Broadcasting Public Notice CRTC 2006-72

Call for comments on a request by the Governor in Council
pursuant to section 15 of the *Broadcasting Act*
to prepare a report examining the future environment
facing the Canadian broadcasting system

Comments of the CBC/Radio-Canada

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1 September 2006

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Part 1 – The Expanding World of Broadcasting

A. Introduction

Change and Challenge

CBC/Radio-Canada is pleased to respond to the CRTC's request for comments on a request by the Governor in Council pursuant to section 15 of the *Broadcasting Act* to prepare a report examining the future environment facing the Canadian broadcasting system. We believe that we are able to play a particularly constructive role in this process, as we have recently undertaken specially conducted, extensive research among 12,000 Canadian adults on their ownership and use of many emerging technologies.

Technological innovation is radically changing the way in which Canadian consumers can enjoy video or audio content, whether it be news, sports or entertainment. As a result of developments in digital, wireless and Internet Protocol (IP) technologies, Canadian consumers face an expanding world of broadcasting, which offers greater diversity in every dimension: content, technical quality, method of delivery, mode of reception and time and place of viewing or listening. These changes impact Canadian consumers in two fundamental ways.

First are those technological innovations that enhance the viewing and listening experience of Canadian consumers. These technological innovations constitute improvements on older technologies and while they may replace those technologies, in general, they will not disrupt the associated broadcasting activity. For example, the transition from analog to digital cable provides Canadian consumers with not only more choice, but an enhanced viewing environment as well. Similarly, the move to High Definition (HD) television from NTSC provides Canadian consumers with a measurable improvement in the quality of video they are watching, but it does not replace video with some other form of communication.

On the other hand, a second type of technological innovation permits the consumer to access audio or video on a totally new broadcasting platform such as satellite radio, mobile wireless video, as well as Internet downloading and streaming. These types of innovations expand the consumers' broadcasting universe by providing them the opportunity to access audio or video content in ways or at times that were previously not possible. These innovations have the potential to be extremely disruptive in their long term effects on pre-existing platforms and technologies.

It is important to recognize that there are costs and benefits to both of these types of technological innovation. It is always difficult to predict how consumers will respond to new developments in any industry and broadcasting is no exception. The marketplace response to a new innovation will depend on quality, content, convenience and pricing, among other things. While these many factors imply a high level of uncertainty and flux, it is still reasonable to assume that recent innovations in broadcasting will eventually result in some technologies being eclipsed by newer, more efficient approaches.

Conventional over-the-air television was once the only type of television distribution available. Now, with the widespread adoption of cable and DTH distribution, only 14 per cent of Canadians are relying on over-the-air only to receive their television signals. In addition, the introduction of digital and HD programming technologies mean that significant capital expenditures will be required to provide this improved television programming by means of over-the-air transmitters. Taken together, these two factors – declining audiences and the high costs of the over-the-air transition – mean that conventional over-the-air transmission of television programming is becoming economically inefficient in all but the most densely populated centres.

Canadians now have a dramatically expanded universe of programming choices in both the audio and video worlds and all indications are that 'eyeballs and ears' will continue to migrate to new platforms, some of which will likely take forms completely different from those that dominate the industry now. Already, there are indications of a weakening in the advertising revenue generated by conventional broadcasters. That being said, the central fact remains that the broadcasting industry is expected to remain a critical element of our social, political and economic fabric.

To remain relevant, broadcasters will need to keep pace with this innovation, embrace the expanding broadcasting universe and bring high quality video and audio programming to Canadians through every platform possible. Their challenge is to keep up with these trends as the revenue model of conventional broadcasters is under stress.

And, the challenge for the Canadian government is to support and enhance the Canadian broadcasting system through regulatory and other mechanisms which will ensure that Canadians have access to programming that reflects Canadian values and realities.

CBC/Radio-Canada is uniquely positioned to meet the challenges of the new broadcasting environment and the Corporation has a special role to play in bringing Canadian programming to Canadians on 19 media platforms. In particular, it will be critical for CBC/Radio-Canada to continue to make its programming available over every broadcasting platform possible in order to ensure that there is a strong Canadian presence throughout the expanding universe of broadcasting available to Canadians.

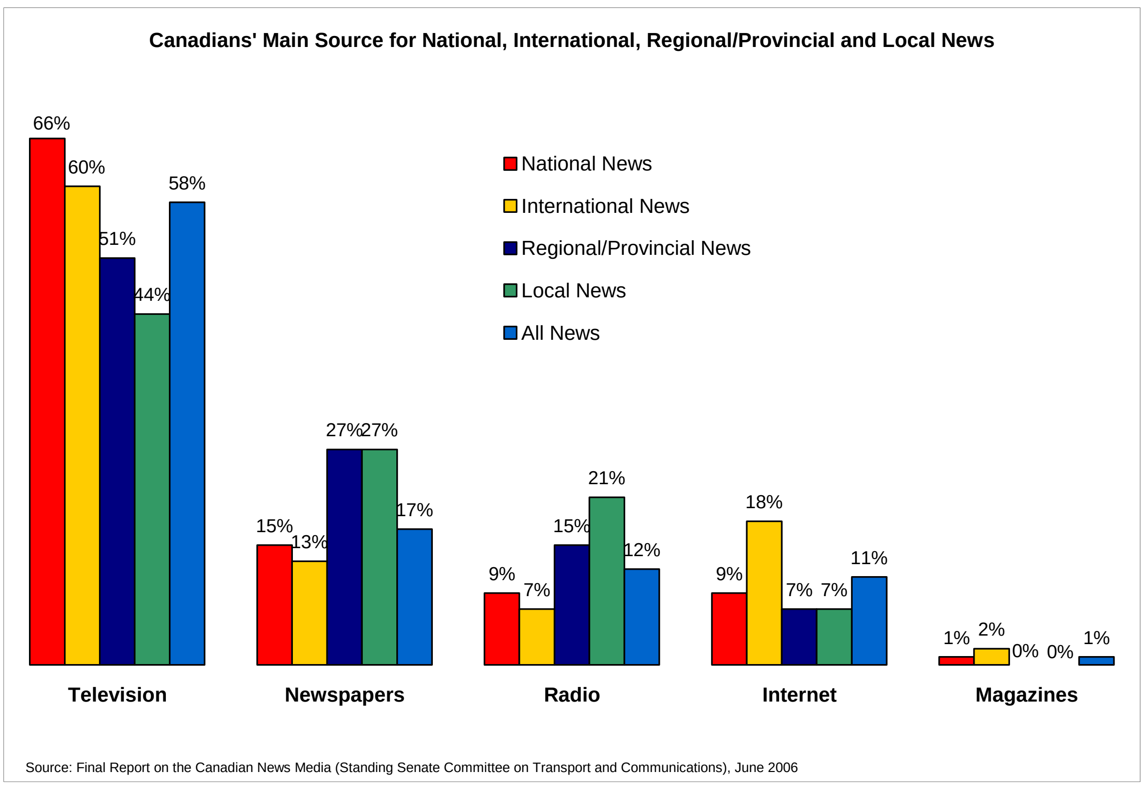
B. Trends in the Video World

The key word for the video world is “more”. There is more video programming available over more distribution platforms, providing more types of content to more people than ever before.

This huge expansion in video represents a significant opportunity and an important challenge to Canadian broadcasters. In order to get a better understanding of the nature of this opportunity – and not be carried away by the hype generated by the proponents of one technology or another - it is necessary to look closely at what is actually happening in the video world.

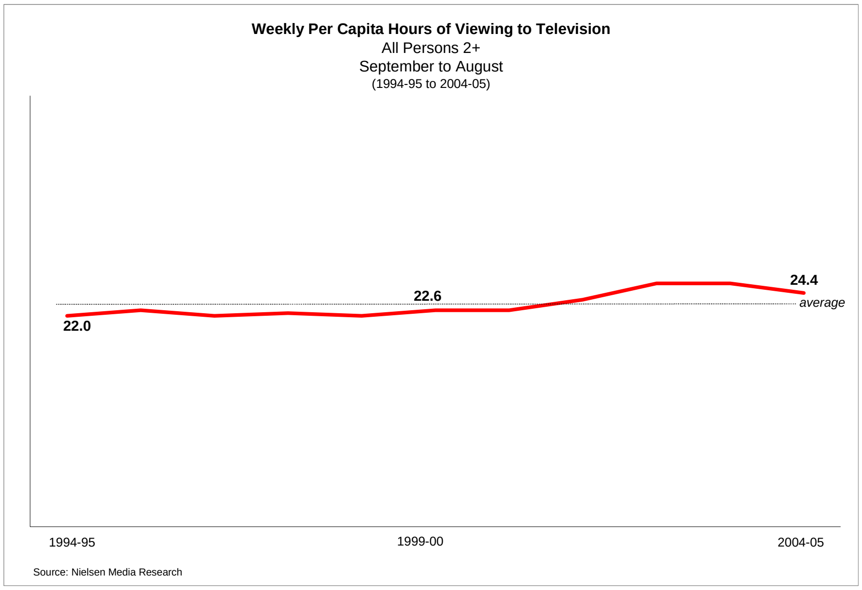
1. Television

While there have been numerous changes in the technologies used to produce television programming and to deliver it to viewers - and an even greater number of changes in the availability of alternative video content - television has held its position at the heart of our communications experience. **Despite the many predictions of technophiles and futurists, television remains the central source of news, sports and entertainment in Canada and around the world.**



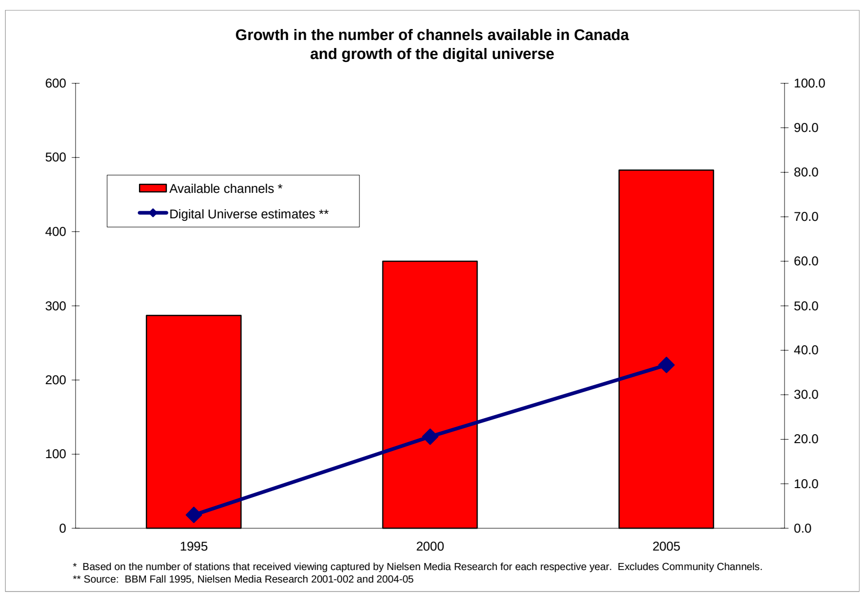
The Continuing Demand for TV

There can be no doubt that television is both an important and a resilient medium. Despite numerous social and technological changes, television viewing has remained remarkably stable for decades. In fact, over the last 10 years television viewing has actually increased from about 22 hours per week in the mid-90's, to around 24 to 25 hours per week.



Given the increasing number of video alternatives available to consumers, as well as the increasing demands on their time, the stability and incremental growth in television viewing provides clear evidence of the importance of this medium. Among other things, the popularity of television has been reinforced and enhanced by two factors.

First, with the advent of specialty services and the introduction of digital technology, there has been a major increase in the amount and variety of programming choices available to viewers. This has meant that more viewers can find the type of programs they want on television, instead of turning to other sources of video content or shifting to other forms of entertainment altogether.



Second, viewers have gained a greater ability not only to find the type of content they want on television, but also to determine when they will view it. Thanks to such developments as multiple signal time shifting and personal video recorders, viewers have achieved a greater level of flexibility and control as to when they watch the television programs they find of interest.

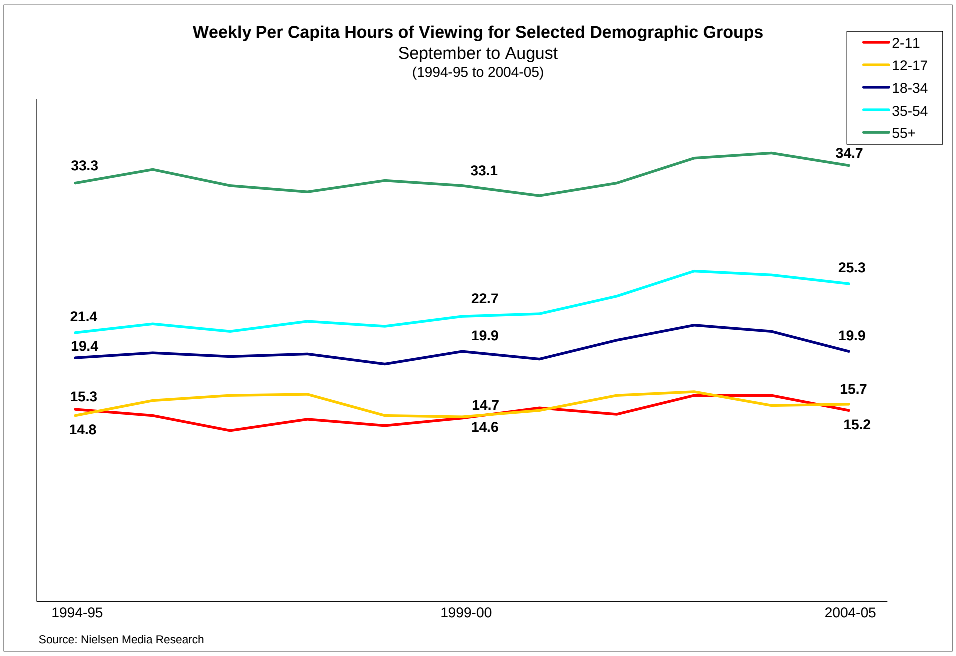
The combination of these two factors – expanded choice in content and enhanced control in viewing – has helped television keep its place as the central mass medium in our society.

Other factors have, of course, also been important. Probably the most significant of these is the changing demographics of Canada.

Demographics and TV Viewing

The Canadian population is changing in two key dimensions: it is getting older; and, it is getting more ethnically diverse. Both of these changes in Canadian demographics are important to television viewing.

First, on average, older Canadians watch more television than children, adolescents and young adults. This has been true for many decades and, as the chart below indicates, these viewing patterns have continued with remarkable stability over the past ten years despite the many changes in broadcasting.



At the same time as television viewing by age group has remained fairly stable, the Canadian population has been aging. Consequently, it could be expected that overall television viewing would increase to reflect the higher viewing habits of older Canadians – which, in fact, is what has happened. Looking forward, as the Canadian population continues to age, it appears likely that the level of television viewing should remain strong.

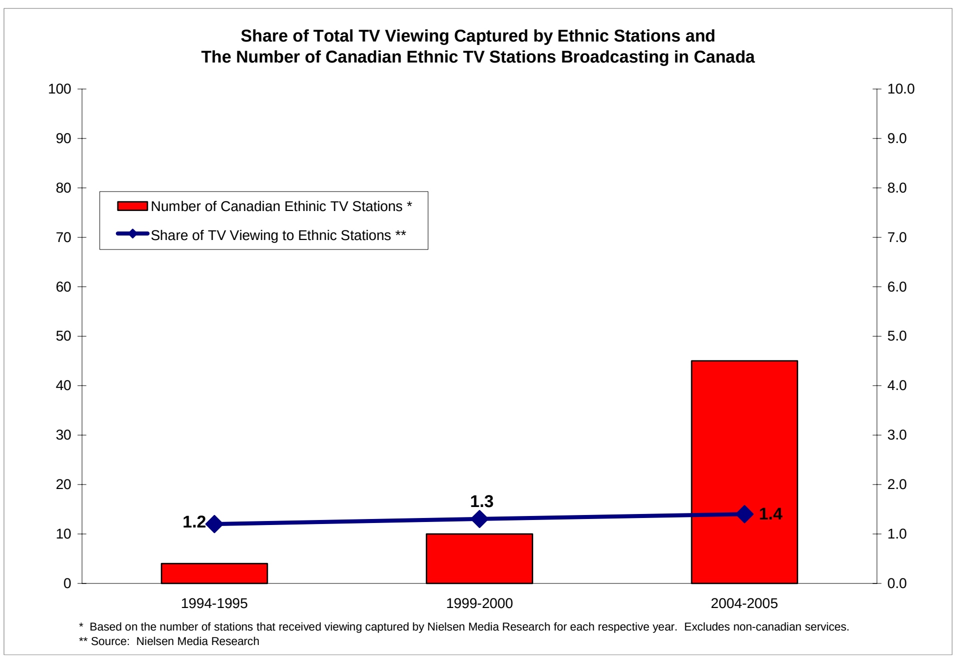
However, another possibility is that today's youth and younger adults will not emulate the behaviour of their cohorts of previous generations and watch more "traditional" television as they age. As is discussed in a later section of this report, young adults are already in the forefront when it comes to consuming video content across platforms.

The second demographic factor, which has influenced television viewing, is the growing ethnic diversity of Canada. Toronto is now the most ethnically diverse city in the world and it is followed closely by Vancouver. According to Statistics Canada, visible minorities represent about two-fifths of the population in each of these two cities. Other major centres in Canada are not far behind.

Allophones as a Percentage of Total Population
2001

CMA	%
Toronto	40.9
Vancouver	38.4
Windsor	23.0
Hamilton	21.5
Kitchener	21.3
Winnipeg	20.8
Calgary	20.1
Montreal	19.7
Ottawa	19.7
Edmonton	19.7

The growing ethnic diversity of Canada has greatly increased the demand for third language/ethnic television channels. This, in turn, has been met by a corresponding increase in supply.



While it is difficult to obtain reliable data on viewing of ethnic channels, there can be little doubt that the significant increase in the availability of ethnic television services has reinforced and probably increased the level of television viewing.

In addition, the introduction of many more ethnic television services has greatly enhanced the attractiveness of cable and DTH service offerings. This, in turn, has helped accelerate the shift away from over-the-air reception and toward BDU delivery of television. This view is confirmed by survey data which indicates that **persons from visible minorities are less likely to receive their television signals over-the-air and more likely to subscribe to digital cable than other Canadians.**

Overall, changes in Canada's demographic profile have had and will continue to have a significant influence on the level of television viewing, the type of programming being demanded and the ways in which television is distributed to Canadians.

The Evolution in the Way in which TV is Distributed

There are three primary distribution technologies for television: conventional over-the-air transmission, cable distribution, and DTH satellite distribution. Of these three, cable has long been the dominant technology whereas over-the-air reception has become increasingly marginalized, especially in English Canada.

As indicated in the table below, DTH is more common in rural areas and smaller centres than in cities, while the penetration of cable tends to increase in larger towns and cities. Reliance on over-the-air reception[1] tends to be relatively uniform as between rural and urban areas, although certain cities where there are numerous over-the-air signals available (e.g., Montreal) stand out as exceptions to this general rule.

Satellite, Cable and Off-air Penetration Rates
%

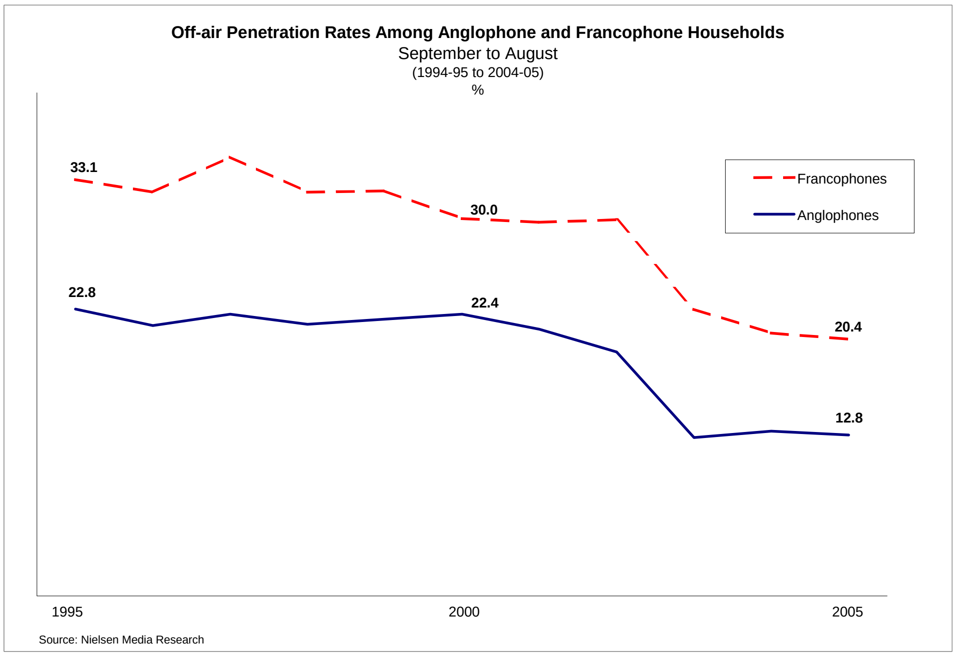
	Canada Excluding Quebec			Francophone Quebec		
	Satellite	Cable	Off-Air	Satellite	Cable	Off-Air
Area Population						
1,000,000+	14%	77%	8%	18%	59%	23%
100,000 - 1,000,000	22%	67%	10%	19%	69%	12%
50,000 - 100,000	39%	52%	9%	31%	60%	9%
< 50,000	50%	37%	13%	40%	50%	10%

Source: BBM Fall 05/Spring 06, NMR 05 - 06

[1] In the following table and elsewhere throughout this report, off-air reception means the reliance on over-the-air only to receive television services, i.e. the viewer has not subscribed to either satellite or cable services. Note that over-the-air reception may still be used by those who have subscribed to a cable or satellite service.

The decline of over-the-air reception

As the number of BDU subscribers has grown, the percentage of Canadians who rely on over-the-air reception has decreased accordingly. As the chart below indicates, **only one in eight Anglophones received their television signals using only over-the-air in 2004-05,** down from more than one in five just five years ago. While over-the-air reception is higher among Francophone Canadians, at 20 per cent, it has declined by one-third in the past five years.



The shrinking size of over-the-air audiences makes operating over-the-air transmitters less effective and economical everywhere. It is especially dubious outside major urban centres. It is estimated that the per capita average cost of providing an over-the-air signal to a community of 5,000 when over-the-air penetration is 10 per cent, given an average $500,000 cost to build a transmitter would be $1,000 per person. When this fact is considered in conjunction with the major expenditures necessary to move from analog to digital over-the-air transmission, it is clear that over-the-air transmission is becoming a comparatively less efficient technology.

Per Capita Cost of Providing an Over-the-air Signal by Community Size and Different Levels of Off-air Penetration

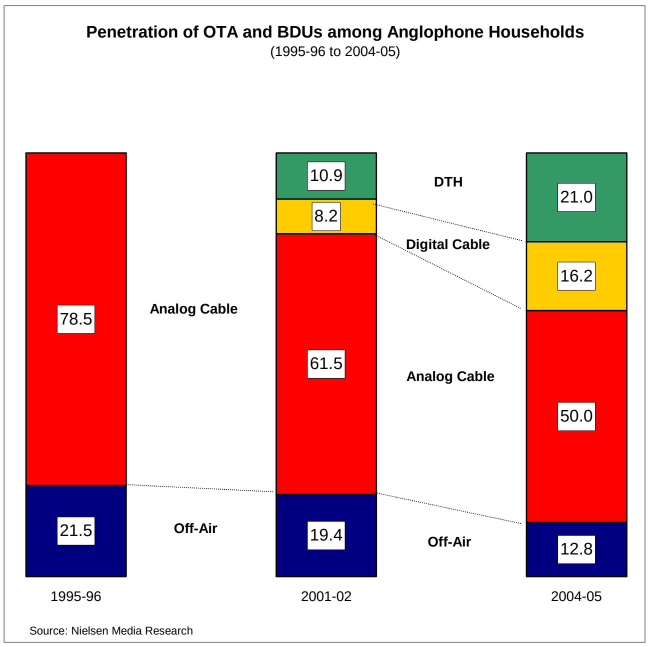
Population	Off-Air Penetration		
	15%	10%	5%
1,000,000	$ 10	$ 15	$ 30
500,000	$ 20	$ 30	$ 60
100,000	$ 67	$ 100	$ 200
50,000	$ 107	$ 160	$ 320
10,000	$ 333	$ 500	$ 1,000
5,000	$ 667	$ 1,000	$ 2,000

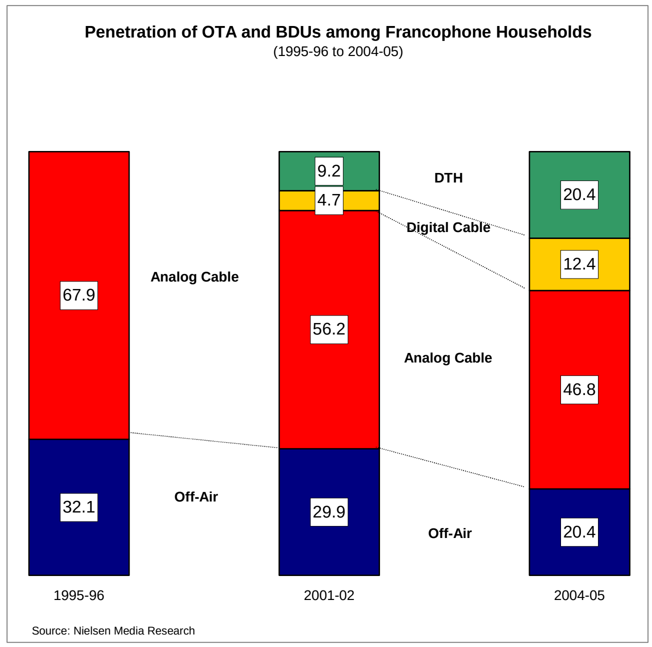
Source: CBC/Radio-Canada (CTO)

Given these factors, it can be expected that with the move to digital, over-the-air transmission will remain a viable distribution technology for television programming in major urban centres.

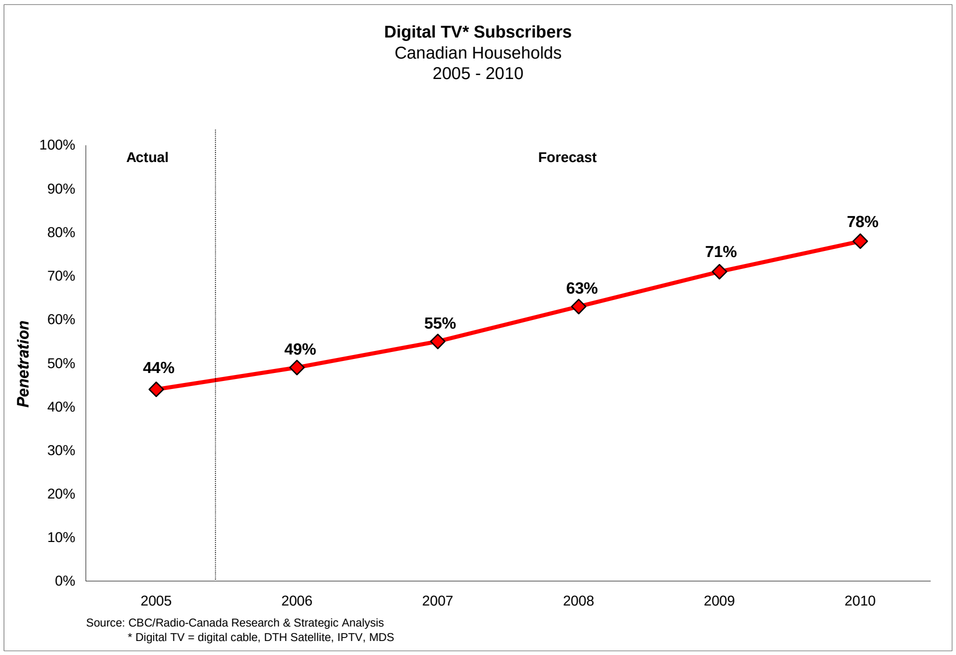
<u>The Shift from Analog to Digital Distribution</u>

All DTH subscribers receive digital signals, whereas cable subscribers may receive either analog or digital service or a combination of the two. While a significant portion of cable subscribers continue to rely on analog service, the shift to digital cable has accelerated significantly in recent years.





Cable operators are aggressively trying to encourage customers to upgrade to digital so that they can reclaim the bandwidth consumed in their plant from analog TV channels. While each cable operator's plans will be different, it is very likely that analog cable could be phased out by as early as 2010. Given the phasing out of analog cable, **by 2010 almost four in five Canadian households will be subscribing to some form of digital TV distribution service.**



In terms of the over-the-air transmission of digital signals, a significant base of customers simply does not exist in Canada. As a result, and despite the Commission's establishment of a transitional regulatory framework, conventional broadcasters have committed only limited resources to the transition from analog to digital over-the-air distribution. This lack of progress is not helped by the fact that the Canadian Government has not yet made ATSC reception on HD television sets mandatory. Consequently, the digital over-the-air presence is minimal today and, as discussed above, it does not appear at this point in time to have a future except in major population centres.

Canadian Programming in a Digital World

The shift to digital broadcasting has brought with it a huge increase in the number of services available to Canadians. Consequently, it should come as no surprise that the **people who subscribe to digital BDU services watch the most television since they have far more programming available to them.**

That being said, the extent of the difference is perhaps surprising. Francophones in digital homes watch 24 per cent more television than Francophones in over-the-air only households. And, in English households the difference is even greater, with digital homes watching more than twice as much television as over-the-air only households.

On its face, this increase in television viewing in the digital environment would appear to be a good thing for Canadian broadcasters. However, the situation is actually more complicated than these simple statistics would suggest.

Weekly TV Usage by Viewing Environment - Per Capita Viewing Hours

2004-05 Broadcast Year	Off-Air	Analog	Digital	Total
Anglophones 2+	12.2	24.7	26.7	24.0
Francophones 2+	21.7	26.9	27.0	26.0

Source: Nielsen Media Research

The visibility of Canadian programming on English TV

The enormous increase in the total amount of television programming available to Canadians in the digital offerings of cable and DTH BDUs has not led to an increase in the viewing of Canadian programs on English television in Canada.

In fact, in the past five years, viewing to Canadian programs, as a proportion of all viewing to English TV, has declined from 34 to 31 per cent. And, in prime time, when the bulk of all TV viewing occurs, viewing to Canadian programming accounts for only 22 per cent, compared to 26 per cent in 2000-01.

Distribution of English TV Viewing by Program Origin

6AM TO 2AM	2000-01	2002-03	2004-05 *
All Programs	**100%**	**100%**	**100%**
Canadian	34%	32%	31%
Foreign	66%	68%	69%
Prime Time	**2000-01**	**2002-03**	**2004-05 ***
All Programs	**100%**	**100%**	**100%**
Canadian	26%	25%	22%
Foreign	74%	75%	78%

Source: Nielsen Media Research

* Estimates based on CTF data as reported by NMR. Additional coding was undertaken in order to minimize the level of uncoded viewing.

This decline in the viewing to Canadian programming on English TV is directly attributable to the growth of programming choices in the digital universe. This is confirmed by the fact that only 29 per cent of the viewing by subscribers to digital cable is to Canadian programs, while over-the- air viewers spend 40 per cent of their viewing time watching Canadian programs.

Viewing to Canadian/Foreign Programming English TV by Environment

6am-2am	2004-05 *			
	Satelite	Digital Cable	Analog Cable	Off-Air
All Programs	100%	100%	100%	100%
Canadian programs	31%	29%	31%	40%
Foreign Programs	69%	71%	69%	60%

Source: Nielsen Media Research

* Estimates based on CTF data as reported by NMR. Additional coding was undertaken in order to minimize the level of uncoded viewing.

These trends demonstrate the need for proactive measures to ensure that Canadians are aware of and have easy access to Canadian programming in the ever-expanding world of digital programming. However, it is also important to recognize that this is an English TV problem. The situation is very different for French-language television.

<u>Canadian programming on French TV</u>

In 2000-01, **almost two-thirds of all viewing to French TV was to Canadian programming and this high proportion has been maintained since that time.** In prime time, Canadian content also accounts for two-thirds of all viewing to French TV. This represents an increase of 3 percentage points since 2000-01.

Distribution of French TV Viewing by Program Origin

6AM TO 2AM	2000-01	2002-03	2004-05 *
All Programs	**100%**	**100%**	**100%**
Canadian	65%	66%	66%
Foreign	35%	34%	31%
Prime Time	**2000-01**	**2002-03**	**2004-05 ***
All Programs	**100%**	**100%**	**100%**
Canadian	62%	63%	65%
Foreign	38%	37%	33%

Source: Nielsen Media Research

* Estimates based on CTF data as reported by NMR. Additional coding was undertaken in order to minimize the level of uncoded viewing.

It is worth noting that, as the table below indicates, that the increased choice of the digital environment has had only a very modest, negative impact on the viewing of Canadian programming on French TV. Thus, the current challenge facing Canada's French-language broadcasters is not one of attracting viewers to their indigenous programming, but of financing indigenous programming in a small market environment. As fragmentation increases in the future, this financing issue could represent an even greater challenge for Canada's French-language broadcasters.

Viewing to Canadian/Foreign Programming on French TV by Environment

6am-2am	2004-05 *		
	DTH/Digital Cable	Analog Cable	Off-Air
All Programs	100%	100%	100%
Canadian programs	65%	67%	67%
Foreign Programs	35%	33%	33%

Source: Nielsen Media Research

* Estimates based on CTF data as reported by NMR. Additional coding was undertaken in order to minimize the level of uncoded viewing.

The unique challenge facing English-language broadcasters

The remarkable contrast between French TV and English TV in the digital environment highlights very clearly the unique situation facing English-language broadcasters in Canada.

In every other country in the world, viewing of domestic programming far exceeds viewing of foreign programming.[2] In this regard, French TV is aligned with this overall global pattern.

In English Canada, however, the proximity of the United States – by far the world's largest producer of English-language television programming - and the overwhelming availability of U.S. programming over-the-air and on the services of Canadian BDUs means that English-language broadcasters face a challenge that is unique in the broadcasting world. Moreover, the mandated 2009 shutdown of analog transmission in the U.S. means that the vast majority of U.S. conventional broadcast signals will be available in a wide screen HD format.

Given the size of the television market in English Canada, the cost of producing high quality television programming and intense competition from U.S. programming, it is clear that ongoing and enhanced government support – both regulatory and direct - is critical if there is to be a robust Canadian presence in the evolving digital environment.

2. New ways of accessing video content

Technological advancements over the past ten years have given rise to a variety of new platforms for consumers to receive and view video programming, including mobile wireless, video-on-demand (VOD), personal video recorders (PVRs), Internet streaming and Internet downloading.

[2] See 'One Television Year in the World: 2005 Issue' (Eurodata Worldwide). In this analysis of 73 territories covering all of the five continents, the English-language Canadian market was the only one in which indigenous programs did not comprise a majority of the 10 most popular programs aired in 2004.

Illustration of Multi-Platform Growth - Video

1995	2000	2005
<u>TV Distribution</u> •Over-the-air TV •Analog Cable <u>Personalization</u> •VCR •Specialty TV •Pay TV	<u>TV Distribution</u> •Over-the-air TV •Analog Cable •Digital Cable •DTH Satellite <u>Personalization</u> •VCR •Specialty TV •Pay TV •DVD Player •PPV <u>Portable</u> •DVD Player	<u>TV Distribution</u> •Over-the-air TV •Analog Cable •Digital Cable •DTH Satellite •Wireless Cable (MDS) •IPTV •Internet <u>Personalization</u> •VCR •Specialty TV •Pay TV •DVD Player •PPV •PVR •VOD •Video Downloads •Video Streaming <u>Portable</u> •DVD Player •Digital Video Player •Mobile Phone •Laptop Computer

These new platforms and technologies affect the video opportunities available to Canadians in three key ways.

First, they significantly expand where consumers can receive and watch video programming. For example, mobile wireless services let viewers watch video clips anywhere there is cell phone coverage. Similarly, wireless Internet service permits users to stream or download videos anywhere there is Wi Fi or an analogous service. Canadians are no longer limited to their living rooms when it comes to watching video.

Second, all of these new platforms, with the exception of some forms of Internet streaming, can be characterized as on-demand services which free viewers from the rigidity of program schedules. These services permit consumers to select the programming they are interested in and decide when they will view it. In many cases, the viewing opportunities include video programming that is simply not available via traditional television.

Third, some new platforms, such as mobile wireless, provide video in a significantly different format from traditional television. These new platforms are emerging to meet the demand of the dynamic segment of the Canadian audience. Video content can now be viewed on dramatically different screen sizes, ranging from 1 inch cell phones and 2 inch video iPods to 50+ inch displays for HD. This represents a new type of viewing experience which offers unexplored opportunities for creativity and content.

Given the diversity of these new platforms, their relationship to traditional television varies significantly and, in some cases, can be quite complex. Consequently, it is simplistic to suggest that they are replacing traditional, scheduled television. Nonetheless, it is clear that they will have an impact on television viewing and, hence, on the broadcasters and BDUs who provide television programming to the public.

In order to better understand the potential impact of these various new platforms it is necessary to examine each one more closely.

Mobile wireless services: Too Early to Assess Interest

Mobile wireless video services are at the high profile, low revenue stage of their development. Nonetheless, a consensus is evolving that third channel, next-generation mobile phone networks will become an increasingly important way to view video content. All three of Canada's mobile phone carriers have announced plans to upgrade their networks with equipment that will allow significantly increased data throughput. Rogers has announced that its high speed downlink packet access (HSPDA) network will provide data speeds as fast as 8-10 Mbps that will enable both streaming and full video downloads, with a quality likely far above the 6 frames per second currently possible. However, it is not yet clear what the associated business case will be for these services.

Interest in purchasing mobile wireless services is relatively low, with fewer than 10 per cent of Canadian cell phone owners expressing an interest in purchasing such video services. This may be, in part, a function of the low penetration of video cell phones, as well as the lack of unique, compelling content for these services. It may also reflect some uncertainty as to where mobile wireless video fits in the overall scheme of video services.

Muted Interest in Mobile Television

- Fewer than 1 in 10 Canadian cell phone owners reported an interest in mobile television.

In general, the video programming available over mobile wireless services can be considered more complementary than competitive with traditional television since the format and content of the two platforms are significantly different. It is a rare individual who would be willing to watch a 90 minute television drama on a cell phone. That being said, the video clips and highlights available over mobile wireless services should be considered as stand-alone products – worth viewing in their own right – as well as, in many cases, promotional tools for full length programming on television.

Given this second aspect of mobile wireless video, the relationship between this new platform and television is more complex than one of simple complementarities. While the content and format of the platforms may not be directly competitive, the two platforms are linked by the overlap in the participating broadcasters and by the cross-promotional aspect of the content offerings. This linkage – and its importance for television - is likely to raise programming access issues if mobile wireless video services begin to draw significant audiences. It may also raise concerns about the level of Canadian content on these services, as well as the degree of prominence given to the Canadian content which is available.

The complexity of the relationship between mobile wireless video and traditional television reinforces the potential for this to become a disruptive technology. While it is very early in the development cycle of this new platform, it seems clear that it is important for there to be a strong Canadian programming presence on the mobile wireless video platform.

Video-on-demand – Will Success Bring Its Downfall?

VOD services are offered by all of the major cable BDUs to their digital subscribers. **VOD has caught on, with over a quarter of digital cable subscribers indicating that they had accessed a VOD program in the past month.** In addition, research indicates that a large majority of VOD subscribers use the service on a regular basis. This suggests that as VOD penetration grows, the importance of this platform will increase significantly.

VOD Usage High

- Over a quarter of digital cable subscribers reported accessing a VOD program in the past month.

VOD involves only the BDU and the video content supplier. This simplified supply chain and the premium nature of the service provide an incentive for BDUs to develop, enhance and promote VOD services so as to capitalize on the growing desire of viewers to have access to top quality on-demand services.

To the extent that traditional broadcasters do not participate in VOD, they lose both consumer viewing time, as well as a share in potential VOD revenues. Non-participating broadcasters also lose the opportunity to use VOD as a cross-promotional tool for their other services. These potential effects provide an incentive for broadcasters to either develop their own programming or acquire broad rights to the programming they purchase so as to be able to use that programming on any platform, including VOD.

On the technical side, VOD raises transmission capacity issues since each VOD customer requires a unique video stream at a high enough bit rate to permit near real time reception and display. While these capacity issues are by no means insurmountable, particularly at today's low utilization levels, they do affect the business case for VOD services and may slow or limit its roll-out in some locations. These transmission capacity problems will be further exacerbated in the HD world.[3]

Personal video recorders: Still in few homes

The penetration rate for PVRs is very low, around 4 per cent. It is expected to grow steadily over the next several years before levelling out between 20 and 30 per cent. Given the ongoing development of other on-demand services, it seems unlikely that PVRs will expand much beyond that level. However, the impact of PVRs may still be considerable since research indicates that PVR owners spend nearly half of their television viewing time watching "PVR'd" programs, whether recorded or paused, instead of live ones.

Unlike VOD and other on-demand video services, PVRs depend on scheduled television in order to source programming. This makes them less threatening to traditional television than other on-demand services. On the other hand, PVRs present a challenge to advertising-based programming because of the potential for ad skipping by viewers, and as such, have the potential to undermine the existing advertising model. Given the high reliance on PVRs by those who own them, the ad skipping threat must be taken seriously. Consequently, as the penetration of PVRs grows, so will the pressure for television broadcasters to increase the proportion of revenues they generate from sources other than traditional commercial advertising, such as subscriptions and product placement.

Commercial Avoidance

- Recent research indicates that about three-quarters of the commercials in "PVR'd" programs are either skipped or fast-forwarded.

[3] Presently, Rogers can burst a SD VOD program (2 mbit/second) into a set top box in a minute. An HD program would require 10 times as much time.

Internet video has taken off

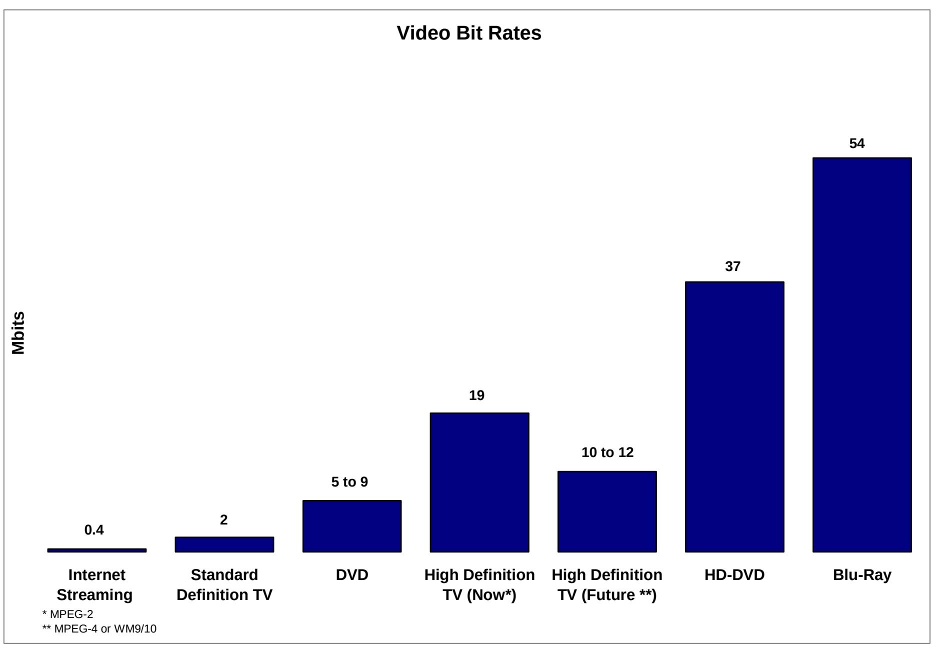
Broadband Internet adoption continues to grow rapidly in Canada, especially among Anglophones and with it, the consumption of Internet video (streaming or downloading).

Broadband Internet Now the Norm

- More than one in two Canadians are connected to the Internet via a Broadband connection

As broadband penetration increases, Internet video is becoming more common. Approximately 15 per cent of Canadians report that they stream video and 10 per cent download video. Internet video is especially popular with younger adults (ages 18 to 34) and among viewers with a non-North American or non-European ancestral background.

Internet video streaming currently relies on a bit rate that is about 20 per cent of the bit rate used for standard definition television and 2 per cent of the bit rate used for high definition television. Needless to say, the technical quality of the Internet streaming experience reflects these facts, and therefore has significant limitations for the viewing of HD content.



As shown in the above graphic, Internet video streaming is distributed at a fraction of the bandwidth requirements of television viewing as it exists today on other platforms, and will therefore continue to be complementary, rather than competitive, to these platforms for some time to come. Improved video quality can be achieved by utilizing less than real-time transmission speeds (i.e. Internet video downloading), but can take hours to days to download depending on bit rate, speed of the Internet connection and other factors. The delay factor of Internet video downloads will make this a complementary platform to television.

With the slow, but increasing, emergence of IP Multicasting on the Internet, it may be possible to use higher bit rates to stream video simultaneously to multiple viewers in the future. This comes, however, with a number of technical and business challenges.

First, there is the question of programming rights. Until recently, the “borderless” nature of the Internet was viewed as creating an almost insurmountable obstacle in the area of copyright. The fear that once a program was made available over the Internet its distribution could not be controlled, led to major difficulties in assessing the value of programming rights for Internet broadcasts. Technological developments have provided some broadcasters with the confidence that Internet streaming can be geographically contained (i.e. Geo-fencing). As a result, some Canadian and U.S. broadcasters have begun experimenting with geographically-limited on-demand Internet streaming.

To the extent that these experiments are successful from a technical perspective, they would suggest that a global marketplace for Internet video is unlikely to become a reality. Rather, rights holders are likely to continue to seek to maximize their revenues by selling the rights for the distribution of programs over the Internet on a geographic basis.

Second, if the technological solution to the rights issue turns out to be satisfactory, this brings the focus back to the more elementary problem – is there a business case for Internet video? In particular, can revenues exceed costs?

This fundamental business question is generally viewed as turning on whether the advertising model that has supported conventional over-the-air television can also work for Internet video. Given the significant difference in the cost structures of the two forms of distribution – Internet video costs increase with the number of viewers, conventional over-the-air costs do not – it is not clear whether a viable business case exists for streaming or downloading original video programming over the Internet. However, it may make economic sense for programming that is made for other purposes to be subsequently distributed over the Internet in order to generate incremental revenues.

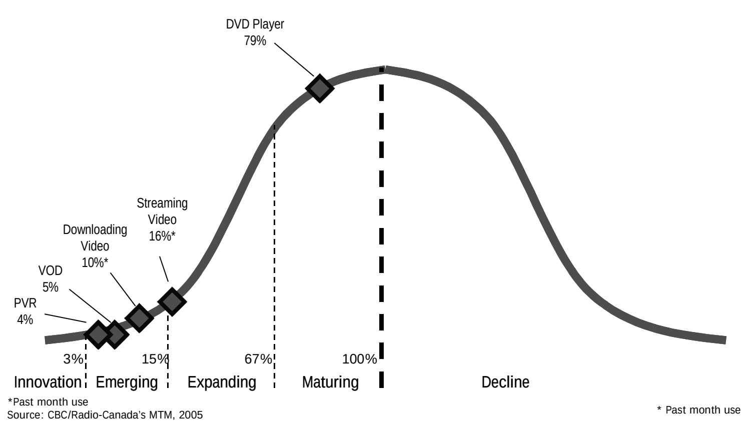
The business case analysis for Internet video is complicated by the fact that suppliers of broadband connections may also have incentives to control the bandwidth available for Internet video. Canadian cable companies engage in “bandwidth shaping” which allocates different levels of transmission capacity to different services according to the operational preferences of the cable company. This type of bandwidth shaping can ensure efficient use of transmission capacity. It can also ensure that Internet video by third parties does not become a threat to the business of the cable company, whether it be the delivery of traditional television programming to cable subscribers, VOD or the distribution of cable company-owned Internet video services.

In light of this complex mix of issues, it remains unclear whether Internet video will become a primary means of distributing video content on a commercial basis. That being said, there can be no doubt that Internet video provides a natural opportunity for a public broadcaster such as CBC/Radio-Canada to significantly extend the reach of its video services and thereby make high quality Canadian video programming available on a national and global basis.

Summary – Video

The preceding discussion and adoption curve below indicate that at this point in time there is very low ownership and usage of these new ways of accessing video content, with the penetration among the Canadian population being less than 20 per cent for any one of these 'on-demand' technologies, except the DVD player.

Penetration of On-demand Video Platforms, 2005
Canadians 18+



Our survey data, however, indicates that acceptance of these new 'on-demand' technologies is significantly higher among certain segments of the population. In order to demonstrate this, we have compared ownership and usage of mobile wireless services, video-on-demand, personal video recorders and Internet video (streaming and/or downloading) among two different segments of anglophones in Canada – persons aged 18 to 26, the so-called generation Y, and persons aged 51 and over.[4]

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[4] While the overall penetration of new technologies tends to be lower among francophones, the conclusions found for anglophones aged 18 to 26 and anglophones aged 51-plus are also applicable to francophones.

As the table following indicates, anglophone “Generation Y’s” are much more likely to own or use ‘on-demand’ technologies to access video content than anglophones aged 51-plus. As of the first quarter of 2006, one in three anglophones aged 18 to 26 had utilized at least one of the ‘on-demand’ technologies to access video content, that is, they owned a PVR, watched a VOD program in the past month, or streamed or downloaded video in the past month.[5] Of the ‘on-demand’ technologies, streaming and downloading video are most popular among 18 to 26 year olds.

Usage and Ownership of On-Demand TV Technologies
Among Two Age Segments of the Population*
Anglophones 18+

TV Technologies	18 to 26 Year Olds	Persons Aged 51+
Past month usage of VOD	6%	3%
PVR Ownership	5%	2%
Streamed video in past month	26%	9%
Downloaded video in past month	25%	3%
Total - On-demand TV**	33%	15%

Source: CBC/Radio-Canada's MTM
* Mobile TV has been excluded as usage was not measured in the MTM survey
** TV unduplicated proportion of Anglophones who own a PVR, watch VOD program, stream video and/or download video

Anglophones aged 51-plus, on the other hand, have been much more reticent to accept the new ways of accessing video content, with only 15 per cent of anglophones aged 51-plus having accessed video content via a PVR, VOD or by streaming or downloading video over the Internet. Streaming video over the Internet is the most popular activity practiced by anglophones aged 51-plus, with just less than 10 per cent of the persons in this age segment having engaged in this activity in the past month.

C. Trends in the Audio World

The key word in the audio world is “choice”. Listeners expect to be able to choose both what they hear, how they hear it, and when they hear it. They want specialized programming that suits their tastes. And, they want to be able to listen to that programming when and where it suits them. These listener expectations have been shaped and reinforced by both technological

[5] Interestingly, usage of ‘on-demand’ video by francophones aged 18 to 26 is even higher.

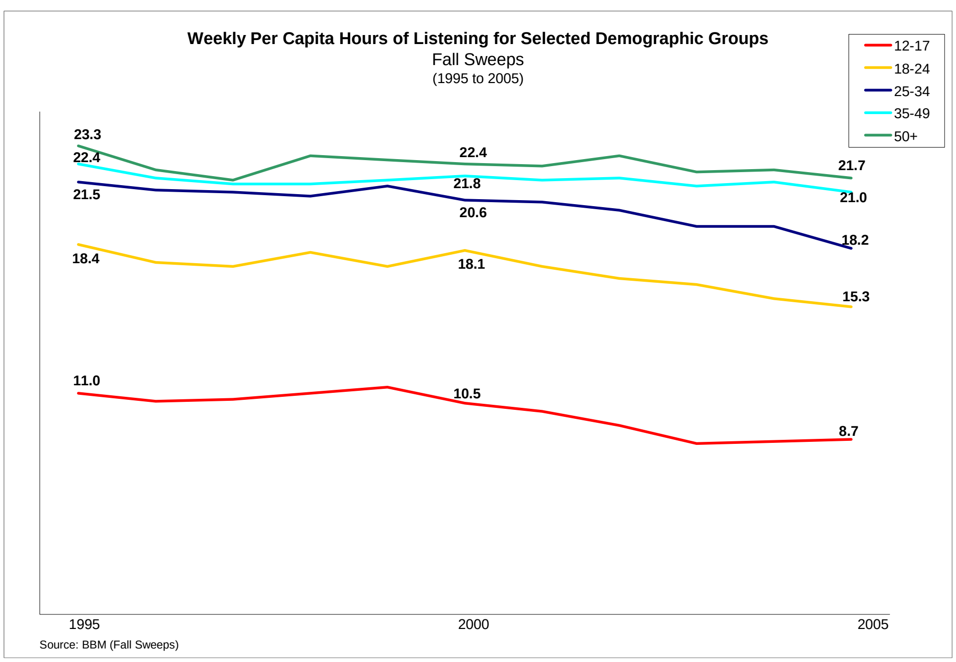
developments and by the willingness of some broadcasters, including CBC/Radio-Canada, to embrace new opportunities in the audio world.

Overall, new audio platforms represent a significant challenge to traditional over-the-air radio. The wide array of new platforms have increased audience fragmentation and decreased the visibility of any single audio service. As a result, audio broadcasters are being forced to be both more thoughtful and more innovative when developing audio content and when deciding the best means to deliver it to Canadian listeners. It is no longer a case of one size fits all. Rather, audio programs must be carefully designed and targeted if they are to enjoy success with increasingly sophisticated audiences

In addition, audio broadcasters must adapt to the new business models represented by subscription and on-demand services, as well as the threat to advertising revenues as a result of declining usage to conventional radio by key younger demographic groups. When these new elements are combined with the technological and structural challenges facing the industry, it is clear that the audio world will be in a state of flux for some time.

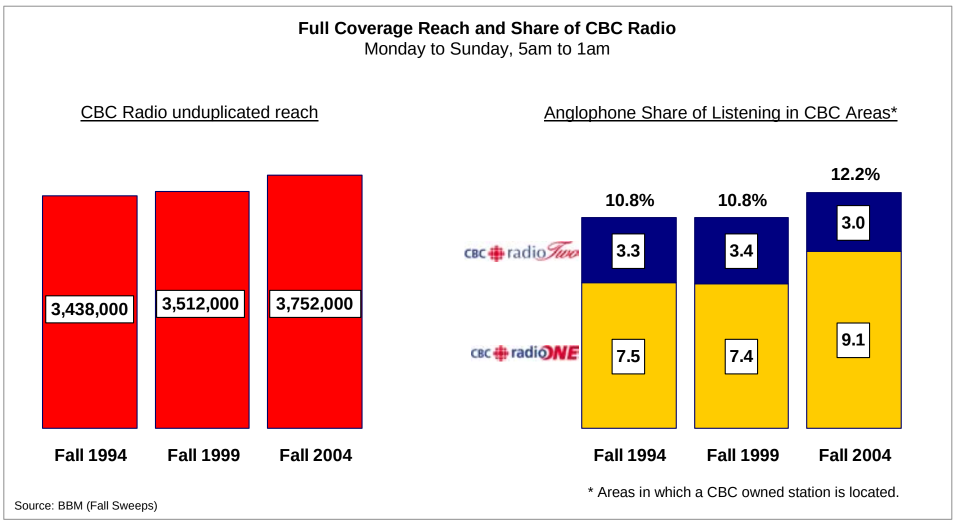
1. Conventional radio

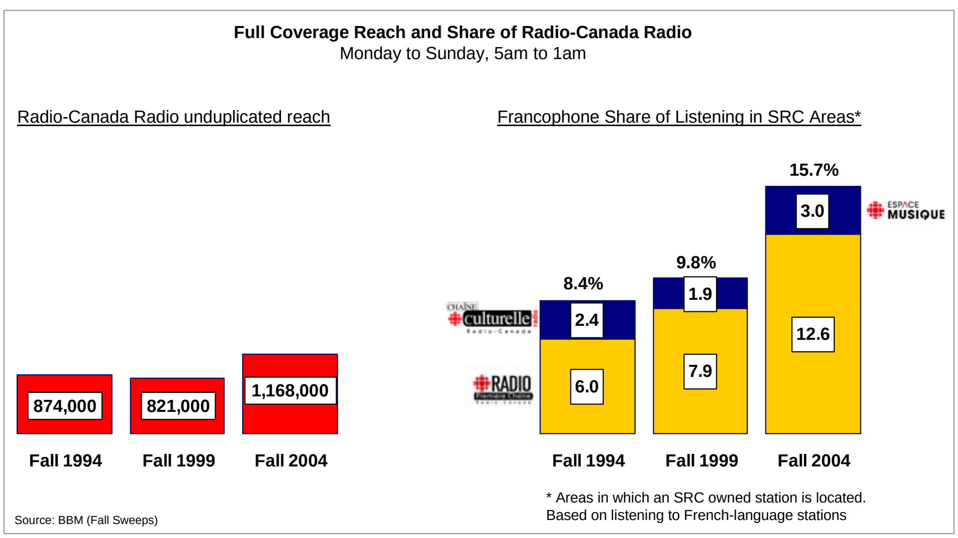
Radio was the first technology used by broadcasters in Canada to reach a mass audience and has remained an important medium since its inception. **However, over the past 10 years, listening to conventional over-the-air radio has decreased across all age groups, especially among younger Canadians.**



While these downward trends in radio listening are significant, and it is clear that both teens and adults under the age of 25 are consuming relatively less “traditional” radio as they embrace many of the new emerging technologies to access audio content, particularly for music, it is still too early to predict the future state of over-the-air radio given its central role as a provider of local news and information to listeners in cities and towns across the country.

CBC/Radio-Canada identified the trends in radio listening several years ago and responded by strengthening both its local content and its connection with local communities. CBC/Radio-Canada also undertook a major repositioning of its radio services, revamping its programming so as to better meet the tastes and needs of all listeners, including younger audiences. As a result of these forward-looking initiatives, CBC/Radio-Canada’s reach and market share in conventional radio has increased significantly in recent years.





Overall, these data suggest that while conventional radio faces serious challenges, those challenges can be met if the needs and expectations of listeners are identified and addressed. Thus, conventional radio – and CBC/Radio-Canada services in particular - should continue to have an important role to play in the audio world for the foreseeable future.

2. New ways of accessing audio content

Over the past decade, numerous new ways of accessing audio content have become available in Canada, including digital radio, pay audio, satellite radio, mobile wireless, Internet streaming, podcasting and Internet downloading of music.

Illustration of Multi-Platform Growth - Audio

1995	2000	2005
Distribution •Radio On-demand •Tapes •CDs Portable •Walkman	Distribution •Radio •Audio Player On-demand •Tapes •CDs •Music downloads Portable •Walkman •Digital Audio Player	Distribution •Radio •Internet •Satellite Radio On-demand •CDs •Music downloads •Streaming Audio •Podcasting Portable •Walkman •Digital Audio Player •Mobile Phone

As with new video platforms, these new audio platforms provide consumers with increased choice in terms of where and how audio services can be received, increased diversity in the type of content that is available and greater flexibility and control over when content is accessed and listened to.

The new audio platforms have met with varying degrees of acceptance by the public and the final verdict is still out on most of them. Among other things, the public's willingness to accept the business models underlying some of the new platforms – such as subscription fees – has yet to be fully tested. Consequently, it is likely to be several years before any conclusions can be drawn regarding the viability and the role of the new platforms, as well as the full extent of their impact on conventional radio. Nonetheless, it is possible to make certain observations at this time.

Digital radio: Promise unfulfilled

Digital radio, also known as digital audio broadcasting, was expected to have a bright future in Canada given its success in the United Kingdom. Unfortunately, it appears that digital radio at least until this point in time has been the victim of a Catch 22 situation in which listeners have been unwilling to buy receivers unless there was unique new content available to justify the purchase and broadcasters have been unwilling to create the required content until there was an adequate audience to justify the programming expenditures.

In light of the failure of digital radio to take hold in Canada and given the advent of other services such as Internet audio streaming and downloading as well as subscription based satellite radio, it appears doubtful whether digital radio, in its originally conceived and planned form (e.g. dating from 1995), will become an integral part of the Canadian radio broadcasting system for the foreseeable future. Instead, different usages of the existing digital radio spectrum, technology and infrastructure are being considered for new and innovative multimedia mobile wireless services. There are interesting developments going on around the world.

Developments related to digital radio in the U.S., referred to as “HD Radio” or “IBOC”, need to be monitored, to assess their impact on Canada. “HD Radio”, at present, still suffers from the same economics issues surrounding the availability, quality and affordability of consumer type receivers. In addition, the viability of the service, from a technical, economical and marketing perspective is still a question mark.

Digital radio’s time seems not to have arrived yet and in the future it will increasingly face challenges from such new arrivals as satellite radio.

Pay audio: Niche service threatened

Pay audio offers specialized music channels as part of a BDU’s package of subscription services. It is probably fair to say that when pay audio was introduced in Canada in the late 1990s, it was ahead of its time. Pay audio has been providing niche audio programming for almost a decade and has developed a respectable audience with approximately 20 per cent of BDU subscribers listening to pay audio services on a monthly basis.

Usage of Pay Audio Services in Canada

	Anglophones 18+		Francophones 18+	
	2004	2005	2004	2005
Past Month Usage	19%	21%	16%	21%

Source: MTM

While pay audio has enjoyed reasonable success in the BDU market, in its present form pay audio does not have the portability and convenience of wireless audio services. It is conceivable that pay audio service providers may partner with wireless operators to provide niche audio programming over their wireless networks. However, this has not yet occurred. In the meantime, satellite radio services are expanding their reach through new channels, including the mobile wireless service offered by TELUS Mobility. This development represents an important challenge to pay audio.

A much greater challenge to pay audio involves the potential expansion of satellite radio into BDU services – a move which would bring satellite radio into direct competition with pay audio. **The future of pay audio and its Canadian offerings may be threatened if satellite radio is permitted to expand its distribution channels in this way.**

Satellite radio – Early success in Canada

Satellite radio is a relatively new technology which offers 100 or more channels of specialized music and talk programming. **Satellite radio has experienced rapid growth in the United States and is now growing quickly in Canada – with over 200,000 subscribers in less than a year of operation.**

The primary driver for satellite radio has been receivers in automobiles but, as noted above, the Canadian satellite radio services are seeking to extend their reach by means of distribution by cable and DTH BDUs, as well as via mobile wireless carriers. This type of expansion of satellite radio distribution channels could put it in direct competition with pay audio. If satellite radio were to begin to carry some local programming it might also become more directly competitive with conventional over-the-air radio.

As a stand-alone subscription audio service, satellite radio is testing new waters in the Canadian market. Consequently, it is too early to tell what level of impact this new platform will achieve.

Mobile wireless – A Category to Watch

Another audio service that is gaining popularity is mobile wireless delivery of music. All three of Canada's largest wireless carriers have introduced wireless music options to their portfolio of subscriber services. These music services currently rely on MP3-enabled phones, which combine wireless phone communications with MP3 playback capabilities. Music can be downloaded and purchased over the wireless network in MP3 or other audio file formats.

According to Yankee Group's *2005 Canadian Technologically Advanced Family Survey* around 15 per cent of wireless customers would spend between $1 and $10 per month to download and play MP3s. When respondents under age 35 were asked, the interest level jumped to roughly 27 per cent. These figures suggest that this service is likely to grow significantly over the next few years.

The on-demand character of these mobile wireless services distinguishes them from conventional radio, as well as from new platforms such as satellite radio which provide scheduled audio content. As with music downloading over the Internet, mobile wireless music services are more akin to traditional music purchases than broadcasting. Nonetheless, the availability of such services is likely to have an effect on audio broadcasting services, if only as a form of displacement.

Audio over the Internet

There are three ways of accessing audio content over the Internet: Internet streaming and two forms of downloading - podcasting and music downloads.

With the spread of wireless Internet services, all three of these approaches have gained increased flexibility in terms of accessibility in multiple locations and via multiple devices. That being said, the characteristics of the different Internet services are sufficiently distinct as to warrant separate discussion.

<u>Streaming over the Internet – In the Expansion Stage</u>

As with video streaming, audio streaming can take two forms: streaming of a scheduled audio program and streaming of stored content.

The first of these two types of streaming is directly comparable to conventional radio in that it presents scheduled programming that a listener can tune into.[6] In fact, many conventional radio broadcasters have established an Internet presence by streaming one or more of their over-the-air radio stations. In addition, Internet-only radio stations have also been created. The business model for these Internet-only services is somewhat insecure as they generally operate on a membership or donation basis. Nonetheless, there appears to be the potential for an ongoing presence of these Internet-only services as evidenced by their innovative approach to copyright issues. For example, some of these stations negotiate rights directly with artists so as to minimize the cost associated with copyright administration and payment.

[6] It is important to note that audio streaming has a much better utilization rate than video. Because of the bandwidth economies, 30 to 40 audio streams can be delivered in the bandwidth required for a single video signal.

In addition to these two types of scheduled streaming, streamed audio content is also available on an on-demand basis. Some sites have begun to use inexpensive computing and storage capabilities to create a hybrid experience whereby a user indicates a music preference and the site then selects and streams similar content to the user. The user can accept or reject selections according to their taste. California-based Pandora.com is a prominent example of this latter approach.

CBC/Radio-Canada has been streaming its radio services over the Internet for many years. In addition, CBC/Radio-Canada has developed Internet-specific services aimed at youth: Radio 3 and Bandeapart. As a result of its early entry into Internet streaming, CBC/Radio-Canada has become a prominent player in this form of audio delivery.

Research indicates that around one in five Canadians listen to audio streamed over the Internet, with the percentages for youth and young adults being significantly higher. In addition, Internet audio streaming is also popular among Canadians with a non-North American or non-European ancestral background, presumably because they can easily access third-language audio services not otherwise available in Canada.

It is important to note that several technologies have been built to take advantage of wireless home networks and establish a bridge between the PC and home audio equipment. This type of interconnection enhances the opportunities to listen to Internet streaming and may permit Internet-based music to play an increasingly prominent role in both home and work listening. On the other hand, it is important to recognize that the sound quality of streamed audio is not on a par with most other broadcasting services. For some listeners, this is likely to limit the attractiveness of this audio option.

Podcasting – A fast growing application

In 2004 and 2005 significant media attention was paid to “podcasting” which is a form of on-demand audio delivery involving the downloading of audio programs to a computer or personal audio device for subsequent listening. These audio files can range from quick news clips to whole radio programs complete with songs and comment. While the files can be downloaded and played on PCs and portable devices, a common way to receive them is to subscribe to a feed that automatically notifies customers when a new file in a series is available, sometimes even incorporating them into a user’s portable playlist in an integrated interface such as Apple’s iTunes application.

Podcasting began as an amateur activity, much like blogging, but has since been picked up by traditional broadcasters as well as celebrities, businesses and organizations wanting to make audio content available in a simple and convenient way. Though mainstream brands dominate the most popular podcasts, thousands more exist, many compiled by individuals to cater to niche tastes and demand. CBC/Radio-Canada is a leader in the area of podcasting and makes significant amounts of audio programming available to the public as a complementary service via its web sites.

Podcasting is taking off

- Virtually unknown two years ago, 6 per cent of Canadian adults had downloaded a podcast by Fall/Winter 2005/06

Podcasting, which was virtually unknown two years ago, has a low penetration rate but is increasing in popularity, especially among younger Canadians. It provides a broadcaster such as CBC/Radio-Canada with a means of reaching a new, younger audience, its future generation of listeners. Podcasts are generally available free of charge, although some podcasters have begun to charge for access.

After piloting programs in Spring 2005, podcasts of CBC Radio were launched in June 2005, and of Radio de Radio-Canada in September 2005. In the last six months of the fiscal year, CBC Radio and Radio de Radio-Canada had more than four million downloads of music, information, science, and entertainment programs, primarily by listeners in the 18-to-34-year old group. For most of the year, CBC Radio 3 had Canada's number one podcast on iTunes, with one million downloads in nine months.

Like on-demand video services, podcasting can be viewed as being indirectly competitive with traditional broadcasting. However, given the limited commercial element to podcasting, it is perhaps better viewed as a complementary service which can be used to raise the profile of a broadcaster's other audio services and, as CBC/Radio-Canada's own experience indicates, lead to the development of new audiences.

Internet downloads – Legal Sources Now Available

The other way of accessing audio content over the Internet is the downloading of music to computers or personal audio devices, generally for a fee. This is a form of on-demand access which is only indirectly related to broadcasting, being more akin to purchasing a CD than listening to a radio. Nonetheless, Internet downloading does represent a significant new source of audio content and, as such, competes for listening time with both conventional radio and other audio platforms.

Who Downloads

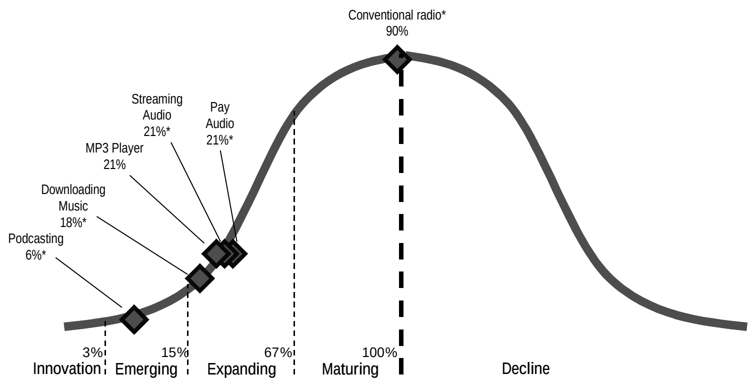
- Audio downloading is most popular among young adults aged 18 to 34 in Canada, with almost four in 10 having downloaded audio in the past month.

Internet audio downloading is also popular among Canadians with a non-North American or non-European ancestral background. In our recent research, one in four Canadians with a non-North American or non-European ancestral background indicated that they had downloaded audio, most likely because it is the easiest way to get access to music that is otherwise unavailable in Canada.

Summary – Audio

As was the case with new ways of accessing video content, our analysis shows that there is relatively low ownership and usage of the new ways to access audio content among the general population in Canada, with ownership of iPods/MP3s and the accessing of audio over the Internet (which includes streaming and/or downloading audio and podcasting) ranging from 6 to 21 per cent.

Penetration of Audio Technologies, 2005
Canadians 18+



*Past month use
Source: CBC/Radio-Canada's MTM, 2005

Our analysis of anglophones aged 18 to 26 and those aged 51-plus suggests that among certain segments of the population, the new ways of accessing audio content have, in fact, supplanted the conventional means of accessing audio content.[7] That is to say, they have become the norm.

As the table following indicates, anglophone "Generation Y's" are much more likely to own or use the new ways of accessing audio content than anglophones aged 51-plus. As of the first quarter of 2006, 72 per cent of anglophones aged 18 to 26 had utilized at least one of the new ways of accessing audio content, that is, they owned an iPod/MP3 player or accessed audio over the Internet (which

[7] Usage of mobile wireless has been excluded as it was not measured in the MTM survey.

includes streaming/downloading audio and podcasting). Of the new ways to access audio content, iPod/MP3 ownership and downloading music are most popular among 18 to 26 year olds. Clearly for anglophone members of Canada's "Generation Y", audio content is no longer accessed the way it once was.

Usage and Ownership of New Ways to Access Audio Content Among Two Age Segments of the Population Anglophones 18+

Radio Technologies	18 to 26 Year Olds	Persons Aged 51+
MP3 Ownership	50%	8%
Streamed Audio in past month	39%	11%
Downloaded audio in past month	52%	5%
Downloaded a podcast month	10%	2%
Total - New ways to access audio content	72%	18%

Source: CBC/Radio-Canada's MTM

Anglophones aged 51-plus, on the other hand, have continued to consume audio content in the traditional way, via conventional radio stations. Fewer than one in five anglophones aged 51-plus either own an iPod/MP3 player, or have accessed audio by streaming, downloading music or a podcast over the Internet. Streaming music over the Internet is the most popular activity practiced by anglophones aged 51-plus, with just over 10 per cent of the persons in this age segment indicating that they engaged in this activity in the past month.

D. Meeting the Challenge and Adapting to Change

The changing broadcasting environment raises numerous and varied challenges, as well as an equally numerous variety of opportunities. Three areas that deserve special comment are: the need for broadcasters to be present across all platforms; the importance of maintaining a Canadian presence; and, the need to take a second look at the scope of the regulatory exemption for New Media.

1. A presence across all platforms

The advent of multiple platforms and the accompanying audience fragmentation create an incentive for broadcasters to build a brand across as many platforms as possible in order to maximize their audience and enhance the prominence of their brand. This incentive runs across all platforms – both audio and video – since the opportunity for cross-promotion is not limited to a particular medium.

Brand recognition is also important given that on-demand access is growing as an option and, therefore, a broadcaster or content aggregator needs a well-established reputation in order to attract viewers or listeners. While the knowledgeable viewer or listener may choose to access content directly from the source wherever possible, a trusted, known brand should still attract viewers and listeners who wish to discover new products.

Access to and control of high quality content becomes critical given these factors. This would appear to create an incentive for vertical integration of content production and delivery. At a minimum, there is a clear incentive for a broadcaster to obtain comprehensive rights for any audio or video content it may purchase. In theory, this should enhance the bargaining power and revenue opportunities of content producers, assuming they can demonstrate that they have a high quality product.

From the perspective of CBC/Radio-Canada, the Corporation has to reach out to Canadians wherever they may be. This means developing a presence on all possible platforms. This may be easier for CBC/Radio-Canada than for some other broadcasters, at least with respect to audio content, given that it owns more of the programming it broadcasts. Nonetheless, acquiring full programming rights remains an issue, even for CBC/Radio-Canada and especially in the case of video content.

And using multiple platforms requires the development of a business case of which program rights are only one variable. Infrastructure costs to support these new platforms must also be taken into account.

2. Maintaining a place for Canadian programming

The new broadcasting technologies and platforms provide Canadians with access to a dramatically increased variety in programming choices. This expanded universe for programming – both audio and video – is a tremendous benefit to consumers. It is also a tremendous challenge to Canadian culture and to the Canadian broadcasting system since it is critical that there be a highly visible Canadian presence across all broadcasting platforms.

While the Canadian broadcasting industry is very aware of the need for a ubiquitous Canadian presence, it is also essential that the Canadian government take steps to support this goal. If proactive measures are not taken, the visibility of Canadian programming will shrink and the opportunity for Canadians to see and hear their own music, stories and values reflected in the mass communications media of the 21st century will fade and perhaps eventually disappear.

It is important to recognize that in this new environment the economics of video programming are even more challenging than in the past. Instead of competing against a handful of U.S. networks, Canadian broadcasters now face a sea of competing video content, rising production costs and elevated viewer expectations. If Canadian broadcasters and independent video producers are to survive, existing mechanisms for supporting video production must be strengthened and new mechanisms developed.

There can be no doubt that CBC/Radio-Canada is a key vehicle for achieving a Canadian presence across all platforms in the new environment. That being said, the Corporation can only fulfill this role if it receives proper funding for both its infrastructure and programming requirements. It is also essential that rationalization of CBC/Radio-Canada's activities be permitted to proceed in a coherent and efficient manner. For example, the decline of over-the-air television distribution should be recognized and accepted. Funds can then be dedicated to forward-looking projects and technologies, rather than attempting to shore up an outmoded distribution technology.

It is also important to recognize the new prominence of subscription revenues as a funding mechanism. Subscription fees are now the most important funding source within the Canadian television broadcasting system, accounting for 63 per cent of the revenue generated by Canadian broadcasters. In particular, whenever intermediaries such as BDUs are involved in the distribution of content, the revenues generated by subscription fees should be shared equitably amongst all players. Neither conventional television broadcasters nor any other content providers should be required to provide their content for free when someone else is making money off that content via subscription fees. Equitable access to subscription revenues is critical if there is to be a level playing field and adequate funding for all platforms.

3. Re-visiting the New Media Exemption

It is eight years since the CRTC initiated a proceeding to consider the regulatory regime that should be applied to broadcasting activities over the Internet. And, it is more than seven years since the CRTC released its New Media decision exempting Internet broadcasting from regulation. Much has happened since that time.

In 1998, the dominant form of Internet connection was dial-up and the majority of Canadians did not have any form of Internet access at home. Broadcasting over the Internet was more of an idea than a reality.

Today, almost 3 in 4 Canadians have Internet access at home and over 50 per cent have high speed access. Both audio and video broadcasting over the Internet are very much a reality.

The rate of innovation in Internet broadcasting and the development of new platforms raises the question, not of whether it is both timely and necessary for the CRTC to re-examine its New Media exemption, but whether the CRTC should extend regulation to other emerging media platforms as well. While it is undoubtedly impractical to attempt to regulate all types of broadcasting over the Internet, it is worth examining whether managed and subscription-based Internet broadcasting should also continue to be exempt.

For example, mobile wireless video services rely on the Internet, but the wireless operator charges a subscription fee for access and controls the form of access and the content available, for example. This type of activity is comparable to a traditional BDU video distribution service, but is exempt from any form of regulation under the New Media decision. It is not clear why mobile wireless video services – offered by a Canadian entity operating a wireless network within Canada and subject to CRTC jurisdiction - should not be required to make some form of contribution to the Canadian broadcasting system.

In a similar vein, it seems appropriate to examine more closely the characteristics of other Internet subscription or fee-based services, such as video streaming or downloading. If such a service were to be offered by a Canadian ISP - such as a cable company or DSL provider - that ISP would be acting in a role directly analogous to a VOD operator. There does not appear to be any public policy or other reason for exempting the ISP from the requirement to make a contribution to the Canadian broadcasting system in such circumstances.

Overall, it is clear that the changes in the Internet environment warrant a re-examination of the CRTC's New Media exemption in order to ensure that a double standard does not develop as between New Media and other regulated broadcasting platforms. If this issue is not examined in a timely manner, there is a danger that New Media broadcasting activities will benefit from an unfair advantage and, ultimately, the integrity of the Canadian broadcasting system may be compromised.

E. Conclusion

The Way Forward

The scope and scale of the changes in the broadcasting environment over the past decade have been profound. Technology continues to evolve at a rapid pace and broadcasters must adapt or be left behind. At the same time, new business models must be introduced.

Amidst all this change, one thing is clear. If Canada is to continue to have a broadcasting system that meets the needs of Canadians, a system that provides them with video and audio programming that reflects their country, their communities, their music, their way of being in the world, then Canadian broadcasters and the Canadian government must collectively develop new ways to ensure that high quality Canadian programming has a prominent place on Canadian televisions, radios, computers, iPods, cell phones and every new device that comes on the scene.

CBC/Radio-Canada is ready and eager to play its part in this challenging endeavour.

Part 2 – The Order in Council Questions

A. Reponses to the OIC Questions

a) The current state of audio-visual technologies and their predicted evolution over the coming years;

Our overview has shown that the audio-visual broadcasting industry is experiencing a number of important changes. Technological innovation is radically changing the way in which Canadian consumers can enjoy video or audio content. Some of these innovations are providing enhancements over older technologies and, in general, will not disrupt the associated broadcasting activity. Others, however, will expand the consumers' broadcasting universe by providing them the opportunity to access audio or video content in ways or at times that were previously not possible. These innovations have the potential to be extremely disruptive in their long-term effects on pre-existing platforms and technologies.

The following are the key trends in audio-visual production and distribution technologies for the broadcasting industry.

The Move to the Digital Production of Content

The production, post-production, storage, handling and distribution of content has or is in the process of converting to digital for all radio and TV broadcasters. In TV, broadcasters are starting to adopt HD, widescreen capabilities into their operations. CBC/Radio-Canada produces all of its programming – audio and video – in digital.

The specific technical format for programs will continue to vary according to the platform, reflecting both the transmission method and capacity of the platform and the nature of the devices used to view or listen to the distributed content. For example, audio services such as pay audio are likely to continue to provide significantly higher quality audio than Internet streaming or other low capacity audio distribution platforms. Similarly, the video format for mobile wireless video services is dramatically different in both quality and style from the format used in connection with cable BDU distribution of video.

The Shift From Free to Fee-based Delivery of TV and Radio

Television

There are three primary distribution technologies for television: conventional over-the-air transmission, cable distribution, and DTH satellite distribution. As the number of BDU subscribers has grown, over-the-air reception has become increasingly marginalized, especially in English Canada.

All DTH subscribers receive digital signals, whereas cable subscribers may receive either analog or digital service or a combination of the two. While a significant portion of cable subscribers continue to rely on analog service, the shift to digital cable has accelerated significantly in recent years and is expected to continue to grow rapidly as analog cable subscribers realise the benefits that subscribing to a digital service will offer. By 2010, almost four in five Canadian households will be subscribing to some form of digital TV distribution service.

It can be expected that with the move to digital, over-the-air transmission will remain a viable distribution technology for television programming only in major urban centres.

Radio

Audio broadcasters must also adapt to the new business models represented by subscription services, as well as the threat to advertising revenues as a result of declining usage to conventional radio by key younger demographics. Pay audio offers specialized music channels as part of a BDU's package of subscription services. While pay audio has enjoyed reasonable success in the BDU market, in its present form pay audio does not have the portability and convenience of wireless audio services.

Portable, fee-based audio services have only recently emerged. Satellite radio, which offers 100 or more channels of specialized music and talk programming, has experienced rapid growth in the United States and is now growing quickly in Canada.

The primary driver for satellite radio has been receivers in automobiles. However, Canadian satellite radio services are already seeking to extend their reach by means of distribution by cable and DTH BDUs, as well as via mobile wireless carriers.

The Emergence of the Multi-Platform Environment

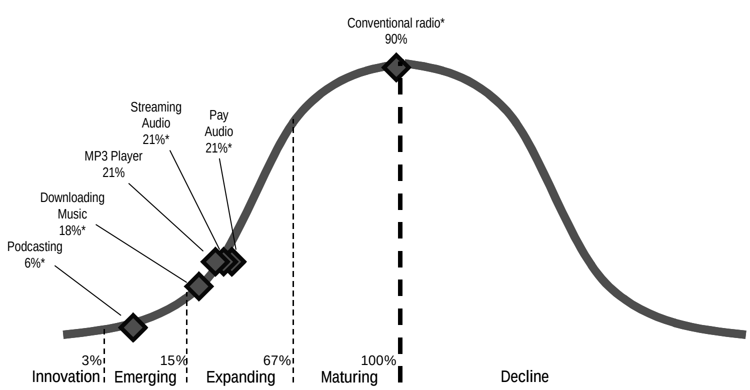
Though TV and radio remain the foundation of broadcasting, consumers are increasingly accessing audio and video content on multiple platforms. The fragmentation of niche channels has matured – there are 600+ licensed or authorized TV channels for distribution in Canada and dozens of over-the-air radio choices in most metropolitan markets. Consumers increasingly want more control over "when" and "where" they consume audio and video content.

While some consumers are starting to use the Internet to obtain audio and video content, it will take at least another generation of capital investment before it can handle the current quality and diversity of audio and video consumer usage, such as HD signals.

<u>Audio</u>

While replacements for conventional radio are still in their early stages, alternatives are nonetheless abundant. This is clearly demonstrated by the following chart, which links consumer usage and ownership of audio technologies to the adoption cycle.

Penetration of Audio Technologies, 2005
Canadians 18+



*Past month use
Source: CBC/Radio-Canada's MTM, 2005

With more than 200,000 subscribers in Canada and demonstrated growth in the US, it is expected that Canadian satellite radio services will break through the innovation adoption stage quickly.

With the spread of wireless services, audio listening over the Internet has gained increased flexibility in terms of accessibility in multiple locations and via multiple devices. Podcasting, despite only appearing onto the technology landscape, has taken off and is already in the emerging stage of adoption. And while about a fifth of Canadians download and/or stream audio over the Internet, it is important to recognize that the sound quality of streamed audio is not on a par with most other broadcasting services. This is likely to limit the attractiveness of this option for some listeners.

For these reasons – and as noted above - the Internet remains in a nascent stage of development as an audio (and video) platform.

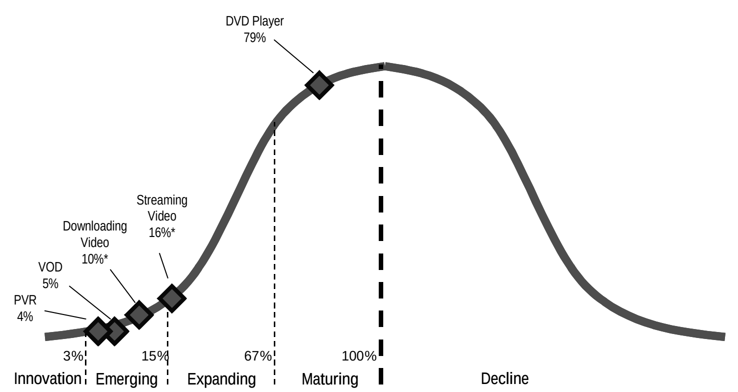
Ownership of MP3 players is already breaking into the mainstream. Pay Audio, while not a reason for subscribing to digital TV, has developed a respectable audience.

<u>Video</u>

Consumers are adopting technologies to exercise more control over when and where they watch video content. As seen in the following charts, on-demand access to TV is proliferating among consumers on multiple platforms such as PVRs, VOD and the Internet.

Penetration of On-demand Video Platforms, 2005

Canadians 18+



*Past month use
Source: CBC/Radio-Canada's MTM, 2005

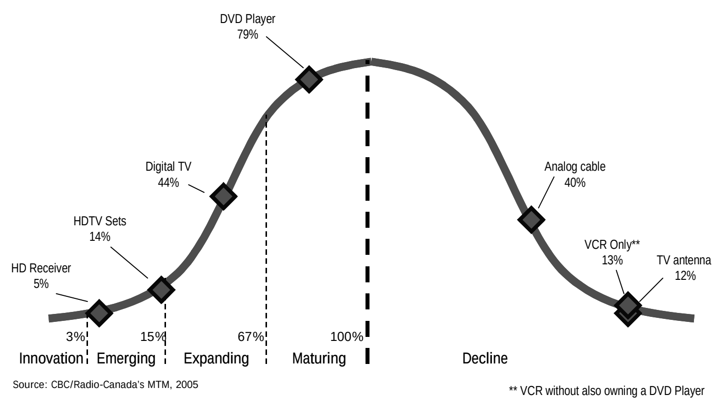
PVRs in Canada are primarily available for purchase or rent among digital cable and satellite TV subscribers. And while few digital TV subscribers have a PVR, it is expected that the penetration rate will grow steadily over the next several years before levelling off at between 20 and 30 per cent. Given the ongoing development of other on-demand services, it seems unlikely that PVRs will expand much beyond this level.

Digital cable operators have rolled out VOD services that allow consumers to access programming on-demand. VOD usage is low among the total population but significant among digital cable subscribers, with over a quarter indicating that they accessed a VOD program in the past month. In addition, research indicates that a large majority of VOD subscribers use the service on a regular basis. This suggests that as VOD penetration grows, the importance of this platform will increase significantly.

Broadband Internet adoption continues to grow rapidly in Canada and, consequently, video is increasingly available over the Internet to stream or download. Internet streaming of video is becoming more common with around 16 per cent of Canadians reporting that they streamed video at least once in the previous month. However, **in its current traditional unicast form,** the Internet is simply unable to handle the bandwidth requirements of television viewing as it exists today on other platforms, and will therefore continue to be complementary, rather than competitive, to these platforms for some time to come.

Aside from the numerous alternatives for on-demand video, each with different functionality and content, consumers are also adopting technologies that improve video quality for immersive experiences. These technologies (e.g. Digital TV, HD) enhance video quality and content.

Penetration of Select Video Technologies, 2005
Canadians 18+



The DVD Player has replaced the VCR for playback of pre-recorded material.

HDTV sets can now be found in almost 15 per cent of Canadian homes, but most of these HDTV sets are not being used to display high-definition TV programs. At a penetration rate of 5 per cent, HDTV receivers[8] (which are required to view HDTV content) have nearly tripled in the past year, but are still lagging behind HDTV set penetration. As HDTV sets get thinner and more affordable, more consumers will adopt them. Increased HD content will also entice consumers to acquire HD receivers, as will the fact that US programming is now mainly

[8] By HDTV set, it is meant an HDTV display unit which does not have the tuning and decoding capabilities to receive a HDTV signal from a DTV over-the-air transmitter or from a BDU without an external set top box. By HDTV receiver, it is meant a HDTV display unit which, has the above receiving capabilities integrated.

available in HD and Canadian broadcasters are also providing some Canadian content in HD.

b) With respect to the usage of audio-visual technologies by Canadians,

(i) changes in this usage since January 1, 2000,

The key changes in usage of audio-visual technologies by Canadians are as follows:

Video

1. Television

<u>The continuing decline in over-the-air reception</u>

The overall penetration rate of over-the-air reception declined from 24 per cent in 2000 to 14 per cent in 2005. One in eight Anglophones (12 per cent) received their television signals off-air in 2004-05, down from more than one in five (22 per cent) just five years ago. Off-air reception is, however, higher among Francophones, with a penetration rate of 20 per cent in 2004-05 - down from 30 per cent five years ago. Just ten years ago, one out of three Francophones still captured their TV signals over-the-air.

For English markets, over-the-air penetration is low regardless of the proximity to urban centres. In Francophone markets, over-the-air penetration is highest in Montreal.

Satellite, Cable and Off-air Penetration Rates
%

	Canada Excluding Quebec			Francophone Quebec		
	Satellite	Cable	Off-Air	Satellite	Cable	Off-Air
Area Population						
1,000,000+	14%	77%	8%	18%	59%	23%
100,000 - 1,000,000	22%	67%	10%	19%	69%	12%
50,000 - 100,000	39%	52%	9%	31%	60%	9%
< 50,000	50%	37%	13%	40%	50%	10%

Source: BBM Fall 05/Spring 06, NMR 05 - 06

BDU distribution continues to grow

Subscription TV is now the norm. The percentage of Canadians who receive their television signals via BDUs has continued to grow in recent years, rising from 76 per cent in 2000 to 86 per cent in 2005.

Penetration of Over-the-air and BDUs among Anglophone Households

	1994-95	1995-96	1996-97	1997-98	1998-99	1999-00	2000-01	2001-02	2002-03	2003-04	2004-05
Anglophones	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**
Off-Air	22.8	21.5	22.4	21.6	22.0	22.4	21.2	19.4	12.6	13.1	12.8
Cable/Satellite	77.2	78.5	77.6	78.4	78.0	77.6	78.8	80.6	87.5	86.9	87.2
Analog	-	-	-	-	-	-	-	61.5	58.7	52.7	50.0
Digital	-	-	-	-	-	-	-	8.2	13.4	14.5	16.2
Satellite	-	-	-	-	-	-	-	10.9	15.4	19.7	21.0

Source: Nielsen Media Research

Penetration of Over-the-air and BDUs among Francophone Households

	1994-95	1995-96	1996-97	1997-98	1998-99	1999-00	2000-01	2001-02	2002-03	2003-04	2004-05
Francophones	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**
Off-Air	33.1	32.1	34.9	32.1	32.2	30.0	29.7	29.9	22.8	20.9	20.4
Cable/Satellite	66.9	67.9	65.1	67.9	67.8	70.0	70.3	70.1	77.2	79.2	79.6
Analog	-	-	-	-	-	-	-	56.2	53.8	47.7	46.8
Digital	-	-	-	-	-	-	-	4.7	6.7	10.9	12.4
Satellite	-	-	-	-	-	-	-	9.2	16.7	20.6	20.4

Source: Nielsen Media Research

Whereas all DTH subscribers receive digital signals, cable subscribers may receive either analog or digital service, or a combination of the two. While a significant portion of cable subscribers continue to rely on analog services, the shift to digital cable has accelerated significantly in recent years.

Overall, digital BDU services have grown by about 100 per cent in Anglophone homes in the past 4 years with the result that almost 40 per cent of Anglophone homes now receive their television signals via a digital platform.

The digital take up rate has been even higher among Francophones, with penetration having grown by over 130 per cent between 2001 and 2005. Today, one in three Francophones receive their TV signals via a digital platform. While DTH remains the most popular digital platform, the adoption of digital cable has increased at a faster rate since 2001.

2. New ways of accessing video content

Technological advancements over the past ten years have given rise to a variety of new platforms for consumers to receive and view video programming, including mobile wireless, video-on-demand (VOD), personal video recorders (PVRs), Internet streaming and Internet downloading.

These new platforms and technologies have affected the video opportunities available to Canadians in three key ways.

First, they significantly expanded where consumers can receive and watch video programming. Second, all of these new platforms, with the exception of some forms of Internet streaming, can be characterized as on-demand services which free viewers from the rigidity of program schedules. Third, some new platforms, such as mobile wireless, provide video in a significantly different format from traditional television.

Illustration of Multi-Platform Growth - Video

1995	2000	2005
TV Distribution	TV Distribution	TV Distribution
•Over-the-air TV	•Over-the-air TV	•Over-the-air TV
•Analog Cable	•Analog Cable	•Analog Cable
	•Digital Cable	•Digital Cable
Personalization	•DTH Satellite	•DTH Satellite
•VCR		•Wireless Cable (MDS)
•Specialty TV	Personalization	•IPTV
•Pay TV	•VCR	•Internet
	•Specialty TV	
	•Pay TV	Personalization
	•DVD Player	•VCR
	•PPV	•Specialty TV
		•Pay TV
	Portable	•DVD Player
	•DVD Player	•PPV
		•PVR
		•VOD
		•Video Downloads
		•Video Streaming
		Portable
		•DVD Player
		•Digital Video Player
		•Mobile Phone
		•Laptop Computer

Audio

1. Conventional Radio

Radio was the first technology used by broadcasters in Canada to reach a mass audience and has remained an important medium since its inception. Despite speculation that radio would not keep up with the growth of television, particularly following the introduction of music videos in the early eighties and the arrival of portable CD players a few years later, radio has lived on.

However with the recent arrival of satellite radio and the myriad of other emergent audio platforms, radio could be facing its toughest challenges yet.

2. New ways of accessing audio content

Over the past decade, numerous new ways of accessing audio content have become available in Canada, including digital radio, pay audio, satellite radio, mobile wireless, Internet streaming, podcasting and Internet downloading of music.

Illustration of Multi-Platform Growth - Audio

1995	2000	2005
Distribution •Radio On-demand •Tapes •CDs Portable •Walkman	Distribution •Radio •Audio Player On-demand •Tapes •CDs •Music downloads Portable •Walkman •Digital Audio Player	Distribution •Radio •Internet •Satellite Radio On-demand •CDs •Music downloads •Streaming Audio •Podcasting Portable •Walkman •Digital Audio Player •Mobile Phone

As with new video platforms, these new audio platforms provide consumers with increased choice in terms of where and how audio services can be received, increased diversity in the type of content that is available and greater flexibility and control over when content is accessed and listened to.

The new audio platforms have met with varying degrees of acceptance by the public and while the final verdict is still out on most of them, they have increased audience fragmentation and are forcing audio broadcasters to be both more thoughtful and more innovative when developing audio content and when deciding the best means to deliver it to Canadians.

(ii) changes in demand for various kinds of programming and programming services since January 1, 2000,

The key changes in demand for various kinds of programming and programming services by Canadians are as follows:

Video

1. Television

Despite numerous predictions suggesting that TV is losing ground at the hand of new technologies, weekly per capita usage of television has increased in recent years. While TV usage hovered at about 22 hours per week throughout the nineties, the growth of digital platforms and the myriad of new specialty services have resulted in an increase of about 2 hours a week in the last ten years.

Weekly Use of Television (Per Capita Hours)	Broadcast Years										
	1994-95	1995-96	1996-97	1997-98	1998-99	1999-00	2000-01	2001-02	2002-03	2003-04	2004-05
Canadians 2+	22.0	22.6	22.0	22.3	22.0	22.6	22.6	23.7	25.4	25.4	24.4

Source: Nielsen Media Research

Given the increased variety of television services brought forward by the growth of the multi-channel universe, there has been a shift in viewing from conventional to specialty services. Nonetheless, conventional television continues to attract over half of the prime time audience to English-language television, and over two-thirds of Francophone viewing.

Distribution of English TV Viewing by Station Group

Prime Time	1994-95	1995-96	1996-97*	1997-98	1998-99	1999-00	2000-01	2001-02	2002-03	2003-04	2004-05
All English TV Viewing	**100.0%**	**100.0%**	**100.0%**	**100.0%**	**100.0%**	**100.0%**	**100.0%**	**100.0%**	**100.0%**	**100.0%**	**100.0%**
Cdn Conventional	56.4	56.0	55.2	51.7	48.4	48.2	47.1	44.5	42.4	44.0	43.2
U.S. Conventional	25.5	24.8	23.9	20.6	19.8	19.0	17.1	15.3	14.0	13.2	13.2
Total Conventional	**81.9**	**80.8**	**79.0**	**72.3**	**68.2**	**67.2**	**64.2**	**59.8**	**56.4**	**57.2**	**56.3**
Cdn Specialty	8.7	10.3	11.1	15.8	18.5	19.3	21.5	24.5	26.2	27.3	28.5
Foreign Specialty	5.8	5.8	6.7	9.5	10.9	11.0	11.2	11.8	12.5	11.2	11.6
Pay TV	3.5	3.1	3.2	2.4	2.4	2.4	3.1	3.8	4.9	4.3	3.7
Total Specialty/Pay	**18.0**	**19.2**	**21.0**	**27.7**	**31.8**	**32.8**	**35.8**	**40.2**	**43.6**	**42.8**	**43.7**

* Data not available for the 2-week period January 6-19, 1997.

Source: Nielsen Media Research

With heavier television viewers having typically upgraded to digital platforms, those who remain in off-air homes tend to be lighter television viewers who do not value the increased choice available via cable or DTH. As a result, the gap

Weekly TV Usage by Viewing Environment - Per Capita Viewing Hours

2004-05 Broadcast Year	Off-Air	Analog	Digital	Total
Anglophones 2+	12.2	24.7	26.7	24.0
Francophones 2+	21.7	26.9	27.0	26.0

Source: Nielsen Media Research

between off-air and multi-channel home viewing is increasing. Anglophones in digital homes watch nearly 27 hours a week, more than twice as much television as those living in over-the-air homes. And while off-air francophone viewers still spend about 22 hours a week watching TV, their "digital" peers watch 24 per cent more.

In the English market digital environment, the increase in programming choices has not resulted in a concomitant increase in the viewing of Canadian programming. Less than a quarter of prime time English TV viewing is now dedicated to home grown programming.

Distribution of English TV Viewing by Program Origin

6AM TO 2AM	2000-01	2002-03	2004-05 *
All Programs	**100%**	**100%**	**100%**
Canadian	34%	32%	31%
Foreign	66%	68%	69%
Prime Time	**2000-01**	**2002-03**	**2004-05 ***
All Programs	**100%**	**100%**	**100%**
Canadian	26%	25%	22%
Foreign	74%	75%	78%

Source: Nielsen Media Research

* Estimates based on CTF data as reported by NMR. Additional coding was undertaken in order to minimize the level of uncoded viewing.

In French Canada, almost two-thirds of all viewing to French TV in 2000-01 was to Canadian programming and this high proportion has been maintained right up to the 2004-05 broadcast year. The same pattern is true in prime time, where Canadian content now accounts for two-thirds of all viewing to French TV.

Distribution of French TV Viewing by Program Origin

6AM TO 2AM	2000-01	2002-03	2004-05 *
All Programs	**100%**	**100%**	**100%**
Canadian	65%	66%	66%
Foreign	35%	34%	31%
Prime Time	**2000-01**	**2002-03**	**2004-05 ***
All Programs	**100%**	**100%**	**100%**
Canadian	62%	63%	65%
Foreign	38%	37%	33%

Source: Nielsen Media Research

* Estimates based on CTF data as reported by NMR. Additional coding was undertaken in order to minimize the level of uncoded viewing.

2. New ways of accessing video content

Given the diversity of new video platforms, their relationship to traditional television varies significantly and, in some cases, can be quite complex. Consequently, it is simplistic to suggest that they are replacing traditional, scheduled television. Nonetheless, it is clear from data shown in the table below, that they will have an impact on television viewing and, hence, on the broadcasters and BDUs who provide television programming to the public.

New ways of accessing video content

	Anglophones 18+	Francophones 18+	Trend
Past month VOD usage	5%	4%	Emerging
PVR penetration	4%	2%	Emerging
Past month video streaming	17%	14%	Growing
Past month video downloading	11%	7%	Growing

Source: CBC/Radio-Canada's MTM, 2005

VOD services are offered by all of the major cable BDUs to their digital subscribers. And while past month usage of VOD is still low among the overall population, usage among digital subscribers is significant, with over a quarter indicating that they had accessed a VOD program in the past month.

The penetration rate for PVRs is also low. However, the impact of PVRs may be considerable since research indicates that PVR owners spend nearly half of their television viewing time watching recorded programs instead of live ones. Research also indicates that almost three-quarters of the commercials in 'PVR'd' programs are either skipped or fast forwarded.

Video is increasingly available over the Internet to stream or download. Around 15 per cent of Canadians 18+ indicate they have streamed video over the past month, while about 10 per cent indicate they have downloaded video content.

Audio

1. Conventional Radio

Radio listening levels remained stable at around 21.5 hours per week until the mid-nineties, and then underwent a slight decrease (about 1 hr/week). However, the arrival of new, more flexible audio platforms seems to have negatively impacted the medium. Over the past 3 years, weekly radio listening has slipped below 20 hours per week, reaching its lowest level in the fall of 2005 at 19 hours per week.

Weekly Use of Radio (Per Capita Hours)	Fall Sweeps										
	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005
Canadians 12+	21.0	20.2	19.9	20.4	20.5	20.3	20.1	20.2	19.5	19.6	19.1

Source: BBM (Fall Sweeps)

2. New ways of accessing audio content

The impact of new technologies is even more important as it relates to audio usage. More and more, listeners expect to be able to choose what they hear, and how and when they hear it. They want specialized programming that suits their tastes. And they want to be able to listen to that programming where it suits them.

New ways of accessing audio content

	Anglophones 18+	Francophones 18+	Trend
iPod/MP3 Player penetration	23%	14%	Growing
Past month download podcast	7%	3%	Emerging
Past month audio streaming	23%	16%	Growing
Past month music downloading	20%	12%	Growing

Source: CBC/Radio-Canada's MTM, 2005

Anglophone Canadians have clearly embraced new audio technologies. Nearly a quarter of Anglophone adults own an MP3 player, and just as many indicate they have streamed audio in the past month. One in five indicate having downloaded music in the previous month. Podcasting, which has just appeared on the technology landscape, is used by just under 10 per cent of Anglophone adults.

These audio trends are consistent among Francophone Canadians, although usage is somewhat lower.

iii) How Canadians of different generations use various technologies and the impact that these different uses will have on the broadcasting system,

Video

1. Television

Younger generations are more inclined to invest the time and effort in technologies that provide more choice and control.

Hence, while overall weekly TV viewing has increased in recent years, the growth has been limited to adults aged 35-plus, i.e. those who have historically devoted more time to television.

Television viewing among kids, teens and younger adults has remained fairly stable since the mid-nineties – the early days of the Internet. While recent studies have claimed that increased Internet use among young Canadians had come at the expense of television, this has clearly not been the case. Per capita viewing of young Canadians is nonetheless not growing at the same rate as the rest of the population. Generations X and Y are increasingly interested in being able to access video content when and where they want.

Weekly Use of Television Canadians	Broadcast Years										
	1994-95	1995-96	1996-97	1997-98	1998-99	1999-00	2000-01	2001-02	2002-03	2003-04	2004-05
Weekly Per Capita Hours											
All Persons 2+	22.0	22.6	22.0	22.3	22.0	22.6	22.6	23.7	25.4	25.4	24.4
Kids 2-11	15.3	14.8	13.6	14.5	14.0	14.6	15.4	14.9	16.4	16.4	15.2
Teens 12-17	14.8	16.0	16.4	16.5	14.8	14.7	15.2	16.4	16.7	15.6	15.7
Adults 18-34	19.4	19.8	19.5	19.7	18.9	19.9	19.3	20.8	22.0	21.5	19.9
Adults 35-54	21.4	22.1	21.5	22.3	21.9	22.7	22.9	24.3	26.3	26.0	25.3
Adults 55+	33.3	34.4	33.1	32.6	33.5	33.1	32.3	33.3	35.3	35.7	34.7
Men 18+	23.2	23.4	22.9	23.0	23.2	23.5	23.4	25.0	26.9	26.8	25.5
Women 18+	24.7	26.0	25.1	25.6	25.2	26.1	25.5	26.7	28.4	28.6	27.8

Source: Nielsen Media Research

The emergence of new technologies has incited change and has pushed broadcasters to adapt to the ever-changing media landscape by delivering content to the “on demand” consumers on a variety of new platforms. Preliminary research suggests that these new technologies may not negatively impact TV viewing, but could instead lead to an increase in viewing since audiences now have the flexibility of viewing their favorite shows at their convenience. Television has proved to be a resilient medium, and it is expected that it will remain a key component of the Canadian broadcasting landscape.

2. New ways of accessing video content

Young Canadian’s usage of traditional television has not grown at the same rate as the rest of the population. That is because these younger demographics make up the bulk of early adopters of new on-demand technologies. This is clearly illustrated by the table below.

New ways of accessing video content

	Anglophones 18+				Francophones 18+			
	18-34	35-49	50-64	65+	18-34	35-49	50-64	65+
Past month VOD usage	6%	7%	3%	2%	7%	5%	3%	1%
PVR penetration	5%	5%	3%	1%	2%	3%	2%	1%
Past month video streaming	26%	19%	13%	5%	26%	15%	8%	3%
Past month video downloading	22%	11%	5%	2%	16%	5%	3%	0%

Source: CBC/Radio-Canada's MTM, 2005

Audio

1. Conventional Radio

While radio listening has declined in every age group over the past decade, the most significant declines have occurred among teens and young adults. Teens now spend less than 10 hours a week listening to the radio and have turned to other audio platforms such as the Internet, mobile phones, MP3s and iPods that provide greater flexibility as to when, where and how they access audio content.

Weekly Use of Radio Canadians	Fall Sweeps										
	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005
Weekly Per Capita Hours											
All Persons 12+	21.0	20.2	19.9	20.4	20.5	20.3	20.1	20.2	19.5	19.6	19.1
Teens 12-17	11.0	10.6	10.7	11.0	11.3	10.5	10.1	9.4	8.5	8.6	8.7
Adults 18-24	18.4	17.5	17.3	18.0	17.3	18.1	17.3	16.7	16.4	15.7	15.3
Adults 25-34	21.5	21.1	21.0	20.8	21.3	20.6	20.5	20.1	19.3	19.3	18.2
Adults 35-49	22.4	21.7	21.4	21.4	21.6	21.8	21.6	21.7	21.3	21.5	21.0
Adults 50+	23.3	22.1	21.6	22.8	22.6	22.4	22.3	22.8	22.0	22.1	21.7
Men 18+	21.8	20.9	20.9	21.3	21.3	21.2	21.1	21.3	20.9	20.8	20.3
Women 18+	22.2	21.4	20.9	21.4	21.6	21.5	21.2	21.2	20.4	20.6	20.0

Source: BBM (Fall Sweeps)

While these downward trends are significant, it is too early to predict the future state of over-the-air radio given its central role as a provider of local news and information to listeners in cities and towns across the country. CBC/Radio-Canada identified the trends in radio listening several years ago and responded by strengthening both its local content and its connection with local communities. CBC/Radio-Canada also undertook a major repositioning of its radio services, revamping its programming so as to better meet the tastes and needs of all listeners, including younger audiences. As a result of these forward-looking initiatives, CBC/Radio-Canada's reach and market share in conventional radio has increased significantly in recent years.

The Full-Coverage Reach of CBC Radio One & CBC Radio Two Among All Persons 12+

	Fall Sweeps										
	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004
CBC Radio One	2,687,000	2,805,000	2,636,000	2,592,000	2,865,000	2,762,000	2,863,000	3,167,000	3,046,000	2,976,000	3,114,000
CBC Radio Two	1,255,000	1,308,000	1,224,000	1,149,000	1,286,000	1,202,000	1,221,000	1,212,000	1,263,000	1,147,000	1,126,000
CBC Total - Unduplicated Reach	3,438,000	3,597,000	3,368,000	3,303,000	3,652,000	3,512,000	3,618,000	3,883,000	3,789,000	3,666,000	3,752,000

The Share of Anglophone 12+ Listening in CBC Areas* Captured by CBC Radio One & Two

	Fall Sweeps										
	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004
CBC Radio One	7.5	7.8	8.0	7.7	7.7	7.4	8.7	9.2	8.9	8.3	9.1
CBC Radio Two	3.3	3.3	2.9	3.0	3.3	3.4	3.6	3.5	3.4	3.2	3.0
Combined Share	10.8	11.1	10.9	10.7	11.0	10.8	12.3	12.7	12.3	11.5	12.2

* CBC Areas – refer to those areas in which a CBC Radio One owned station is located
Source: BBM (Fall Sweeps)

Overall, these data suggest that while conventional radio faces serious challenges, these challenges can be met if the needs and expectations of listeners are identified and addressed. Thus, conventional radio – and CBC/Radio-Canada services in particular - should continue to have an important role to play in the audio world for the foreseeable future.

The Full-Coverage Reach of Première Chaîne & Espace Musique/Chaîne Culturelle Among All Persons 12+

	Fall Sweeps										
	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004
Première Chaîne	662,000	692,000	619,000	641,000	665,000	653,000	625,000	740,000	810,000	913,000	930,000
Espace Musique/Chaîne Culturelle	341,000	372,000	332,000	336,000	232,000	260,000	239,000	258,000	307,000	312,000	431,000
SRC Total - Unduplicated Reach	874,000	921,000	832,000	863,000	813,000	821,000	782,000	895,000	985,000	1,078,000	1,168,000

The Share of Francophone 12+ Listening in CBC Areas* Captured by Première Chaîne and Espace Musique/Chaîne Culturelle

	Fall Sweeps										
	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004
Première Chaîne	6.0	6.7	6.0	7.1	6.3	7.9	6.9	8.6	10.0	13.3	12.6
Espace Musique/Chaîne Culturelle	2.4	3.0	2.5	2.9	2.2	1.9	2.0	2.5	2.4	2.3	3.0
Combined Share	8.4	9.7	8.5	10.0	8.5	9.8	8.9	11.1	12.4	15.6	15.7

Base: All French radio stations
Note: Chaîne Culturelle prior to Fall 04
Source: BBM (Fall Sweeps)

2. New ways of accessing audio content

As noted above, younger Canadians devote less time to radio than ever before, and seem to have turned to other platforms that provide greater flexibility as to when, where and how they access music and other audio content.

New ways of accessing audio content

	Anglophones 18+				Francophones 18+			
	18-34	35-49	50-64	65+	18-34	35-49	50-64	65+
iPod/MP3 Player penetration	42%	24%	13%	3%	23%	16%	7%	2%
Past month download podcast	12%	9%	4%	1%	5%	2%	2%	0%
Past month audio streaming	38%	25%	14%	6%	28%	17%	10%	3%
Past month music downloading	41%	18%	3%	3%	26%	11%	4%	2%

Source: CBC/Radio-Canada's MTM, 2005

No less than two in five Anglophones aged 18-34 indicate that they owned a MP3 player or that they downloaded or streamed audio in the past month. About one in four Francophones indicates the same.

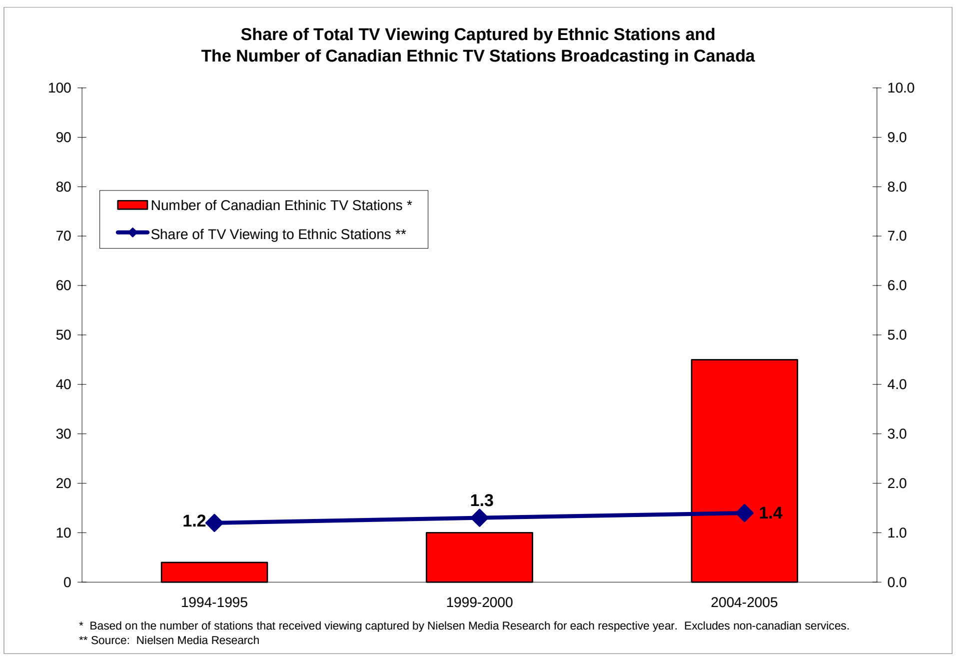
(iv) a comparison of the adoption rate for technologies between Canada and other countries,

Canadians have adopted most broadcasting technologies at a rate that is equal to or higher than most other industrialized countries. Penetration of mobile wireless services is one area where Canada has lagged both Europe and the Far East.

(v) the demand for various kinds of programming and programming services by the Canadian population, taking into account its full diversity,

Video

As already stated in part 1 of this submission, the increasing diversity of Canadian society is an important factor to keep in mind when looking at the future of television, as this increase in ethnic diversity has impacted the demand for third language/ethnic TV channels. Ethnic language TV stations have proliferated in the last decade, as shown on the table below.



Ratings data indicate only a slight increase in ethnic station's total viewing shares over the past ten years. However, it is possible that this is an under-representation of the true audience captured by these stations.

Audio

As of April 2006, there were 21 private commercial over-the-air ethnic radio stations authorized to broadcast in Canada, the majority located in Vancouver and Toronto. As stated in part 1 of this submission, Toronto is now the most ethnically diverse city in the world and Vancouver is not far behind. According to Statistics Canada, visible minorities represent about two-fifths of the population in each of these two cities. While the ratings data indicate that ethnic stations capture about 3 per cent of total radio listening in Toronto and Vancouver, there is again a sense that this may be an underestimation of the popularity of such stations.

(vi) how future generations will consume or access content, programming, and programming services, and

Overall, it seems likely that there will be a greater reliance on on-demand services over time as technologies continue to evolve which will permit this type of content selection and delivery. However, it also seems likely that there will be an ongoing role for traditional broadcasting entities providing scheduled content, as well as for intermediaries who will help consumers identify the content that they may wish to watch or listen to.

As demonstrated in part one of this submission, research indicates that a significant segment of the Canadian population has strongly embraced the new ways of accessing video and audio content. “Generation Y’s”, i.e. Canadians aged 18-26, are much more likely to own or use ‘on-demand’ technologies to access video content. As for their means of accessing audio content, newer technologies have in fact supplanted conventional ones and have become the norm for this segment of the population.

Older Canadians (51-plus), however, have been much more reticent to accept these new on-demand technologies. That segment of the population is typically the heaviest users of TV and radio, and is likely to remain a strong supporter of traditional media. As the population ages, it appears likely that television viewing and radio listening should remain significant at least among this segment of the population for some time.

Video

Despite the myriad of new technologies allowing on-demand access to video content, it is expected that television will remain a key component of the Canadian broadcast system. Despite the many changes in the world of broadcasting over the past decade, television remains the central source of news, sports and entertainment for Canadians. That basic fact seems unlikely to change for the foreseeable future. In addition, while viewing to conventional television has steadily decreased as more and more specialty services have come on stream, the general interest programming offered by conventional television still attracts a major audience share in both English and Francophone markets. The ongoing importance of television generally and conventional television, in particular, reinforces the need for CBC/Radio-Canada to continue to play a central role in this area.

Audio

Overall, new audio platforms represent a significant challenge to traditional over-the-air radio. The wide array of new platforms has increased audience fragmentation and decreased the visibility of any single audio service. As a result, audio broadcasters are being forced to be both more thoughtful and more innovative when developing audio content and when deciding the best means to deliver it to Canadian listeners. It is no longer a case of one size fits all. Rather, audio programs must be carefully designed and targeted if they are to enjoy success with increasingly sophisticated audiences

In addition, audio broadcasters also have to adapt to the new business models represented by subscription and on-demand services, as well as the threat to advertising revenues as a result of declining audiences to conventional radio. When these new elements are combined with the technological and structural challenges facing the industry, it is clear that the audio world will be in a state of flux for some time. This, in turn, suggests that it is critical for Canadian broadcasters, especially CBC/Radio-Canada, to be present on as many audio platforms as possible in order to ensure a significant Canadian presence in the evolving audio world.

(vii) the impact this evolution of technologies has for content and programming choices available to Canadians, including local, regional, national and international content; and

The increase in the number of platforms and in the capacity of individual platforms means that the diversity of programming available to Canadians is likely to continue to expand. Given the underlying economics of program production, this suggests that national and international programming is likely to increase in visibility and availability, while the relative amount and visibility of local and regional programming will decrease.

c) with respect to the impact on the broadcasting system,

(i) the adoption of technologies by broadcasting undertakings since January 1, 2000,

See response to a).

(ii) the economic and regulatory impact on the broadcasting system caused by these technologies,

The primary economic impact of the new technologies relates to the increase in programming choices available to consumers and consequent audience fragmentation. While the overall revenues of the broadcasting industry have increased, audience fragmentation has put significant financial pressures on some sectors. In particular, audience fragmentation has put the ongoing viability of the advertising model used by conventional television in considerable doubt. All broadcasters will need to be able to rely on multiple revenue streams in order to maintain their financial health in the new environment.

(iii) the kind of content delivered through the regulated and the nonregulated aspects of the system, and how it is delivered,

All forms of content are delivered through both the regulated and nonregulated aspects of the system. Consequently, in order to preserve the integrity of the broadcasting system, all forms of broadcasting activity should be required to make an equitable contribution to the Canadian broadcasting system.

The rate of innovation in Internet broadcasting and the development of new platforms raises the question, not of whether it is both timely and necessary for the CRTC to re-examine its New Media exemption, but whether the CRTC should extend regulation to some of the new emerging media platforms as well. While it is undoubtedly impractical to attempt to regulate certain types of broadcasting over the Internet – such as free audio or video streaming - it is worth examining whether managed and subscription-based Internet broadcasting should also continue to be exempt.

For example, mobile wireless video services rely on the Internet, but the wireless operator charges a subscription fee for access and controls the form of access and the content available. This type of activity is comparable to a traditional BDU video distribution service, but is exempt from any form of regulation under the New Media decision. It is not clear why mobile wireless video services – offered by a Canadian entity operating a wireless network within Canada and subject to

CRTC jurisdiction - should not be required to make some form of contribution to the Canadian broadcasting system.

In a similar vein, it seems appropriate to examine more closely the characteristics of other Internet subscription or fee-based services, such as video streaming or downloading. If such a service were to be offered by a Canadian ISP - such as a cable company or DSL provider - that ISP would be acting in a role directly analogous to a VOD operator. There does not appear to be any public policy or other reason for exempting the ISP from the requirement to make a contribution to the Canadian broadcasting system in such circumstances.

Overall, it is clear that the changes in the Internet environment warrant a re-examination of the CRTC's New Media exemption in order to ensure that a double standard does not develop as between Internet broadcasting and other regulated broadcasting platforms. If this issue is not examined in a timely manner, there is a danger that non-Internet broadcasting activities will benefit from an unfair advantage and, ultimately, the integrity of the Canadian broadcasting system may be compromised.

(iv) the different methods for providing local, regional and national programming on a going forward basis,

Any distribution technology may be used to provide local, regional, national and international programming. However, services that have a technologically limited distribution area (e.g., over-the-air radio and television, cable community channels) can be expected to act as the primary sources of local and regional programming.

(v) the predicted economic impact these technologies will have on broadcasting undertakings, and

As noted above, broadcasters will have to be able to rely on all forms of revenue generation if they are to be able to succeed in an increasingly competitive and fragmented broadcasting environment.

(vi) the adoption of technologies by the independent production sector and their impact on this sector.

The independent production sector must adapt to the changes in broadcasting technologies and formats. While this constitutes a challenge to some established businesses, ultimately it represents a source of significant new opportunities for the independent production sector, provided adequate resources – financial, technical and creative - are available.

B. Methodology

Usage of new video and audio technologies

Data on the usage of new technologies included in this submission are obtained from CBC/Radio-Canada's ***Media Technology Monitor (MTM)***, the highest quality media survey in Canada.

This survey is conducted annually by CBC/Radio-Canada and is used to track the adoption of media technologies and their progression through the adoption cycle. The MTM employs a sample of 12,000 Canadians aged 18 and over, and achieves response rates far exceeding industry standards.

For the 2005 MTM, CROP Inc. conducted 6,000 telephone interviews with Francophones residing in Quebec and the francophone regions of Ontario and New Brunswick in the 4th quarter of 2005 (Oct. 25 to Dec. 19, 2005). The response rate was 53%. Foundation Research Group, Inc., interviewed 6,000 Anglophones residing in all regions of Canada, excluding the North, in the 1st quarter of 2006 (Jan. 31 to April 26, 2006). The response rate was 45%.

Results based on the total sample of 12,000 Canadians are accurate within +/– 0.9 percentage points 19 times out of 20. Results reported separately for Anglophones and Francophones, based on samples of 6,000, are accurate within +/- 1.3 percentage points 19 times out of 20.

Both the raw data from the MTM and the associated MTM Reports which provide analysis of this data are available for purchase through the Research Department of CBC/Radio-Canada. The survey, its content and related reports are protected under copyright and other laws. CBC/Radio-Canada is also in the process of requesting that the Registrar of Trade-Marks give public notice of CBC/Radio-Canada's adoption and use of "CBC/Radio-Canada's MTM - Media Technology Monitor" and related marks as official marks.

Canadian programming in a digital world

In part 1 of this submission, CTF data reported in Nielsen Media Research ratings data was used to assess viewing to Canadian Programming in a Digital World. However, additional coding was undertaken in order to minimize the level of un-coded viewing, and obtain a more complete picture of the Canadian television-viewing environment.

Appendix A - Overview of Canadian's usage of new technologies

The following charts provide an overview of audio and video technologies and some statistics as to their usage.

Video

Penetration and Use of Devices and Services, 2005

	Canadian Total	Anglos 18+	Francos 18+		Trend
Video					
TV Viewer	96%	96%	97%	Past month user	Universal
HDTV sets	14%	15%	9%		Growing
HDTV receivers	5%	6%	2%		Growing
Cable TV					
Analog	40%	41%	38%		Declining
Digital	20%	21%	17%		Growing
Total	62%	64%	57%		Stable
DTH	23%	23%	24%		Stable
Telco TV(1)	<1%	<1%	<1%		Emerging
Wireless	<1%	<1%	<1%		Emerging
Digital TV - Total	44%	44%	42%		Growing
Over-the-air	12%	10%	17%		Declining
VCR	82%	82%	81%		Declining
DVD Player	79%	80%	75%		Growing
Personal TV					
VOD viewer	5%	5%	4%	past month	Emerging
PVR	4%	4%	2%		Emerging
Mobile TV Subscriber	<1%	<1%	<1%		Emerging

Source: CBC/Radio-Canada's MTM, 2005

(1) TV service provided by telephone companies

Appendix A - Overview of Canadian's usage of new technologies (cont'd)

Audio

Penetration and Use of Devices and Services, 2005					
	Canadian Total	Anglos 18+	Francos 18+		Trend
Audio					
Radio listener	90%	91%	89%	Past month	Universal
Pay audio listener	21%	21%	21%	past month	
iPod/MP3 Player	21%	23%	14%		Growing
Satellite Radio subscriber	<1%	<1%	<1%		
Download Podcast	6%	7%	3%	past month	Emerging

Source: CBC/Radio-Canada's MTM, 2005

Computer/Internet

Penetration and Use of Devices and Services, 2005					
	Canadian Total	Anglos 18+	Francos 18+		Trend
Computer/Internet					
Internet Connection at Home					
Dial-up	15%	13%	20%		Declining
Broadband	56%	61%	39%		Growing
Total	72%	75%	60%		Growing
Audio Downloading	18%	20%	12%	past month	Growing
Audio Streaming	21%	23%	16%	past month	Growing
Video Downloading	10%	11%	7%	past month	Growing
Video Streaming	16%	17%	14%	past month	Growing

Source: CBC/Radio-Canada's MTM, 2005