Programme Sales						
Network Sales	5,465	90.8	7,112	76.7	6,402	71.4
Other Station Sales	291	4.8	1,859	20.0	2,428	27.0
Foreign Sales	260	4.4	303	3.3	140	1.6
	6,016	100.0	9,274	100.0	8,970	100.0
T.V. Programme Production Costs						
Direct Costs	3,716	60.7	4,742	60.8	4,414	60.5
Indirect Costs	2,399	39.3	3,059	39.2	2,876	39.5
	6,115	100.0	7,801	100.0	7,290	100.0