“Beyond the Clouds”:

Insider Perceptions on The Transmutation of Terrestrial Radio In Canada

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Contents

Acknowledgement

"Basically, radio hasn't changed over the years" - Casey Kasem

The idea of writing an accessible and practical paper about the effects of music streaming services on terrestrial radio first came from a conversation I had with Professor Pierre C Bélanger. He convinced me that I had some interesting things to say on the topic and that I should put my ideas on paper for an academic audience – one much bigger than I usually write for! These conversations took place at a time when I was part of a focus group reviewing content on Astral Radio's latest batch of FM station websites. As I sat through the various sessions, I wondered what Astral and others were doing about music services I'd read a great deal about in the United States. This was late 2010, when Internet Radio companies like Pandora and Spotify were plotting their dominance in the United States and Europe respectively. It was then that I realized it wouldn't be long before these, and other companies, would attempt to penetrate the Canadian market -- forcing conventional media to adapt. The agreement to partner with Professor Bélanger started the engine on what would be an exciting two-year research process involving the interviewing of radio experts in Montreal, Ottawa and Toronto.

In formulating my thesis, I benefitted tremendously from the counsel that Professor Bélanger provided. He has always been a passionate professor, but the intellectual energy he invested in helping me structure this thesis was exceptional, even by his own extremely high standards. I want to thank him specifically for living up to his credo: 'always in your corner'. As with most people who hold relatively high positions of authority in a given domain, they often move through their jobs without much criticism, convinced of their own rectitude; I never once felt that I couldn't talk to him. I never once felt that my concerns wouldn't be taken seriously. I felt listened to and respected, and I think this made for a superb academic product.

This thesis would not have had the clear and accessible level of language were it not for the help of my dear friend Lawrence Aronovitch. Lawrence was practically on call to help structure the flow and energy of the prose. He provided critical input in the shaping of earlier drafts and insightful advice in the writing process.

I'd finally like to thank my girlfriend Abigail for her emotional and intellectual support. She patiently waited for my return from an emotional exile in the last phase of the thesis (I'm sorry!). She also adorably accompanied me to Kinkos-FedEX at midnight as I sent my final copies to the Faculty in Ottawa. Without her, this thesis could not have been written. I dedicate this work to her.

Abstract

The aim of this study is to understand how leaders in the Canadian radio industry perceive the nascent personalized music streaming service industry, and how those perceptions inform their current business decisions. Over the last few years, Internet-based music services like Deezer and Rdio have launched in Canada, providing listeners with the opportunity of an alternative music experience to conventional broadcast radio. Through five interviews with experts representing terrestrial radio, on-demand services and regulation, three scenarios are presented for the future of conventional radio. In addition, a conceptualized listener profile is created using Grounded Theory Method. This profile buttresses the central finding of this research: should key political, economic and social factors remain in place, conventional radio is likely to continue to dominate as the leading commercial audio platform for Canadians in the years to come.

Chapter 1: Introduction

To remark that radio as a media is simply changing or being significantly transformed would be to under-emphasize the importance of new streaming services and their effects on the way that music is consumed in Canada. As such, the changes noted throughout this thesis about the radio industry in Canada should be perceived and understood by the reader as illustrations of irreversible transmutations. For example, Marshall McLuhan believed that radio was essentially a cool media; it enhanced one single sense in such a manner that a person need not exert too much effort to understand and enjoy its content. Today's radio is morphing into something completely interactive and, ultimately, hot. A user can now elect songs that can be added to cloud-based customized playlists on Astral, Corus and CBC radio websites, download radio podcasts, digitally record and playback radio content and more. These advancements portend a future in which radio's relationship with its users, content and advertisers becomes momentously different from where it started nearly a century ago. In this light, to identify radio's future as anything other than a transmutation would be naïve.

That being said, the radio industry is no stranger to change and innovation. Since radio's inception it has organically adapted to challenges posed to its dominant business model by incessant emerging media trends such as the introduction of television, recorded music, portable listening devices and piracy. Now it must adapt to personalized streaming services.

Widespread access and adoption of broadband Internet by Canadians has resulted in new services and products that are altering the way in which Canadians consume and interact with both traditional and digital media. The sharing of content across the Internet's borderless ecosystem is creating challenges for Canadian business leaders. Canadians can access content that is regulated or unregulated, legal or pirated, Canadian or foreign and free or paid. As such,

companies must maintain their dominance amid new and disruptive Internet technologies. For example, Internet-based companies like Skype and Netflix present Canadians with an opportunity to bypass conventional media, typically for a lower price.

Personalized streaming services, or "bespoke" services (Wall, 2004), are now available to Canadians, offering them an alternative to conventional radio broadcasting. Although these services are not identical to conventional radio, they do share some similarities with it while offering new functions. The similarities, either in programming or content, mean that Canadian audiences may reallocate their time with personalized streaming services and spend less time with commercial radio. This poses a challenge for the Canadian radio industry in a number of ways.

Advertising revenues account for the bulk of a radio station's revenue stream, and they are tied to audience tuning hours. If radio tuning hours decline, advertisers may opt for other forms of advertising based on the price per consumer reached, particularly if targeted advertising is possible (CRTC, Market Evolution Report, 2012). This would reduce the amount of revenues earned by the commercial radio industry. Radio stations are not the only affected party in the event that tuning hours decline. The commercial radio industry supports the Canadian music business in two ways: through contributions to the Canadian Content Development fund (CCD), which is calculated as a proportion of commercial radio revenues, and through air time of artists' work. As contributions to CCD are directly linked to commercial radio revenues, the decline would ostensibly be proportional. Therefore, the popularity and widespread adoption of personalized streaming services is of concern to radio broadcasters, the Canadian music industry as well as its regulators (CRTC Market Evolution Report, 2012).

At this time, there is no clear indication that Canadians are abandoning conventional radio or substituting time spent with radio to the benefit of personalized streaming services. However, there has been some evidence of a gradual erosion in the time spent listening to radio with particular age groups. If one looks at the 18-24 age group, their average weekly per capita tuning has progressively declined from 14.1 hours per week in 2006 to 11.9 hours per week in 2010 (CRTC Monitoring Report, 2011). Further, in the United States, a recent survey of 1,000 people age 18-24 indicated that 47% of them are spending less time with conventional AM and FM radio than they had in previous years (Goldwerger, 2012).

In July 2011 Swedish based-Spotify[1], a streaming service which has amassed 18 million active[2] monthly users[3] globally, launched in the United States through a partnered integration with social networking giant Facebook. In April 2012, the company went on to sign a sizeable advertising deal with Coca-Cola, a move which will doubtless lead to more exposure and adoption worldwide. US-based Pandora, an Internet radio streaming service, filed for its Initial Public Offering in February of 2011. At the time of the offering it had a formidable 80 million registered[4] users. Both companies have expressed interest in building markets in Canada, but have held off in the interim. Perhaps in response to the growing number of popular streaming services in the United States, Canadian radio companies Corus, CBC and Astral are offering streaming services that would complement their existing commercial radio offerings. These

[1] Spotify was founded in April 2006 by Daniel Ek and Martin Lorentzon. Spotify is incorporated in Luxembourg and privately funded by the owners. Spotify is the combination of the words 'spot' and 'identify' (SpotInfo, 2011)
[2] According information published by the Financial Times of London, Spotify has 3 million paid users world-wide, 1 million of which reside in the United States. In the same article Spotify founder Ek told the FT that its paid subscribers represented more than 20 percent of its active user base (Bradshaw, 2012)
[3] These are speculative figures which were calculated using the number of global Facebook users who have signed up to use Spotify (APP Data, 2012)
[4] According to TechCrunch's Eric Schonfeld, Pandora had 80 million registered users and 800,000 songs from 80,000 artists. Registered users grew from 46 million in 2010, and 22 million in 2009. The hours of music listened to on the service similarly doubled from 1 billion hours in fiscal 2009 to 2.1 billion in fiscal 2010 (Schonfeld, 2011).

services will be competing with a small cohort of streaming services like Deezer, Slacker and Rdio which have been available to Canadians for nearly two years[5].

This study seeks to understand how leaders in the radio industry perceive personalized streaming services at home and abroad, and how those perceptions inform their business decisions. Through qualitative interviews with five experts in commercial radio, broadcast regulation and on-demand audio services, insights into how personalized streaming services affect their operations are explored.

In chapter two, literature about the history, shaping and adoption of personalized streaming services is discussed using Rogers' ideal categories of adopters. In addition to these categories, Rogers' five attributes of innovations are used to inform questions posed to our experts. Bolter and Grusin's theory of remediation guides discussion about the defining attributes of streaming services in contrast to terrestrial radio. Finally, the Social Shaping of Technology model (SST) contributes to an exploration of how personalized streaming services are molded by external forces such as copyright legislation, economic uncertainties and societal behaviors.

In chapter three, the use of qualitative, semi-structured interviews are analyzed and argued for as the optimal method of data collection. Also discussed are best practices associated with qualitative interviews and how they were used in the present study. Data was coded using Grounded Theory's (GT) open and axial coding methods. Given the small number of interviews carried out, a very light application of GT was exercised.

In chapter four, key findings of interactions with media experts are laid out. Experts believed that personalized streaming services indeed pose a threat to the commercial radio

[5] Rdio, founded by the makers of Skype, was launched in Canada in August of 2011 and Slacker was launched in Canada in January of 2011 (Fok, 2010)

industry, particularly in their appeal to young, internet-savvy Canadians. However, those same experts believed that conventional radio broadcasting would maintain its dominance due to the assumed complexity and limited exposure of streaming services. Experts also held the opinion that Canadians, young and old, naturally gravitate to conventional media and would continue to do so into the future.

In chapter five, a conceptualized profile of the Canadian listener is created to better define and understand the positions of radio experts. In accordance with the SST model, a list of social, economic and political factors is laid out which may affect the widespread adoption of streaming services among Canadians. Finally, three future scenarios for radio networks are presented based on the subjective analysis of interviewee data.

In chapter six, limitations associated with the study are addressed. First, it is noted that the professional biases of some experts may have affected their ability to answer questions in an impartial manner. The second limitation lay in the extensive transcription process which impeded opportunities to collect additional data from respondents working on other projects related to the current study. Finally three recommendations are offered to radio leaders. These leaders should offer their audience personalized, value-rich content in exchange for personal information. Further, they should distance themselves from referring to their services as purely radio or radio-like and instead focus on delivering an entertainment experience to their consumer base. And finally, radio incumbents should embrace their abilities as purveyors of average content for average Canadians.

Chapter 2: Review of Literature

2.1. Defining Radio in a Turbulent Canadian Media Environment

Radio is often described as a dynamic and diverse medium that has frequently reinvented itself (Hendy, 2000). However, in the literature devoted to radio, a number of reoccurring characteristics emerge that help define the medium. For example, in its most abstract terms, radio has been characterized as:

- Over the air transmission (OTA). The traditional transmission of electronic waves through the atmosphere (McCauley, 2002, p.508).
- Terrestrial dissemination, as distinct from satellite or mobile (Freire, 2007).
- Point-to-multipoint communication, as distinct from computer systems in which computer networks exchange information from "point to point" (D.Roman, personal communication, Nov. 25, 2011).

Freire (2007) notes that few writers have been able to "resist the attempt to delineate and pin down 'radio' and 'radioness'" (2007:27). Rudolf Arnheim's (1936) singular work in the field of radio aesthetics is one of the first instances of research on radio's intrinsic qualities. Synthesizing Arnheim's work, Hilmes & Loviglio (2002) describes radio as a medium possessing the art and technique of aural expression (p.12). Crisell (1986) in *Understanding Radio* affirmed Arnhiem's belief in the aural uniqueness of the medium through what Arnheim dubbed as 'blindness' – the idea that the effects of wireless would be replicated in other situations where the visual was absent and the aural heightened (Freire on Crisell, 2007). Other traits specific to radio draw on elements of interpersonal communication studies such as liveness and human communication. Preistman (2004), writing about terrestrial radio that is re-broadcast over the Internet, describes pre-recorded or live content as a key feature of radio. He writes: "it is

the integrity of the live experience of listening to the radio that lies at the heart of Web radio" (p. 45).

The advent of television in the 1940s and 50s would not only clearly situate radio as a strictly aural medium but would also "relegate it to secondary status" (Hilmes, 2002:3). In sharp contrast to television, radio became a clearly defined medium with "certain established social and cultural functions and distinct delivery networks" (Ala-Fossi et al 2007:8). However, radio performed an almost Darwinian metamorphosis at the arrival of the predatory, visual medium of television. Writing about television in 1956, Leo Bogart said that radio had been transformed into a "different medium" through the onset of television (Freire, 2007:1).

Radio would eventually become ubiquitous as technological breakthroughs allowed its waves to be received through in-car stereo receivers and portable devices. American multinational Motorola was instrumental in establishing radio's omnipresence in automobiles. Motorola began in Chicago, Illinois as Galvin Manufacturing in 1928. In 1930, the Galvin Corporation introduced the Motorola radio, one of the first commercially successful car radios. Company founder Paul V. Galvin created the brand name Motorola for the car radio—linking "motor" for motorcar with "ola" which implied sound (Motorola Solutions, 2012). Incidentally, it would be Motorola who developed one of the first mobile phones. In 1973, Former Motorola vice president and division manager Martin Cooper led the team that developed the handheld mobile phone, as distinct from the car phone. More recent breakthroughs via digital content delivery systems beginning in the late 80s would see radio carry its distinctly aural qualities to new technological platforms such as Digital Audio Broadcasting (DAB) and Satellite Radio in Europe, North American and the rest of the world (Atton, 2004; Beck, 2002; Black, 2001; Priestman, 2004; Tacci, 2005).

Today, however, radio faces challenges from services that unlike television do not seek to supersede it, but instead mimic its qualities over new platforms and allow for greater control of content. Ala-Fossi et al. (2008) note that the "infiltration of radio-like services into practically every new delivery platform can be seen as an evidence of 'virus-like' capability of transformation and proof of the vitality or polymorphic radio media" (p.7). These services allow consumers to stream music, often for free, in a personalized on-demand fashion via connection to the Internet (Mason & Wiercinski., 2010, Knowles, 2007). The presence of new radio-like streaming services shake up traditional definitions of radio that have remained contested, but crystallized over the last eighty years. Indeed, as Ala-Fossi et al. (2008) contend," it seems that radio as a distinct medium in its own right is in danger of fragmenting into additional services for other digital media forms and will face extinction" (p.7).

As such, a more productive method for understanding radio in the present day might be to approach the medium in terms of its usefulness to consumers, not its technological capabilities. Writing in the 90s, radio theorist Paddy Scannell urged researchers to focus on what radio is - *for* rather than what it *is* (Freire, 2007:30, Priestman, 2001). It is my opinion that approaching radio from that utilitarian perspective is crucially important to the study of modern radio and its consumers.

The preceding interpretations of radio by no means define the medium but help situate it as a topic of media-focused communication research as most definitions are concerned with technological development and human interaction. These interpretations also help identify one of the most difficult realities of studying radio, namely that given the changing pace of technology and cultural norms, radio as we know it is becoming harder to define and interpret.

2.2. Medium Specificity: Uses of Personalized Streaming Services

Building on the preceding section in which innovations such as radio and personalized streaming services are understood in terms of their uses and applications, a number of research traditions emerge through which to better understand the medium. Chief among them is the theory of medium specificity. This theory can be understood to mean that different media have essential and unique characteristics that form the basis of how they can and should be used (Maras & Sutton, 2000). Freire (2007) notes the theory played an important role in defining new fields of media studies including film and television studies and more recently, Internet studies.

In studying the medium specificity of Mp3 players against other technologies, writers Ferguson, Greer and Reardon (2007) outlined the distinctions between mp3 players and terrestrial radio. In their study, students preferred mp3 players over terrestrial radio primarily because of their ability to "download and control their music experience'"in an advertising-free way (p.116). Such user sovereignty over content is a hallmark of Mp3 players and a far cry from terrestrial radio's highly curated media experience.

Critics of medium specificity argue that the theory can be too 'purist' in its one-way application to singular media such as television or film (Maras & Sutton, 2001:101). Freire, summarizing film theorist Dana Polan on the theory, writes that "he argued for a move away from the idea of fixed specificity, pointing instead to the notion of cinema as 'an adjective, a modification of something else'"(Maras & Sutton 2000). Cinema, to Pollan, "was better viewed as an 'apparatus' located at the intersection of a number of historical, ideological and technological forces" (in Maras & Sutton, p.7) Nevertheless, applying elements of medium specificity to personalized streaming services, namely what users want from a specific media, can help to understand how its uses and applications differ from that of other media. Radio

theorist Mark Ramsay (2008) neatly summarizes personalized streaming services and traditional media by invoking the metaphor of the hammer and nail: "no one buys a hammer to own a hammer, they do so to make a hole" (Ramsay Radio Blog, 2008). The example frames the 'hole' as the 'end' to which the user uses the media.

2.3. Diffusion of Personalized Streaming Services

As the opening section demonstrated, definitions of radio and radio-like services are static and contested. It is, however, uncontroversial that both media can be understood as innovations that rise and fall in certain social circles. Everett M. Rogers' (2003) diffusion of innovations theory is arguably among the most seminal social science research perspectives to capture the complexity of the relationship "between society and innovations", especially media technology (Lievrouw 2002: 268). In brief, the diffusion of innovations theory explains and describes how new ideas are adopted in a social system with a special focus on the communication relations and information flows that promote adoption (Rogers, 2003:268). In studying the adoption of HD radio among station managers, Greer and Ferguson (2008) noted that the diffusion approach facilitates an understanding of the dynamics of new media adoption, in general, as well as the role of management in the decision-making process (p.23).

Everett M. Rogers popularized the theory of diffusion of innovations with his 1962 book of the same title. In the updated version of the landmark publication, Rogers (2003) synthesized a host of studies that yielded two important elements to the theory. First was the concept of the "early adopter" (2003:14). Rogers (2003) believed that the early adopter, who succeeds the original 'innovator', popularizes the innovation that spreads to other adopters who continue the ascent of the innovation (2003:14). Plotting the course of the innovation through the innovator to the early adopter and finally the end adopters known as 'laggards' led to the second defining

feature of the theory, the S-shaped curve of adoption and normality. The adoption of an innovation usually follows a normal bell-shaped curve when plotted on a frequency basis (2003:15). Rogers (2003) noted that if the cumulative number of adopters is plotted over time, the result is an S-shaped curve. The S-shaped adopter distribution rises slowly at first, when there are only a few adopters, but accelerates to a maximum until half of the individuals in the system have adopted. From there, it decreases as fewer and fewer individuals adopt the innovation (Lievrouw, 2002:272).

According to Lievrouw (2002), diffusion's theoretical roots lie in nineteenth-century European social thought and the interactionist tradition associated with the Chicago School of sociology (2007:248). Its nearest relative, structural or social network analysis diffusion, traces its foundations to the work of German sociologist George Simmel. Rogers (2003) credits Simmel's concept of the stranger, "an individual who is a member of a system but who is not strongly attached to the system", as the stimulant for what would later become foundational elements of the diffusion model: social distance, heterophily, cosmopoliteness (2003: 248). Although Simmel's work was heavily steeped in philosophical and sociological traditions, his work eventually pointed social scientists "in the direction of studying communication networks" which became "an increasingly useful tool in understanding how innovations spread in a system" (p.42).

To Rogers (2003), Simmel's stranger was seen as an outlier but ultimately an innovator who can "more easily deviate from the norms of the system and be the premier adopter of new ideas" (2003:247). Ideal adopter categories include innovators, the early adopter, early majority, late majority and laggards (2003:284). The category of early adopter will be my focus for the

remainder of this section as having the highest degree of opinion leadership in most social systems (Rogers, 2003:282).

The notion of the early adopter of new ideas factors into one of the most important research questions addressed by Rogers and other diffusionist scholars, namely how early adopters of an innovation differ from laggards. The diffusion model's sociological roots have made it a most efficacious research tool for a wide variety of research traditions outside of the confines of Internet communication technologies (ICTs) development, which is the focus of this research. According to Rogers (2003), diffusion is used primarily in communication research to study news events, technological innovations and new communication technologies (2003:17). In relation to personalized streaming services, decisions to adopt the technology may be based on perceptions of the innovation in a given market or organization (Wicks et al. in Greer 2008). To Rogers, factors in the adoption process include five perceived characteristics of innovation: relative advantage, compatibility, complexity, trialability, and observability.

The first perceived attribute of innovations is their relative advantage. This is the degree to which an innovation is perceived as being better than the idea it supersedes. According to Rogers, the degree of relative advantage is often expressed as economic profitability, as conveying social prestige, or in other ways (2003: 228). The second perceived attribute is compatibility. If an innovation is perceived as consistent with the existing values, past experiences and needs of the potential adopters it deemed compatible (p.220). To Rogers, an idea that is more compatible is less uncertain to the potential adopters and fits more closely with the individual's situation. Further, compatibility helps the individual give meaning to the new idea so that it is regarded as more familiar (p.243). Complexity is the notion that an innovation is perceived by the user as being difficult to understand and use. Rogers notes that the very first

adopters of home computers in the United States were hobbyists, individuals who simply loved technological gadgets (p. 56). Many were scientists, engineers or other individuals who had less extensive experience with mainframe and/or minicomputers before home computers became available around 1980 (p.245). Trialability and Observability are the final components of the perceived attributes of innovations. Trialability speaks to an innovation's ability to be experimented with on a limited basis. News ideas that can be experimented with on some sort of installment plan are generally adopted more rapidly than innovations that are not open to testing (Greer & Ferguson, 2008:249). Observability is the notion that "the results of an innovation are visible to others" (p.244).

Prior research regarding the adoption of High Definition (HD) radio in Europe and Canada has employed diffusion theory to understand reasons for and against adoption by radio leaders. Greer and Ferguson (2008) note that the diffusion model was helpful in highlighting concerns by station managers in the adoption of HD Radio by local stations (2008:52). Ala-Fossi et al. (2008) used the classifications of perceived attributes of innovation when speaking with radio leaders in Europe and Canada about the rate of adoption of HD radio (2008:7).

Given the theory's pedigree in radio-focused communications research it seems a natural fit for the study of the personalized streaming services and their impact on existing networks of commercial radio. After all, personalized streaming services have barely been established as an alternative to traditional listening, but this has not prevented both radio networks and digital companies like Slacker and Spotify from attempting to penetrate the Canadian market with their disruptive innovative digital propositions.

Greer and Ferguson (2008), using findings from Day & Schoemaker (2000), note that during the diffusion process industries are faced with the need to participate in a new technology

because of competitive pressure or because of potential opportunities that the innovation might bring (2008:150). They also note that "a key issue is how companies handle the disruption of traditional patterns of operation and deal with technologies that challenge an organization's established ways of doing business" (Greer and Ferguson 2008:50). Disruptive technologies not only "force industries and organizations to continuously adjust to a changing environment," but they may even be a "threat to their very existence" (Saksena & Hollifield, 2002:76).

Diffusion, however, is not without its criticisms and shortfalls. The pro-innovation bias of diffusion research is singled out by Rogers as the most important shortfall of the theory:

> The bias is the implication in diffusion research that an innovation should be diffused and adopted by all members of a social system, and that it should be diffused more rapidly, and that the innovation should be neither reinvented nor rejected. The bias leads diffusion researchers to ignore the study of ignorance about innovations, to underemphasize the rejection or discontinuance of innovations, to overlook the reinvention of innovations and to fail to study anti-diffusion programs designed to prevent the spread of bad innovations like crack cocaine or cigarettes, for example (2003:107).

Rogers offers suggestions to help identify and eliminate the pro-innovation bias which is likely to emerge through diffusion research. For example, he urges researchers to approach innovation through the eyes of their respondents "including why the innovation was adopted or rejected." (Rogers, 2003:108)

The intent in my research is not to apply Rogers' model in a quantitative manner, but use it as a framework to impose structure and analytical rigor on the research. It should also be noted that a range of other factors influence the adoption of new technologies. Csorgo and Munro (2012) suggest eight qualities that are important to users of new radio media:

1. ***Location*** – Where would the consumer like to listen to music – in the car, at home, at the office, or on the go?
2. ***Convenience*** – Which service delivery method and device is most convenient and practical for this location?
3. ***Relevance*** – Is the programming relevant to the listener? Is there a sufficient level of local content and is it relevant to the listeners, their community and their interests?
4. ***Technical Quality of Service*** – Which service or delivery method offers an acceptable level of quality for the consumer? i.e. Are there numerous impediments which affect the consumer's perceived quality of listening? This could include the frequency or duration of advertisements, signal interference, or time required for buffering.
5. ***Affordability*** – What is the cost to the consumer to accessing this service, and is the consumer willing to pay this amount? This includes both fees for the service itself, any fees for additional bandwidth, and any investment in devices needed to access the service.
6. ***Quantity*** – Does this service offer a sufficient amount (duration) of music? i.e. is listening limited in any way? This is more applicable to online services where there may be a limited amount of free listening available, or the consumer may be restricted due to bandwidth caps.
7. ***Variety*** – Does this service offer a reasonable amount of programming variety for the consumer?
8. ***Tastes & Preferences*** – Does this service match the consumer's tastes and preferences to ensure that the consumer is satisfied while listening to the service?

These factors, in addition to Rogers', will be utilized in the formulation and interpretation of questions posed to media experts.

2.4. The Social Shaping of Technology: Application to Digital Audio Broadcasting and Personalized Streaming Services

The fourth theory used to support my research is that of the Social Shaping of Technology (SST). In brief, the theory assumes that technological innovations are shaped by a combination of social, political and economic forces and processes (Mackay & Gillespie, 1992;

Mackenzie & Wacjman, 1999). Further, the model assumes that knowledge and its products are "inherently social phenomena", like policy and legislation and as such are subject to modification via human intervention (Lievrouw, p.249).

Before the model's heritage and usage are explained, it is important to note the similarities the SST model shares with diffusion thought so as to justify their equal usage throughout this thesis. Lievrouw (2003) notes that while each theory differs in emphasis, both are related in that they study the origins and uses of new technologies, address the evolution and rate of technological development and most importantly, contextualize technology relative to human action, social relationships and culture (p.248).

In essence, the Social Shaping of Technology perspective emerged from the view that technological determinism was an inefficacious model of technological innovation and development (Mackenzie and Wacjman, 1999, Williams and Edge, 1996). Williams and Edge (1996) note that early beginnings of SST were linked to opposition to ideologies of `technological imperative', which were particularly prevalent in British government and industry in the late 1970s and early 1980s, and suggested that particular paths of technological change were inevitable (p. 4). Lievrouw (2003) claims the model developed once several prominent critics "began to question the prevailing assumption that technology drives social change" (2003:249). The SST model highlights the importance of human choices and action in technological change, "rather than seeing technology as politically and ethically neutral, an independent force with its own inevitable logic and motives, or as a mysterious black box that cannot be analyzed socially" (2003:249).

The most recognized of its many applications is in the body of research known as actor-network theory, or ANT (Callon et al). Lievrouw notes that ANT's proponents "consider people,

technologies and institutions alike as 'actants' that have equal potential to influence technological development" and that "technologies and people alike should be thought of as interrelated nodes in constantly chancing sociotechnical networks which constitute the forms and uses of technology differently in different times and places for different groups" (2003:250). That is to say, certain attributes of technological innovation, such as access and design, will depend on norms and conditions of the region in which the technological innovation is being deployed. The rise and fall of Digital Audio Broadcasting, (DAB across Europe and Canada and the United States will serve to illustrate the model's importance to the study of technological innovations as well as to explain its usefulness to the study of personalized streaming services as explored in this thesis.

2.5. Applying The SST Model to DAB Radio in Europe and Canada

The development and implementation of DAB has varied significantly across geographical locations. The source of this is both political and social. Ala-Fossi et al. (2007) followed the implementation of DAB across Ireland, United Kingdom, Denmark and Canada in an effort to understand why some radio leaders had deployed DAB and others had not.

DAB was developed in the late 1980s under an EU-supported project called Eureka which was intended to give European electronics industry a "competitive advantage through the digitalization of radio" (Lax, 2003). The first political setback to DAB occurred in the 1990s when the USA and Japan decided to develop separate digital radio systems to "protect their own national industries" (2007:6). However, Ala-Fossi et al (2007) note that with the support of the World DAB organization and the European Broadcasting Union (EBU), it was widely adopted in Europe and "altogether in 28 countries around the world within ten years of its introduction" (p.5). The celebration however was short-lived.

The rate of adoption in those countries remained low as consumers were not interested in buying "new rather expensive digital receivers" and despite the promise of greater programming diversity and superior (CD Quality) sound, "the benefits of DAB radio were not obvious to everybody" (Ala Fossi et al 2007:7). Ala Fossi et al (2007). note that the success of DAB was dependent upon the different policy decisions made by national governments and broadcasters (p.5). The authors attribute the success of DAB in the UK and Denmark to government and commercial commitment, and attribute its failure in Canada and Denmark to a lack thereof.

Indeed, DAB did not enjoy anything close to an S-shaped adoption curve in Canada (Rogers, 2003). In 2010, the Canadian Broadcasting Corporation, Canada's public broadcaster, shut down DAB radio transmitters, beginning with Eureka-147. This was the same L-band DAB system that just over a decade prior launched with tremendous fanfare in Montreal (As The LBA Antennae Turns Group, 2010). Reasons cited for the shutdown correspond to one important strand of the SST's framework, namely that economic conditions be appropriate for the innovation to take hold. Despite efforts by the CRTC to bolster the adoption of the technology, a lack of funding to update infrastructural technology prevented the expensive renovation of radio antennae and training of maintenance and engineering staff (LBA Group, 2010). Social, political and economic reasons alone did not, however, account for DAB's failure in Canada. For in addition to these factors, technological progress in other areas of data and content delivery would prove disruptive to the survival of the DAB radio format. In addition to a confusing mixture of DAB formats (DAB eventually became Digital Radio Mondial which begat DRM+ and finally DAB-IP), the rapid development of mobile technologies, MP3 players and software innovations like podcasting led to new habits of music consumption (Ala Fossi et al, 2007; Barry, 2006). Adding to the confusion was the fact "that no universal agreement in Europe or anywhere else

over how radio – or services like it, should be delivered in the digital age" (Ala Fossi et al, 2007:7).

Among such new developments are personalized or 'bespoke' services in which users can customize their own audio streaming experience (Freire, 2007, Wall, 2004). Like DAB, these services have seen varied implementation on a global scale. Their development and adoption has been shaped by a combination of social, political and economical forces congruent with the defining features of the SST model. A brief discussion on the short-lived launch of the popular US-based Internet radio service Pandora in Canada will serve to underline the model's effects.

2.6. The Social Shaping of Pandora In Canada

Pandora is an Internet radio streaming service that uses a proprietary playlist algorithm developed from its Music Genome Project. The Genome Project, run by a team of music experts at Pandora, breaks songs down into 450 individual attributes like melody of rhythm and creates customized playlists for users with niche tastes and interests. Pandora, a publicly traded company, claims to have 50% of the top 20 Internet radio listening time in the United States as well as a global user base In addition, Pandora boasts more than 125 million registered users as of January, up from 82 million in 2011, and its active users, people who actually use the service, is up to 51 million active listeners from 32 million (Advisen Pandora Investor Report, 2012).

In early 2007, Pandora was briefly available to all Canadians. However, this came to a close on May 14, 2007 when the company stopped streaming because of licensing problems. Pandora's founder, Tim Westegren, cited "astronomical royalty rates" as the reason why Pandora was not able to sustain business in Canada, "The rates that the Canadian labels are asking for are dramatically higher than in the U.S. and in the U.K (…) not only are the [revenue] share

percentages much higher, the per track [minimum] are so high that they dwarf the absurdly high revenue share percentages," (Berkow, 2011).

Canadian copyright collection agencies like Re:Sound and the Audio Video Licensing Agency (AVLA) are responsible for funneling royalties to Canadian music labels as set forth by the federally regulated Copyright Board of Canada. While some streaming services have footed the fees imposed by the Copyright Board, the two most popular streaming services Pandora and Spotify deem the rates too steep and as such do not have immediate plans to stream northward. Adding to the already difficult licensing climate for streaming services is the prospect that the Government of Canada will increase copyright fees or reform the current system outright due to political pressure from the United States.

Each year, the United States publishes its Special 301 report – sometimes referred to as the Piracy Watch List - which identifies countries with sub-standard intellectual property laws. Canada has appeared on the list for many years, usually at the top under "Priority Watch" (" Special 301 Report", 2012). The list has many critics both within and outside of Canada, the most public is University of Ottawa Law Chair Michael Geist who claims the report lacks "reliable and objective analysis" (GeistBlog, 2012). However, by Geist's own account, it remains a powerful deterrent to companies looking to do business with Canadian music labels (GeistBlog, 2012). Such political and social barriers to entry have made Canada a risky business opportunity for streaming services hoping to take root.

These developments confirm the premise of the SST model, in that innovations are shaped, and in some cases stifled, by political, social and economical forces. A deeper discussion of this model will be explored in the results and analysis section against data provided by radio experts related to radio and subscription services in Canada.

2.7. Remediation of Personalized Streaming Services

In their landmark 2000 publication *Remediation*, Bolter and Grusin explore the nature of technologies claiming to be new. Their theory, remediation, posits that purportedly new media are simply "interpretations, variations or renovations" of old media (Farrell, 2001:1). Remediation is a process whereby computer graphics, virtual reality and internet technologies "define themselves" by borrowing from and refashioning media such as painting, photography, television and film (Blakesley on Remediation, 2001:2). The theory of remediation is not exclusively Bolter and Grusin's. Ironically it was re-appropriated from Levenson's (1999) theory of the same name in which he defined remediation as a "process by which new media technologies improve upon or remedy prior technologies" (Bolter and Grusin on Levenson, 2000:73).

The authors illustrate the theory by explaining it through what they call "the double logic of immediacy and hypermediacy" (Bolter and Grusin, 2000:12). The authors use the example of the 1997 NASA Pathfinder mission to help explain this double logic. When NASA Pathfinder landed on Mars in 1997 equipped with what serves as webcams, the Jet Propulsion Lab's site was overloaded with millions of hits, although "there was nothing to see but a rocky desert and an undifferentiated sky" because the fascination was with the media (2001:58). The authors call this hypermediacy, as Blakesley (2001) explains:

> If relating directly to the story (immediacy) provides the satisfaction of locating one's self in the context of the works (or perhaps at times offering escape?) then the primary contact with the media (hypermediacy), gives one the feeling that he or she is taking action. The most interesting moment in all of this is when and where you draw the line

between “mediated experience” and “real life”. (Blakesley, The Self Perpetuating Vicious Circle of Media Chasing Reality Chasing Media, 2001)

Immediacy occurs when the conceiver of the medium attempts to weaken the presence of the technology. Apple’s iPad, for example, uses software which aims to emulate the reading experience by allowing the user to ‘thumb’ through a virtual book in its ‘iBook’ store. The goal of this feature is to allow the reader to immerse fully in the process of reading as they would with a pulp and ink book; the physical medium hides behind the illusion of reading. Bolter and Grusin argue that immediacy and hypermediacy are two halves of a strategy involved in remediation.

The theory is not without its criticisms. Some critiques scold Bolter and Grusin for failing to include the economic incentives behind the constant churning of new technological devices. Baetens (2001) notes that Bolter and Grusin’s focus on the technology that serves the desire for transparent immediacy ignores the fact that the logic behind all media transformations has in Western countries a strong economic, and thus political and human dimension. Baetens (2001) uses the example of color photography in magazines which does not necessarily indicate a desire on the part of its readership for more authentic representations of reality. Instead, it may result from marketing strategies that “teach us that the public desires innovation…and from a consumable capitalist system that depends upon the sort of innovation to renew interest in consumable goods” (1999: 9). Blakesley contributes to Baeten’s (2001) critique by noting that Bolter and Grusin’s example of successive versions of web browsers like Apple’s Safari or Microsoft’s Internet Explorer “need not be seen as enabling more authentic experiences of content online, but instead as competitive innovation for its own sake, which appeals to consumers by making it “seem like a necessity” (Blakesley, 2001:2).

Nevertheless, the theory has interesting implications for the analysis of whether personalized streaming services are truly new or simply refashioned, repurposed variations of traditional audio consumption. Currently, a number of streaming services have appropriated elements of radio in their own promotion. Reddit Radio, Pandora Radio and Last.fm all purport to be new forms, or future forms of radio.

The most recent application of the theory to new media was undertaken by Freire in her study of personalized streaming services and terrestrial radio in Canada. Using remediation in conjunction with the aforementioned theory of medium specificity, Freire (2007) drew connections and distinctions between streaming services Last.fm, Pandora and others to terrestrial radio.

Freire presents six ways in which personalized streaming services have borrowed radio-like elements and are using them to attract listeners. Firstly, traditional radio's "visual and textual references to the historical technologies of over-the-air broadcast and reception" (2007:103). For example, Pandora and Launchcast.com users have access to many personal 'radios' or 'stations', these concepts are visually represented using image of classic radio dials that a user can manipulate with their cursor. Secondly, audio streaming is another way in which personalized services relate 'radioness' to their clientele. Thirdly, the concept of 'logical musical grouping' or play-lists, are employed, thus radio is constructed as a logical group of programming settings, "whatever programming logic may be" (2007:103). Fourth is the outright usage of the term 'radio' in personalized radio's promotional parlance. Freire claims that "through their promotional discourses, personalized audio streaming services construe their 'radio' as a particular industrial set-up" (2007:106). For example, Last.fm articulates this through its company name and emphasizes in many interviews that it is the last radio station you "will ever

need" (Freire on Last.fm's 2005 Press Release, 2007:109). Freire quotes Pandora creator Tim Westerngren who also alludes to the industry as one with "a lot of room for different kinds of radio" (2007:112). Fifth, personalized streaming services use the notion of 'free' (advertisement supported) as a development model. Such is the case with Spotify and the now defunct SpiralFrog which operated under the notion that they were free so long as users sat through 30-second ad spots by companies promoting the music service. Finally, one of the features often highlighted by personalized streaming services is that they are devoted to the discovery of new music. From the perspective of listener experience, it is suggested that delegating the task of programming to the services will provoke musical discoveries (2007:106).

Thus far, personalized streaming services have been discussed in accordance to four principal theories: Medium Specificity, Diffusion of Innovations, The Social Shaping of Technology and Remediation. In the next section, they will be contextualized within traditional media such as terrestrial, satellite and digital radio in Canada.

2.9. Personalized Audio Streaming Services and Terrestrial Radio

Personalized streaming services on the web, a relatively novel music offering, present a unique way of consuming audio content in the 21st century. Services like Pandora, Spotify, Last.fm and Slacker have been thrown into the spotlight as a result of mainstream news coverage and notable public interest. The source of the interest is in part the result of the woes of a global music industry that has seen precipitous decline in physical and digital sales of its content through traditional retail outlets like brick and mortar stores and iTunes. Personalized streaming services proffer an answer to such setbacks by appealing to consumers who want safe, easy and legal means of consuming music. McGuire and Slater (2005) argue that personalized streaming services reinforce the value of music and the music economy, encourage legal sharing and spur

growth of other technologies for an industry "desperately in need of a new economic model" (2005:12) The hallmark of these services is their ability to personalize, or customize the audio experience for the user. For example, the Swedish-based Spotify allows users access to a vast catalog of music through their smart phone, computer or media tablet which the user can publicize on Facebook and Twitter in real time. In a more interesting twist, an alternate breed of streaming services boast musical discovery and a radio-like experience by allowing the user to build custom stations in which new music is curated to the specific tastes of the user.

As personalized streaming services are relatively new, academic interest is sparse and seldom directed to the ways in which streaming services are impacting traditional models of music consumption. There is however, substantial academic interest in the technology that recommends content to the user[6]. Such literature, while important to the development of computer science studies, is of an extremely technically nature and not entirely useful to the present study of the mutual impact of traditional and new forms of radio. However, a brief discussion of recommendation systems employed by Pandora and Last.fm will be outlined in the most basic terms to provide the reader with an overview of each service.

2.10. The Mechanics of Personalized Recommendation

At the heart of personalized streaming services are sophisticated recommendation systems which use one or two, sometimes a combination, of methods to curate and suggest music to the user. These systems are known as collaborative filtering and content-based filtering. Hong (2009) defines collaborative filtering as a process by which a system uses the known preferences of a group of users to make recommendations or predictions of the unknown preferences for

[6] See Hybrid Content-Based Collaborative-Filtering Music Recommendations (Siles Del Castillo, 2007) & Internet Recommendation Systems (Ansari et al. 2000)

other users. Commercially, collaborative filtering technology is deployed by Internet companies such as Amazon.com and Barnes and Noble. Scholars note that collaborative filtering is of interest to internet companies as its technology has been positively associated with greater customer loyalty, higher sales, larger advertising revenues, and the benefit of targeted promotions (Breese, Heckerman, & Kadie, 1998:16).

Streaming service Last.fm uses collaborative filtering technology by allowing their users to 'tag' content with keyword descriptors. Knowles (2007), writing about Last.fm's filtering techniques, notes that motivation for users to tag content is to help make the site's database "finer grained and richer, which in turn allows the same users to more easily locate content that matches their interests, or to locate items that share similar attributes to items they already find interesting" (2007:13).

Streaming service Pandora, on the other hand, uses content-based filtering to present its users with songs they might enjoy. Content-based recommendation systems make suggestions by analyzing the content of textual information and finding similarities in content (Hong, 2009:10). In Pandora's interface for example, a user can respond to the music played with a 'thumbs up' or 'thumbs down' rating, which has an effect on the weightings of the algorithms used to generate subsequent playlists" (Freire, 2007:22). One of major difference between collaborative and content-based recommender systems is that collaborative filtering only uses the user-item ratings data to make predictions and recommendations, while content-based recommender systems rely on the features of users and items for predictions.

2.11. Popularity and Growth of Personalized Streaming Services

Little quantitative data exist directly pertaining to the habits of streaming service users in Canada. This is partially due to the fact that streaming services are often private companies who

need not disclose financials earnings and user statistics. Consequently, peripheral data from global business reports indicating user interest and awareness of such services will be used.

A recent Nielson Broadcast Data Systems report that tracked audio streaming versus individual song sales indicated that the projected number of streams would exceed eight billion by the year 2012 (Nielsen Billboard, 2012). This information is intriguing given another global Nielsen report that indicated that most consumers are either unaware or uninterested in audio streaming services, whether paid or free. In fact amongst all age groups and across both genders, a minority expressed both awareness and interest in such services. Furthermore, 30% of consumers were unaware that such services even existed (Resnikoff, 2011). Nevertheless, US-based Allied Business Intelligence Research, which tracks the North American tech industry, said that several million streaming music subscribers will grow over next five years (ABI, 2011). In addition the firm believes that "the number of subscribers to mobile music streaming services is expected to approach 5.9 million by the end of 2011 and will exceed 161 million subscribers in 2016, meaning a compound growth rate of 95 percent." (ABI, 2011). An estimated 161 million subscribers paying 5-10 per month represents a market worth tens of billions of dollars a year.

There is doubtless a connection between such projected figures and the recent round of funding accumulated by services such as Spotify, which last February amassed $100 million in new funding and launched successfully in The United States (McMillan, 2011). Clearly, if labels are willing to license their music to services like Spotify and Pandora, then they are perceived as providing a legal alternative to illegal file sharing. Worth noting here, are the numerous scholars who disagree with the contention that illegal downloading is directly to blame for the music industries' current financial woes (Oberholzer-Gee, Strumpf, 2007; Zentner, 2006).

2.12. Canada's Commercial Radio Industry

Until about ten years ago the Canadian Radio-Television and Telecommunication Commission (CRTC) applied a relatively restrictive ownership policy in order to ensure there was a diversity of choices in each community across Canada. The old policy restricted a single owner to a maximum of one AM and one FM station operating in the same language in the same market. The CRTC amended these restrictions in 1998 allowing owners increased station ownership due to a desire to achieve a new "but reasonable balance between concerns for preserving a diversity of news voices and the benefits to be obtained by common owners from economies of scale" (Armstrong, 2006:13). Furthermore, in its Commercial Radio Policy 1998, the CRTC said it would consider issues regarding competition and the diversity of news voices in regard to media cross ownership (radio, television, distribution undertakings and print, etc) when assessing an application for a new license to transfer ownership or effective control of a radio station (Armstrong, 2006:214). This decision led to the kind of media company Canadians are used to seeing today, namely companies like Astral Media and Rogers Communication Inc. whose holdings include a broad portfolio of assets in radio, television, print and out of home advertising.

The CRTC's annual policy monitoring reports have provided some information on concentration in English language radio industry that illustrates the country's vast private radio industry. As of 2011, the radio market sector in Canada consisted of over 1208 radio and audio services. Astral Media, BCE, Corus Entertainment, Newscap and Rogers control the majority of Canada's private radio listening market (CRTC Monitoring Report, 2011). The CRTC reported that revenues for commercial radio stations declined by 5.2% to $1.508 billion in 2010. English-language FM stations fared worse than French-language stations who saw their income drop by

5.8% to just under $1 billion, while French-language stations generated 0.65% more in 2010 than in 2008, posting revenues of $227 million. Canada's 149 AM radio stations generated just over $300 million, a 7.4% drop in revenue from the previous year (2011).

Canada's Private Radio market is dominated by Astral Media who boasts 31% of overall tuning (2011). Astral Media's business model is representative of a growing trend of Canadian media companies whose portfolio includes properties in radio, magazine publishing, specialty services and out of home advertising.

Astral Media is of particular interest to this thesis as they were the first radio company in Canada to launch a personalized streaming subscription service. In January of 2006, Radiolibre.ca was launched by Astral Media who licensed the technology from a Montreal company, Double V3, whose musicBOT recommendation engine was designed based on work by a team of researchers at McGill University and Université de Montréal. Freire (2007) notes that Radiolibre attempted to "distinguish itself early on through its extensive database of Québécois artists and in particular independent and emergent local artists not being played on its terrestrial commercial radio networks" (p.13). However, the service was terminated within six months due to poor execution and a lack of public interest.

2.13. Astral Media: History and Present Day

In Montreal of 1961, four brothers, Harold, Harvey, Sidney and Ian Greenberg, founded a photo company, Angreen Photo Inc., which became the jumping off point for what was to become Astral Media. In accordance with the original company name, Astral's initial business ventures were not in sound, but picture. Having acquired the Bellevue Pathe photo finishing labs in Montreal in 1963, Angreen applied for was granted exclusive rights to sell cameras, film and photographic materials on the Expo '67 site in Montreal (Lavers et al., 2011).

Astral made its first dedicated foray into audio when on, January 12th of 2000 the CRTC approved Astral's application to acquire ownership of Radiomutuel Inc, thereby obtaining control of eight French-language FM radio stations and three French-language AM radio stations in Quebec. Including the FM radio network Radio Énergie, consisting of the eight Radiomutuel FM stations, and two French-language specialty channels, Canal Vie and Canal Z.

The following year brought more power to Astral's radio properties as the CRTC approved its application to acquire effective control of three companies, 3903206 Canada Inc., Télémédia Radio Atlantic Inc., and Radiomedia Inc., and with them ownership of seventeen radio stations in Quebec, New Brunswick and Nova Scotia.

Astral's largest purchase, however would take place in 2007 when it announced that it had signed a letter of intent and was in the process of negotiating with Standard Radio to acquire all the firm's assets. The deal received CRTC approval on September 28 2007, and the transaction was completed on October 29 of the same year. The deal, which made Astral the largest radio station owner in Canada, with 82 stations in 29 markets, involved the acquisition by the company of 52 radio stations in Quebec, Ontario, Manitoba, Alberta and B.C., including CFRB-AM in Toronto and CJAD-AM in Montreal, plus two small television stations in Dawson City, Yukon, and Terrace, B.C (Lavers, 2011).

Recently, Astral agreed to be purchased by telecommunications company BCE (Bell Media Enterprises) for 3.38 billion dollars. The deal, once approved by the CRTC, will make BCE the biggest holder of television properties in the country (Sturgeon, 2012). Should the deal proceed, BCE would have to sell a small portion of its 84 licensed radio properties as the CRTC has rules restricting the number of radio properties a given media company is allowed to own[7].

[7] According to the Globe and Mail, BCE Inc.'s deal will further concentrate Canada's radio industry, but second-tier operators also stand to gain as BCE is expected to divest some FM stations. Canadian broadcast regulations limit

Despite a flurry of positive investment news Astral Media's radio networks suffer from a gradual decline in hours listened among important demographics. Astral, Corus and other radio networks have seen a 3.2 % decrease[8] to 17.7 average weekly hours dedicated to radio listening in all age groups in 2009 (CRTC Report Monitoring, 2011). Further examination of individual age groups reveals more troubling figures. In 2006, teens aged 12-17 listened to 7.6 hours of radio compared to 7 hours in 2010. Adults aged 18-24 dropped from 14.1 hours in 2006 to 12 hours in 2010 (CRTC, Monitoring Report, 2011). In *Applying Darwinism to Radio*, Bélanger (2011:6) writes "such numbers only serve to reinforce what everyone in the industry has feared for many years: the slow but gradual erosion of the younger public to the benefit of digital music distribution platforms"

2.14. Satellite Radio

Satellite Radio's relatively short presence in Canada has been a mixed success. Sirius Canada Inc. and XM Canada announced on November 24, 2010 an agreement to combine operations. Prior to the merger, Sirius Canada had just over one million subscribers and CSR/XM Canada had just over 600,000 subscribers. "Sirius Canada and CSR together currently have large accumulated deficits," stated the application to the CRTC, "and XM Canada continues to see substantial net losses each year" (CRTC applications 2010-1723, XM Canada and 2010-1769, Sirius Canada Inc). Tuning by English and French listeners has fallen from 11 hours a week to 8.4 and 5.6, respectively (CRTC Monitoring Report, 2011). Profits,

radio operators to owning two FM and two AM stations in each market and each official language. That means a combined BCE-Astral will likely have to sell eight FM stations in Calgary, Ottawa, Toronto, Vancouver and Winnipeg to satisfy the Canadian Radio-television and Telecommunications Commission. The CRTC may change its regulations regarding radio station ownership.

[8] Quite a fall from hourly listening in all groups in 1999 which was 20.5 (Statistics Canada, 2007)

on the other hand have been slightly more positive as revenues in 2012 grew to $63.1 million from $59.2 million in 2011(Canadian Newswire, 2012).

The XM merger application documents filed in 2010 with the CRTC noted "the demonstrated need to improve the competitive position of satellite radio against other audio entertainment options". By "other audio entertainment options", the Commission was referring to "the advent of new regulated and unregulated technologies. Such new audio technologies include MP3 players, iPods and other personal media devices, Internet music services and radio streaming." (CRTC Broadcasting Public Notice, 2006). In 2009, the Commission released its major New Media policy, (Broadcasting Regulatory Policy CRTC 2009-329), which re-confirmed its decision not to regulate new media. That decision meant that satellite radio would continue to compete head-to-head against Internet radio services in Canada such as Slacker, Rdio and the short-lived Radiolibre.

2.15. Streaming Services in Canada: Trial and Error

The growing number of personalized streaming services entering the Canadian market presents challenges for private radio networks like Astral Media and Rogers Media, who have experienced drops in 'teen tuning'. Private radio networks have been careful in their response to such services, and their apprehensiveness to tackle them head-on is not without precedent. In January of 2006, Radiolibre.ca was launched by Astral Media. A short time later, Astral Media withdrew from the project which was plagued by poor execution and limited public interest. Shortly after closing purchase of Standard Radio in 2007, President Alan Greenberg said over a conference call, "We learned some good lessons from that experience and we don't think radio streaming is in our future plans" (Canadian Newswire, 2007). Greenburg's statement would

prove semi-contradictory when in February of 2012, Astral Media launched an online On-Demand digital music streaming service through its various Virgin and NRJ radio brands.

Research in Motion and Canada's public broadcaster CBC launched music services within months of Astral Media's having made deals Canadian music labels and their royalty collection agencies. Those Canadian companies join a list of foreign, often US-based, streaming services that have recently staked their claim in Canada[9].

2.16. Rationale for the Study

As noted on page 6, leading private radio networks have experienced losses in listening hours and revenue over the last decade as more young people have reallocated their time away from traditional analogue media like radio and television to online services and social networks (ComScore, 2012). This reallocation of time will have implications for the radio industry, as well as the Canadian music industry.

In a recent policy paper directed to the CRTC, it is noted that advertising revenues account for the bulk of a radio station's revenue stream, and they are closely tied to audience tuning hours (CRTC Market Evolution Report, 2012). Should radio tuning hours decline, advertisers may opt for other forms of advertising based on the price per consumer reached, particularly if targeted advertising is possible. This would subsequently reduce the amount of revenues earned by the commercial radio industry (2012). Should innovations like personalized streaming services prove to be a competitor, the existing radio model could be further challenged. Thus, the substitutability of online offerings for commercial radio is of concern to broadcasters, the music industry, and regulators alike (2012).

[9] Other services include Sony Music Unlimited, Rdio and Slacker, AccuRadio, Grooveshark, Jango and more.

Due to these developments it is instructive to examine how the leaders in digital technologies envision the future of terrestrial radio in Canada, and the changing habits of young listeners. Results from those discussions will not only shed some light on the challenges and opportunities facing the Canadian radio industry, but will allow for recommendation on future directions.

Worth noting is that industry statistics and noted consumer habits alone, while important, did not birth this research. A more noteworthy impetus for investigating this topic arose from the lack of academic research on terrestrial radio and its interplay with new audio technologies. As discussed in greater detail on p.25, personalized streaming services are a relatively new phenomenon. As such, academic interest is sparse and seldom directed to the ways in which streaming services are impacting traditional models of music consumption. However, there is a great deal of interest in the technical underpinnings of Internet companies who use computerized recommendation systems like Amazon, and Netflix, but such studies are most often of an extremely technical nature and not entirely useful to the present study.

This study takes a different, less mechanical approach to the understanding of new audio technologies and how they may be impacting time-honored systems of music consumption. Through in-depth qualitative interviews with radio industry insiders, a basic understanding of Canadian radio listening habits is captured with the aim of addressing a few broad research questions:

1. What are terrestrial radio leaders doing about new forms of audio delivery systems?
2. How might their perceptions of streaming services like Pandora, Spotify and Last.FM inform their future business decisions?

In this light, the research conducted is post-positivist in spirit: it assumes that there are no unshakable, rock-solid truths about how and why terrestrial radio may or may not continue to thrive in the future. Instead, it addresses the need for a general inquiry into radio's future amid new audio players who will undoubtedly, as other have, continue to shape the historically metamorphic media.

Chapter 3: Methodology

3.1. Overview of Procedures

The primary data of this thesis was obtained via are five semi-structured interviews that were carried out between September and November of 2011: Three interviewees are experts in commercial radio broadcasting, the fourth is an expert in on-demand and pay-audio streaming services and a fifth one is an expert in media regulation. Three respondents were identified using a purposive sampling strategy; while two were identified using a snowball strategy.

All respondents were invited by circulating a standard invitation form sent to their personal or professional email addresses (See Appendix A). Once respondents indicated their availability, the order of interviews was determined by the scheduling preferences of each individual. Two interviewees were interviewed face-to-face in Montreal and Toronto respectively. The other three interviews were conducted via Internet telephone using the Google Voice application embedded into Gmail. All interviews, both face-to-face and phone were recorded using Apple's Voice Memos application installed on the researcher's fourth-generation iPod Touch. All communication was synchronous thus allowing the answers of the interviewees to be more spontaneous, leaving less chance for extended reflection (Opdenakker, 2006). Only one respondent was a native French speaker, and while the option to conduct the interview in French was presented, all respondents were interviewed in English. In addition, the researcher kept field notes during the face-to-face interviews detailing pertinent physical gestures and quotes.

The research protocol was authorized by the University of Ottawa's Ethics Board on August 17 2011, file number 05-11-18, with approval valid for a one-year period. The Board placed no special conditions and had no comments on the conduct of the research. However, as

per the terms of the Ethics approval, at the start of each interview session, the researcher reminded the participant of the topic and the ethical considerations related to their participation, including:

- The fact that the research had been authorized by the University of Ottawa Research Ethics Board;
- The understanding that participation in the study carried no foreseeable risk of physical or emotional harm;
- Reiteration to the participant that if desired, identities would be shielded in written accounts of the research by assigning pseudonyms;
- An indication that participants were welcome to leave at any time before the conclusion of the interview, on the understanding that any statements made prior to their departure were to be included in the research.

Participants were then invited to review and sign the standard consent form authorized by the University of Ottawa Research Ethics Board (Appendix B).

Afterwards, the recordings were transcribed verbatim by the researcher using Microsoft Word 2007. This produced a dataset of approximately 90 pages of verbatim, as well as several additional pages of the researcher's field notes. The dataset was analyzed using a light application of Grounded Theory, as discovered and developed by Strauss and Glaser (1967), a time-tested approach that provides a comprehensive and systematic step-by-step method for analyzing data.

3.2. Qualitative Interviews

The interview is certainly the most widely employed data collection method in qualitative research. As one of many qualitative data collection methods, interviewing provides one of the most direct research-focused interactions between researchers and participants (Kvale, 1996; Kazmer & Xie 2008; Stroh, 2000; Rubin & Rubin 2012). Many abstract, if not romantic terms have been bandied about to describe the act of qualitative interviewing. Rubin and Rubin (2012)

refer to qualitative interviews as the art of hearing data. Glesne similarly describes qualitative interviews as the process of "getting words to fly" (1999: 67). Beyond these metaphors, qualitative interviewing is fundamentally an interaction in which the researcher "pitches" questions to "stimulate verbal flights" from the important respondents who know "what you do not" (Glesne,1999:67). Nevertheless, at its core, qualitative interviewing is about collecting data from human respondents. This information is usually collected to benefit a central research question or issue.

Interviewing is also employed in quantitative research, but the ways in which the interviews are initiated, conducted and coded differ significantly. As Gordon (2007:312) explains, qualitative interviewing is different from quantitative interviewing in a number of important ways:

- In quantitative research, the approach is structured to maximize the reliability and validity of measurement of key concepts being explored. Conversely, in qualitative interviewing, there is an emphasis on greater generality in the formulation of initial research ideas and on the interviewees' own perspectives.
- In qualitative interviewing, there is much greater interest in the interviewee's point of view; in quantitative research, the interview reflects the researcher's concerns.
- In qualitative interviewing, 'rambling' or going on tangents is often encouraged—as it gives insight into what the interviewee sees as relevant and important; in quantitative research, it is usually regarded as a nuisance and discouraged.
- In qualitative interviewing, the researcher wants rich, detailed answers; in quantitative research the interview is supposed to generate answers that can be coded and processed quickly.

3.3. Choosing Interviews as the Primary Data Collection Method

Just as variation appears between interviewing in quantitative and qualitative traditions, it also exists between the major interviewing categories in what Rubin and Rubin (2005:10) refer to as the "family of qualitative interviews". Some sources cite only two types of qualitative interviews, namely formal and informal (Fitzgerald & Cox 2002 cited in Berg 2007). Others refer to the processes as structured, semi-structured or unstructured (Fontana & Frey 1994; Leedy & Ormrod 2001 cited in Berg 2007). At least three major categories can be identified:

1) The standardized (formal or unstructured) interview

2) The un-standardized (informal or non-directive) interview

3) The semistandardized (guided-semi-structured or focused) interview (Mieswiadomy 2002 cited in Berg 2007).

Choosing one of the major interview categories depends largely on the research methodology employed by the researcher. In a phenomenological[10] study, for example, the process of collecting information involves primarily lengthy, in-depth semi-structured interviews using a small sample of individuals (Creswell, 2006; Polkinghorne, 1989). Creswell (2006) notes that should the researcher choose grounded study as the research methodology, interviews[11] will play a central role in data collection. As Grounded Theory Method is the research methodology employed in this study, semi-structured interviews were selected as the primary method of data collection.

[10] Rossman and Rallis (1998:72) define phenomenology as a tradition in German philosophy with a focus on the essence of lived experience. Those engaged in phenomenological research focus in-depth on the meaning of a particular aspect of experience, assuming that through dialogue and reflection the quintessential meaning of the experience will be reviewed. The purposes of phenomenological inquiry are description, interpretation, and critical self-reflection into the "world as world" (Van Manen, 1990) Central are the notions of intentionality and caring: the researcher inquires about the essence of lived experience."

[11] Though Creswell does not specify which interview structure should be employed, this researcher used similar field studies about the future of terrestrial radio as a justification for choosing semi-structured interviews as a primary data collection method. More information on this appears under the on page 43 under the 'Why Interviews' heading in this methodology.

3.4. Semi-Structured Interviews

The semi-structured interview is often characterized as a flexible interaction between the researcher and the research subject (Berg 2007, Corbetta 2003, David & Sutton 2004, Lindlof and Taylor 2010; Kajornboon 2004). The process often involves the implementation of a number of predetermined questions and special topics (Berg, 2007). The questions should follow a certain order while allowing the interviewer the freedom to digress (Berg 2007, Lindlof and Taylor 2010). Berg suggests that the flexibility that the semi-structured interview affords should encourage the researcher to "probe far beyond the answers" of their prepared questions in order to gain richer and more nuanced data (2007:95). Corbetta echoes this flexibility:

> The order in which the various topics are dealt with and the wording of the questions are left to the interviewer's discretion. Within each topic, the interviewer is free to conduct the conversation as he thinks fit, to ask the questions he deems appropriate in the words he considers best, to give explanation and ask for clarification if the answer is not clear, to prompt the respondent to elucidate further if necessary, and to establish his own style of conversation. (2003: 270).

Along similar lines, probing questions, "probes" are a hallmark of semi-structured interviews (Berg 2007, Glesne 1999, Lindlof & Taylor 2010). Probes frequently ask subjects to elaborate on what they have already answered in response to a given question. For example, questions can begin with "tell me about…", "how come…" or "you said a moment ago…can you tell me more?" (Berg, 2007:101). As Glesne states, probes are requests for "more explanation, clarification, description and evaluation" (1999:87). Probes can take numerous forms that range from silence, sounds, a single word or a complete sentence. The researcher uses probes that best

fit the situation and the degree to which the interviewee is deemed to have adequately responded to questions from the interview protocol.

Loose application of the interview protocol is also recommended as it can lead to opportunities to collect unforeseen data (Kajorboon, 2004). Patton recommends that the researcher "explore, probe, and ask questions that will elucidate and illuminate that particular subject … to build a conversation within a particular subject area, to word questions spontaneously, and to establish a conversational style but with the focus on a particular subject that has been predetermined" (2004: 343). Further, Lindlof and Taylor (2010:176) believe that such flexibility gives the researcher the ability to respond to any "unforeseen contingencies that arise during the interview". Gordon recommends that researchers continue taking notes even when the interview is over as the interviewee is often likely to continue ruminating on the topic of interest and will frequently say "more interesting things once the interview is over" (2007: 322). Such accounts, while unsolicited, signal the strength and importance of the flexible semi-structured interview.

Development of the research questionnaire follows certain protocols specific to the nature of semi-structured interviews. The order of questions should remain unfixed and spontaneous to encourage a flow and sharing of views that are more natural (Lindlof & Taylor, 2010). Development of the predetermined questions should be formulated in a way that is familiar to the people being interviewed (Berg, 2007). For example, professionals in the music business do not refer to categories of persons in a like manner. Special terms used by professionals in the music and radio industry include 'whales' (like the mammal) used as a slang term to describe music aficionados who pay high prices for high-quality musical content like CD/Mp3/DVD box-sets, reissued music that has been re-mastered or digitally restored by their favorite artists as well as

collectable merchandise such as apparel. Berg urges the researcher to construct an interview protocol from the "perspective of the research subject" (2007:95). Other ways to achieve this perspective include adjusting the level of language of given scheduled questions (Berg, 2007).

The semi-structured interview is not without its criticisms and shortfalls. Researchers note that regardless of structure, interviews can be time-consuming (Gordon, 2007; Klenke, 2008). The act of interviewing and transcribing in particular can be a lengthy process depending on the number of interviews conducted and the length of the interviews. Further, because of the flexible nature of open-ended questioning in semi-structured interviews, they have the potential to last well past the time set by the researcher and agreed to by the interviewee (Gordon, 2007). In addition, the subjective nature of semi-structured interviews makes analyzing and interpreting data more complex than analyzing and interpreting structured surveys (Klenke, 2008). Details like non-verbal messages and the effects of the setting on the interview are very much a part of qualitative interviewing and need to be transcribed and coded (Klenke, 2008).

Another shortfall of qualitative interviewing is the possibility of non-answering. In line with the subjective nature of interviews, an interviewee may at some point decide not to answer an important question or a probe. Klenke notes that there are many reasons an interviewee might not respond to a question. The interviewee may find the question too personal or private, or the interviewee "may not understand the question and may not want to appear stupid or foolish by answering" (2008:44).

Such obstacles bring to light another challenge often cited by many researchers, namely the need for the interviewer to be good at interviewing[12]. Short of professional interview training, many academic texts provide guidelines for effective interviewing – signifying the

[12] Nearly all sources who wrote about the history and practices involved with effective qualitative interviewing mentioned this fact: Berg 2007, Bechhofer & Paterson 2000, Briggs 1986, 2002, 2007, Klenke 2008, Kvale 1996, Stroh 2000, Roulston 2010, Rubin & Rubin 1995, 2012.

importance of procedures by which data are generated. Briggs (1986, 2002, 2007), suggest specific 'phases' which researchers should follow in order to ensure successful data collection:

1. Learn how to ask questions in ways that will be understood by participants (e.g., conduct preliminary field work to understand the cultural and linguistic norms used in the community);
2. Design an appropriate methodology;
3. Employ Reflexivity in the research process (e.g. analysis of interviewing procedures, microanalyses of interview data) (Briggs, 1986: 93–111)

Similarly, Kvale summarizes 'best practices' frequently recommended when undertaking qualitative interviewing by suggesting six criteria for judging the quality of an interview:

- The shorter the interviewer's questions and the longer the subjects' answers, the better.
- The degree to which the interviewer follows up and clarifies the meanings of the relevant aspects of the answers.
- The ideal interview is to a large extent interpreted throughout the interview.
- The interviewer attempts to verify his or her interpretations of the subjects' answers in the course of the interview.
- The interview is 'self-communicating' – it is a story contained in itself that requires little additional descriptions and explanations. (1996: 145)

Kvale also highlights the need for researchers to demonstrate their expertise, or 'craftsmanship' as researchers, proposing that 'the quality of the craftsmanship results in products with knowledge claims that are so powerful and convincing in their own right that they, so to say, carry the validation with them, like a "strong piece of art" (1996:252).

3.5. Why Interviews? – Rationale

As noted on page 6, the aim of this study is to understand how personalized streaming services affect terrestrial radio networks in Canada. A number of situational factors led to the use of this data collection strategy and the development of the research strategy over others.

Canada's media industries are in a state of flux and transformation. The Internet has brought about many new opportunities for revenue streams for companies like BCE and Rogers, but it has also created a high level of uncertainty and disruption to the activities of their businesses. Disruptive technologies like Internet calling service Skype has forced telephony companies to lower their commercial long distance calling rates and rethink longstanding adoption of long-distance conference calls by business and government groups. Similarly, as the CRTC continues its position of non-intervention in Internet broadcasting, radio networks and cable networks are scrambling to simultaneously make sense of and monetize Internet broadcasting opportunities. Leaders of conventional broadcasting companies are forced to respond to consumers' use of these disruptive technologies. Thus, it is the leaders of conventional technology industries who are responsible for making decisions to address these potentially disorderly innovations, forcing further change. For this reason, business leaders in radio and streaming services were identified for interviews.

Once interviewing was chosen as the primary method of data collection it was decided that synchronous face-to-face interviews would be the ideal form of interviewing. This decision was rooted in the idea that face-to-face interaction would provide an element of convenience and ease for the interviewee, who would be responsible in choosing the location and time of the interview. Also, the individuals sought after in this research are unquestionably very busy and do not have time to travel and meet with researchers regarding matters not directly related to the

operation of their industries. Further, face-to-face interviews present a number of advantages to the researcher. Wengraf notes "that social cues, such as voice, intonation, body language etc. of the interviewee can give the researcher extra information that can be added to the verbal answer of the interviewee on a question" (2001).

Failing the possibility of a F-T-F interview, the telephone interview would be used as the best alternative to F-T-F interviewing should the interviewee be too busy or geographically unavailable to meet in person.

F-T-F interviews, however, account for roughly only half of the data collected in this study. Personalized music streaming services operate in a space at the intersection of production, regulation and consumption of music. As such, data related to the recording industry, marketing literature and copyright legislation are drawn upon to present a more comprehensive image of how the radio industry may be affected by the budding streaming service industry.

3.6. Sample Selection

Berg (2007) argues that the logic behind the sample of a subject is to make inferences about some larger population from a smaller one – the sample. The sampling strategy employed was developed in congruence with the data analysis strategy which is Grounded Theory. Creswell (2006) recommends that the investigator choose participants based on their ability to contribute to an evolving theory. According to Creswell the process begins with "selecting and studying a homogeneous sample of individuals, and then, after developing the theory, selecting and studying a heterogeneous sample" (p.119). The goal of this effort is to confirm or disconfirm the conditions, both contextual and intervening under which the model holds (Creswell & Urbom, 2006:120).

Two sampling strategies were used: purposive sampling and snowball sampling. Purposive sampling, sometimes referred to as judgmental sampling (Hagan, 2006), has the researcher use special knowledge or expertise about some group to select subjects who represent that population (Berg, 2007, Hagan, 2006)

As this researcher is fairly well versed with radio networks operating in French and English Canada, three ideal interviewees were contacted to represent their respective companies and provide data about how they are reacting to personalized streaming services.

Snowball sampling, which shares similarities with convenience sampling, is sometimes the best way to "locate subjects with certain attributes or characteristics necessary to the study" (Berg, 2007:44). Following the interviewing of the three aforementioned ideal subjects, two subsequent subjects were identified using snowball sampling.

3.7. Overview of experts

Both forms of musical delivery systems discussed in this study, radio and personalized streaming services, operate in a space at the intersection of the production, regulation and consumption of music. As such, experts were chosen for interviews based on their ability to speak personally of those areas. In the next section, a brief introduction of each expert is given. Only one expert – representing on-demand services - requested anonymity in this study. Therefore, an especially terse account of this expert's history and current professional standing is outlined.

Radio Expert 1: Rob Farina

Rob Farina is the Executive Vice President of all content on all platforms for Astral Radio's 83 French and English radio stations in Canada. He is responsible for all programming, digital operations, marketing and promotions. Farina also oversees the operations of Orbyt

Media, Canada's largest syndicator of radio programming, services and digital content. Prior to joining Astral Media, Farina was Vice President of Programming for CHUM Radio. He was responsible for the division's national programming initiatives, license acquisitions, the creation of innovative content and format platforms, and for CHUM's commitment to fostering new Canadian artists.

Radio Expert 2: Duff Roman

Indicted into the Canadian Association of Broadcasters (CAB) Hall of Fame in 2001, Duff Roman worked extensively in the Canadian radio industry before retiring as head of CHUM Limited to pursue his own endeavors with Duff Roman Media Inc. CHUM Limited once controlled 33 radio stations across Canada. At various points in its history, it owned and operated ATV/Atlantic Satellite Network in Atlantic Canada. On July 12 2006, CHUM announced that it had agreed to a takeover by Bell Globemedia, renamed CTVglobemedia and now Bell Media in a transaction that valued CHUM at $1.7 billion CAD.

Roman also chaired the CAB's Board of Directors and served as Co-Chair of the CAB's Dgital Radio Rollout Committee. Other posts included President of Digital Radio Roll-Out Inc., a member of the Advisory Board of Ryerson Polytechnic University and President and Director of FACTOR, the Foundation to Assist Canadian Talent on Records, of which he was a founding member.

Radio Expert 3: David Bray

David Bray is the President of Bray and Partners, a full service advertising agency with extensive experience in the development of marketing strategies for radio stations. Bray's company also offers broadcast consultant services and has worked on a variety of successful license applications before the Canadian Radio-television and Telecommunications Commission

(CRTC) as well as developing programming and imaging for radio stations across Canada. Bray has also served as Vice-Chair of the Bureau of Broadcast Measurement (BBM) and Radio Executive and Chair of the BBM Survey Measurement Committee. BBM Canada, Sondages BBM in Québec, is a not for profit, member-owned tripartite industry organization which provides broadcast measurement and consumer behavior data to broadcasters, advertisers and agencies.

Regulation Expert: Michel Arpin

Michel Arpin is the former Vice Chair of the CRTC. The commission has two Vice Chairs, one for Telecommunications and one for Broadcasting; Arpin represented the latter. Arpin has also served as interim chairman of the entire commission in the past.

Amongst his other positions in the industry, Arpin served as Chairman of the CAB Board of Directors, Vice-Chairman of the CAB's Radio Board, Director and Secretary-Treasurer of BBM, as well as Director and President of the Association canadienne de la radio et de la télévision de langue française (ACRTF). In addition, he sat as a broadcasting industry representative on numerous government committees, including the Forum permanent des communications du Québec (1982-1988); the Task Force on the Introduction of Digital Radio in Canada (1993-1996); the Groupe de travail sur la chanson (1988); the Canada Music Council (2002-2005) and the Table de concertation sur la qualité du français dans les médias (2003-2005).

On-Demand Expert

This expert is currently serves as Vice President of Content and Regulatory Affairs for a prominent, Montreal-based digital media company. Prior to this position, the expert worked as musical and content director for Montreal's CHOM FM station and eventually landed a position

with Astral Media Radio as Vice President of Branding, Communications and Industry Relations.

3.8. Data Analysis Strategy: Grounded Theory

The aim of GTM is to develop a theory from a body of data that the researcher collects through qualitative measures. This is the opposite of much scientific research wherein a theory is assumed and a number of tests are carried out against the theory to prove its validity.

Creswell (2006), synthesizing Strauss, Corbin and Glaser's (1967, 1978, 1990) work, provides a standard set of rules through which data is coded which eventually leads to a grounded theory:

1. The first step is open coding whereby the researcher forms initial categories of information about the phenomenon being studied by segmenting information. Within each category, the investigator finds several properties or, subcategories, and looks for data to 'dimensionalize' or show extreme possibilities on a continuum of property. Essentially, each line, sentence, paragraph, etc., is read in search of the answer to the repeated questions "What is this about? What is being referenced here?"

2. The next step is axial coding in which the researcher identifies a central phenomenon (i.e., its central categories), explores causal conditions (i.e., categories of conditions that influence the phenomenon), identifies specific strategies (i.e., the actions or interactions that result from the it), identifies the context and intervening conditions (i.e., the narrow and broad conditions that influence the strategies), and delineates the consequences (i.e., the outcomes of the strategies) for this phenomenon.

3. In selective coding, the researcher identifies a "story line" and writes a story that integrates the categories in the axial coding model. In this phase, conditional propositions (or

hypotheses) are typically presented. The essential idea is to develop a single storyline around which everything else is draped.

4. Finally, the researcher may develop and visually portray a conditional matrix that elucidates the social, historical and economic conditions influencing the central phenomenon (Creswell, 2006:57).

In addition to these steps, the researcher should use Barney and Glaser's constant comparison method throughout the data analysis phase to ensure that connections and interrelationships between interview materials are made. In constant comparison method, interview texts are analyzed line by line, themes noted, and subsequently compared with other transcripts in order to ensure consistency (Spiggle 1994).

The final stage of the theory development process is the construction of a core category (Glaser and Strauss, 1967). The latter category pulls together all the concepts in order to offer an explanation of the phenomenon. This is usually when the theory is written up and integrated with existing theories to show relevance, fit, and/or extension (Goulding, 2005).

In the case of the present study, significant departures from steps involved in theory construction were made based on unique circumstances. In the next section, it is explained how and why the construction of a grounded theory is abandoned in favor of the creation of three speculative future scenarios for the Canadian radio industry. Small sample size and time constraints are among reasons cited.

3.9. Applying Grounded Theory to the Present Study

The decision to apply Grounded Theory to the results of the interviews with experts was reached not before the research began, but after data had been collected from experts. Originally, multiple case studies were to be carried out with experts at their places of employment over an

extended period of time. However, the reality and difficulties associated with longitudinal case studies of experts reared very early in the data collection process. The experts that were eventually chosen for this study were dispersed geographically, and to visit each expert's place of work, multiple times, would be extremely costly and time consuming for a lone researcher. Given the retroactive decision to employ Grounded Theory to this study, an extremely light application of it was carried out in an effort to make sense of the data. As such, interview data was analyzed using only open and axial coding in order to develop a comprehensive, visual framework which speaks to the perceptions of experts interviewed in this study. The conceptualized listener profile, as presented in the analysis section, represents the manifestation of elements of Grounded Theory as applied to interview data and external data such as newspaper, magazine and conference presentations on personalized streaming services.

I believe that it would be impractical, and unfaithful, to proponents of Grounded Theory to construct a theory based on the small number of interviews conducted over a three-month period. So instead, three speculative scenarios for terrestrial radio's future in Canada are presented in Chapter 5. These scenarios were developed through constant comparison of interview data in conjunction with open and axial coding. Each scenario is essentially tethered to an expert who championed a particular future for radio over another.

My decision to depart from elements Barney and Glaser's process is not without precedent in academia. For example, Mullins and Roessier's (1998) research into employment outcomes ignored constant comparison, and instead drew on an established models and theories and collected data through structured mail surveys which featured a rating scale (Goulding, 2005). Another example is in the work of Belk et al.'s (1989) "Odyssey" paper which combined

a number of methodologies to address various questions as the research progressed (In Goulding, 2005).

As mentioned, the development of a grounded theory involves taking the research into a variety of contexts, ensuring full theoretical sampling and the production of a theory that has applications to other settings and populations (Morse in Goulding 2005). This may take years and involve research teams as averse to lone academics, which combined with the pressure to publish means that few have either the time or the resources to commit to such an endeavor (Goulding, 2005).

Ultimately, I believe that my decision to use only some elements of Grounded Theory Method was justified given the small number of interviewees and the financial constraints associated with pursuing the research over a number of years.

Chapter 4: Results

4.1. Personalized Streaming Services in North America (Q1) (Q2) (Q3)

All five interviews[13] began with the same open ended question: (Q1) "What is your take on the competitive landscape of music streaming services in the United States?" Following this question, the respondents were asked to (Q2) "explain their opinion about the viability of streaming services in the Canadian marketplace", especially if they were not mentioned in the response to the first question. The aim of question Q2 was to gather information about the way the experts perceived streaming services on a subjective, speculative basis. In addition, all respondents were asked (Q3) "if they believed that the future of terrestrial radio in Canada is moving to a more personalized interactive space".

Three experts, all representing terrestrial radio, cited concerns about the profitability of streaming services like Pandora, MOG and Spotify in the United States. All radio experts believed that a truly profitable service had yet to emerge out of all the streaming services. Bray, Farina and the on-demand expert identified the streaming service Pandora as being the most endangered and vulnerable as it pays roughly 65 percent of every dollar it makes to royalty bodies who represent music labels in the United States. More specifically, information released from Pandora's latest financial quarter indicated that it paid $0.00102 per song streamed by a free, non-subscriber. According to Billboard's Glenn Peoples, an agreement Pandora made with SoundExchange, the agency that collects royalties from streaming services and distributes them

[13] Recall that the five experts interviewed are as follows:
Radio Experts: 1) Rob Farina, Vice President of Content at Astral Media
2) Duff Roman, former Vice-President of Industry Affairs with CHUM Limited, former President and founding member of FACTOR, the Foundation to Assist Canadian Talent on Records
3) David Bray, President Bray & Partners Communications, Broadcast programming consultant and consultant on numerous successful CRTC broadcast license applications.
On-demand/Digital expert: 4) Current Vice-President of Content and Regulatory Affairs with a Montréal- based digital music and television company.
Regulation expert: 5) Michel Arpin, former Vice Chair of the CRTC, former Senior Advisor of Regulatory affairs with Astral Media

to rights owners, will see Pandora's royalty for each non-subscription play increase from $0.00102 in 2011 to $0.0011, $0.0012, $0.0013 and $0.00140 in the next four years (2011). This represents annual increase of roughly 8 percent and a rise over four years of 37 percent. The per-stream royalty for subscription plays will increase 47% over that time span (Peoples, 2011). This signifies a co-dependent relationship between Pandora and Soundexchange: with Pandora's ever-growing listening hours and royalty payments, SoundExchange and music labels need a healthy Pandora, and Pandora needs reasonable royalty rates to continue operating within their costs.

Ironically, the on-demand expert believed that the worst scenario for Pandora would be for its popularity to increase, as more subscribers would mean more of its profits would be directed to companies to whom it the pays royalty fees.

Bray believed that the advertising models behind music streaming services were also flawed. Bray argued that targeted advertising, otherwise known as '1 to 1' advertising, wherein the streaming service plays a highly specialized audio commercial to a user based on information that user as provided to the service, was 'anemic' and unsustainable in the long term. Bray noted that advertising to only one person at a time would be more costly, take more time and resources than it would to advertise once to a great many users. However, the on-demand expert and Farina cited such an advertising model as strength rather than a weakness. These experts, from radio and on-demand respectively, noted that since the onset of the Internet, users with niche tastes and interests have proliferated. Two out of three radio experts, Farina and Roman, believed that streaming services were in a unique position to cater to and capitalize on those users.

All experts agreed that equity investors, currently one of the largest sources of revenue for fledging services like Slacker and Spotify, have good reason to be skeptical about the profitability of the services in which they invest. Three experts likened the U.S. streaming

service marketplace to the 'dotcom' boom of 1995-2000 during which global stock markets saw their equity value rise rapidly from growth by companies like Yahoo.com and others in the Internet sector. By 2000-2001, the bubble had burst, leaving spectacular casualties like Canadian tech companies Nortel, JDS Uniphase, Corel and others. Bray and the on-demand expert agreed that streaming services in the United Stated and Canada are no different from other Internet companies in that they are extremely risky and likely unreliable investments in the long term. The on-demand expert compared the rise of streaming services to the early ascent of Blackberry maker Research in Motion, a once profitable enterprise that is now severely challenged:

> The problem with a lot of these streaming services is that they're so noisy and so sexy in McLuhan-esque terms that they've drawn a lot of attention. Particularly by the high-speed computer trading operations which buy and sell tens of millions of their shares in seconds and cause wild fluctuations in the price, which have nothing to do with the reality of the product, but rather, make the investor go "I'm gonna buy Monsanto" or "I'm going to buy BMO" (Bank of Montreal) or something that I at least understand. (On-demand expert, personal communication, October 28, 2011)

Michel Arpin, the regulatory expert, stated that streaming services are in the early stages of development and as such investors should be careful to invest only in companies that are operating within the confines of the law in Canada and the U.S. Arpin cited Grooveshark, a U.S.-based on-demand music service, which has come under attack for continuously uploading music for its users without the consent of the major music labels, thus violating U.S. and Canadian copyright laws. The on-demand expert added that investors would be wiser to support organizations like financial institutions and corporations that are easy to understand and have few ties to technology industries.

All experts argued that streaming services will face an uphill battle in amassing a large audience for a variety of reasons. One of the difficulties new streaming services face is deciding whether to spend capital on advertising and promotion or use that capital to expand to new territory. Farina agreed that exposure versus the need to build markets in new countries were two delicate areas for personalized streaming services, noting that many in North American are still unaware that streaming services are available to them. Indeed, a 2011 poll by Nielsen Soundscan that showed a large percentage of American consumers are either unaware or disinterested in personalized streaming services, whether paid or free. The study showed that amongst all age groups and across both genders, a minority expressed both awareness and interest in personalized streaming services[14].

There was some contention regarding what form of streaming service would best appeal to Canadians. Farina questioned the appeal of a subscriber-based model. In a subscription system, a user pays a monthly fee in exchange for access to music without the advertising they would normally be exposed to with a free account. Farina was skeptical about the notion that a user would want to subscribe to a service which guaranteed the user an unlimited number of songs. Users, Farina argued, value a relationship with an artist, not a relationship with songs: "I don't think consumers have a relationship with the notion of millions of songs, like Rdio and Spotify tout. I think the relationship is "I love Rihanna, I want to hear her hit, and maybe see her live" (Farina, Nov 2011). Not all respondents agreed with this opinion. Roman and the on-demand expert believed that the vast music catalogues of streaming services enabled higher chances of musical discovery. The on-demand expert admitted to having made a significant number of musical discoveries since joining Rdio, a U.S.-based streaming service recently available to Canadians. He added that he would not have made such discoveries using terrestrial

[14] See 'Most Consumers Still Unaware, Disinterested In Streaming Services' Digital Music News, March 22, 2011

radio its websites did not have the same efficient social tracking features. He was referring to Rdio's 'follow' option which allowed him to see which tracks his friends reviewed and added to their customized collections and play lists. Rdio also allows its users to follow people are deemed 'tastemakers'; their activities are updated to the user's Rdio dashboard (Rdio Inc, 2011)

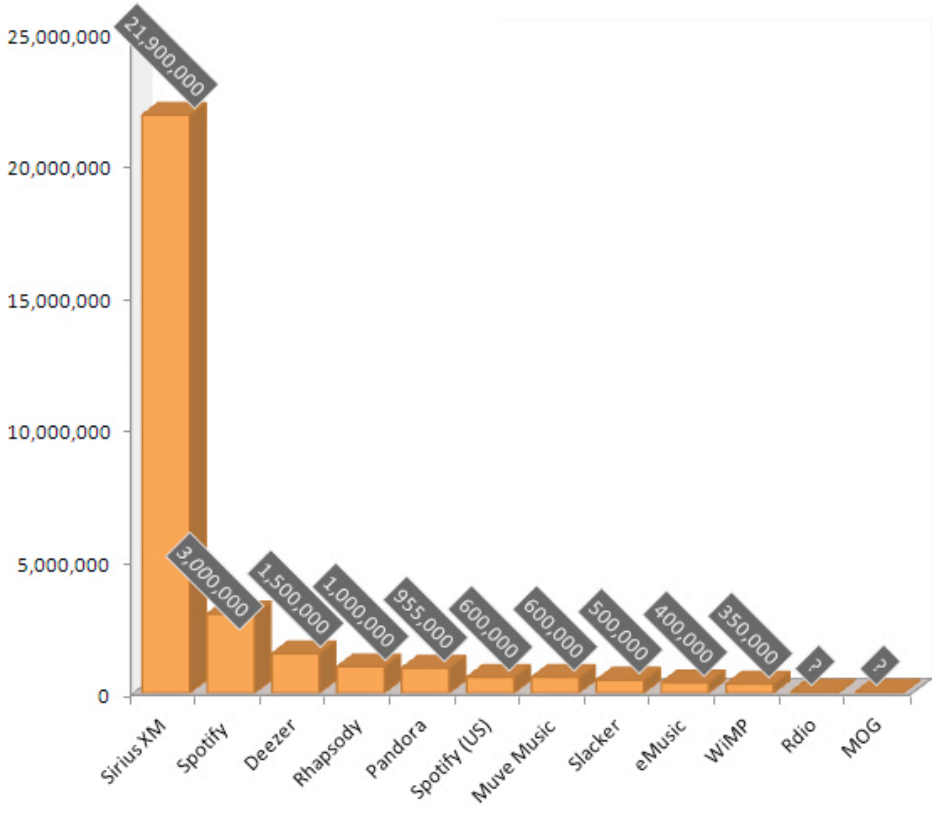
4.2. Digital Dream-world

The expert in on-demand services disagreed with the premise that the landscape of music streaming services in the United States was competitive. He argued that most leaders of digital business in Canada and the U.S. live in a 'digital dream-world' in which it is believed that most people own smart phones, tablets and use streaming services like Netflix and Pandora. This expert believed that conventional media would continue to dominate throughout the United States and Canada, citing recent figures indicating that Canadians have listened to an average of 20 hours of radio a week for the last decade, with very few fluctuations.

All experts believed that streaming services would struggle to take hold in Canada because of existing consumer habits. The on-demand expert, who endorsed the notion of the 'digital dream world' previously, believed that Canadians would prefer to spend more time with traditional media like terrestrial radio and television. He believed that busy working Canadians gravitate to conventional media as it is a form media they understand and feel comfortable using. This sentiment was echoed by Roman and Bray who each used the example of the hypothetical stay-at-home mother who does not have time to learn about streaming services that allow her to customize her own radio station or share personalized play-lists with friends over social networks. Experts were careful to endorse the possibility that digitally savvy young Canadians would be using streaming services either, at least on a mass scale. All but one expert – Roman - believed that such services would be of interest and benefit only to extreme music fans with

niche tastes. Bray and Farina radio experts cited Rdio and Slacker, available in Canada as of 2010 and 2011 respectively, as examples of Canadian streaming services that had garnered very few subscribers. Worth noting is that Rdio and Slacker have not released to the public the number of subscribers they have in Canada or worldwide to the public. When pressed about this fact, radio experts claimed Rdio and Slacker's reluctance do so indicated that each company had very small subscriber bases. Upon external review, however, recent figures by Digital Music News showed that Slacker had 500,000 global subscribers, just 100,000 below that Spotify has globally (See Digital Subscription Charts – Table 1). Rdio's figures were not reported. In light of these figures, the opinions of the experts in the present study are perhaps slightly dubious

Table 1
*Digital Subscription Charts in the United States as of April 2012 compiled by Digital Music News**



* These figures are speculative and were calculated from 2012 fiscal statements of the companies featured in the chart.

4.3. Streaming Services in Canada

When asked if they believed personalized streaming services would make their mark in Canada, experts in radio and on-demand services were quick to cite several examples of short-lived digital audio technologies. Radio experts recalled the difficulty of introducing the DAB radio format to Canadians. All experts admitted to being optimistic that the platform would succeed in the late 1990s, citing its superior sound quality and wide-scale adoption across Europe, particularly in the United Kingdom. Farina and Roman believed that the failure of DAB was attributed to a lack of promotion and advertising. Roman, who claimed to have worked closely on the implementation of DAB with automotive companies, cited underwhelming public interest in the format as one of the reasons it failed to take hold. Roman added that the company for whom he worked at the time stopped pushing for DAB because the United States had also halted its promotion of the platform.

Farina and Roman remained somewhat optimistic about adoption of streaming services in Canada due to the limited success of satellite radio. According to Farina and Roman the limited success of Sirius/XM Radio, a subscription based service used mostly in automobiles with satellite receivers, signaled willingness on the part of the Canadian public to try new audio services even if they are costly and require additional equipment, such as at-home receivers, to use. Roman, though optimistic about satellite radio, believed that its golden age would soon be over. He cited recent figures which indicated their subscriber base had stagnated over the last two years.

The question of whether terrestrial radio would become more interactive and personalized generated much discussion from all respondents. All experts agreed that terrestrial radio had a long way to go in establishing a powerful presence on the Internet. Roman said:

> Radio has to stop thinking like radio people who are trying to protect a sort of iconic heritage investment, and enter this century and look at the various Internet and digital tools as just that: tools, to take what they do so well, which is content, to the maximum number of consumers and in a form that gives the consumers the ability to make the content even more useful, i.e., interactivity. (D. Roman, personal communication, November 25, 2011).

Farina believed that terrestrial radio had to do more than create Twitter feeds, blogs or a website through which users could listen and participate in contest opportunities. All experts believed that terrestrial radio had to address drops in teen listening[15], which have fallen roughly 30% in the last ten years. They believed that offering teens a fun and interesting way to listen to their radio station online might be one way to re-capture this demographic.

Roman and the on-demand expert cited U.S.-based Clear Channel as a terrestrial radio company that had successfully 'personalized' its terrestrial radio properties. The service, called 'iheartradio' strings together similar Clear Channel FM stations into categories by station genres (Top 40, Hip Hop, Rhythm and Blues, etc) into a mobile application that is free to the user. The on-demand expert believed that iheartradio represented a significant threat to other commercial radio networks in the U.S.

Roman cited radio's lack of options for customizability and personalization as a key reason radio networks in Canada have lost portions of their teen listeners. He reiterated data mentioned above that indicated that 'teen-tuning' has dropped 30 percent in the last seven years.

Several experts discussed the idea of allowing users more control over the number of advertisements they were exposed to over the course of a regular broadcasting day. The on-demand expert believed that a proposed Personal Video Recorder-like (PVR) system for radio in

[15] 12-17 is the official teen listening demograhic as outlined by Canada's Radio measurement organization BBM

the U.S. might appeal to some users who crave a more customizable experience with radio, but warned that advertisers would likely be very against the move and pull important ad dollars from radio networks. He added that the PVR format had not hurt television as much as expected because of television's visual potential; users might not want to hear an ad, but are drawn in regardless because of exciting visual content. He also noted that this would not work on radio since it is a strictly aural media.

The on-demand expert believed that terrestrial radio would in fact move away from interactive, personalized programming in favor of talk-oriented programming. As an example, he cited radio company Corus, which converted two struggling music stations into talk and all-traffic stations, respectively in 2010.

After explaining their general views on personalized streaming services in the U.S. and Canada, respondents were asked (Q4) "what positive or negative effect political, economical, regulatory and social factors might have on the adoption of personalized streaming services in Canada."

4.4. Royalty Structures (Q4)

There were a wide variety of opinions about the effects of royalty costs that new entrants like Pandora and Spotify would have to pay under Tariff 22 of the 2012 Canadian Copyright Act. Canadian Internet streaming services fall into one of several categories. The first is non-interactive (streaming is fully controlled by the provider, i.e., users cannot control the content streamed); the second is semi-interactive (streaming allows user-influenced or customized play lists, or allows users to fast-forward/skip tracks); and mobile/on-demand (services that provide online and/or mobile on-demand streaming wherein users have full control over selection and timing of the tracks streamed). Depending on the digital service, the rights may be licensed

directly from rights holders or, where tariffs apply, from collective agencies such as Re:Sound, AVLA and others, under pre-defined terms. Tariffs are certified by the Copyright Board of Canada, a government tribunal.

Four experts, in radio and on-demand services, cited the costly rate of 45 percent of the non-interactive streaming sites' gross revenue, or 7.5 tenths of a cent for every song streamed that Pandora would have to pay to Re:Sound and other collective agencies as a potential deterrent to entry into Canada (Tariff 22.A Socan, 2011; Geist, 2011). Compared to terrestrial radio's 1.5 percent rate, the experts agreed that until the numbers changed, it would be unlikely for services like Pandora and Spotify to attempt a business launch in Canada.

However, Arpin cited the CRTC's 2008 decision not to regulate services that broadcast over the Internet, i.e., that such services needn't apply for a broadcast license from the CRTC, as a positive step. He believed that the decision meant that services like Pandora and Spotify had one less obstacle to overcome should they attempt to do business in Canada. The on-demand, however, believed that the CRTC's decision was largely inconsequential given the already free and unfettered regulatory climate of the Internet. The experts were asked then asked if they believed that royalty rates would be renegotiated and/or decreased if enough companies lobbied for change. All but expert, Roman, saw such a scenario as highly unlikely, but ultimately plausible if there were enough public and private support to do so.

The on-demand expert believed that streaming services already affiliated with other profitable businesses would be able to successfully launch in Canada. In August of 2011, Kitchener's Research in Motion launched an on-demand service called BBM Music. BBM Music, like Rdio and Slacker, has not made public its subscriber data. Worth mentioning however, were the unfavorable reviews the service had received from influential technology

analysts representing PCWorld and Time magazine upon its launch in Canada and the United States.[16] Further, most Canadians are well aware of the spectacular fall of Research in Motion and may associate their new products with the overall negative state of the company.

Bray, Roman and the on-demand expert noted that without capital from separate infrastructures, many services would have to 'burn through' a significant portion of money from subscriptions and advertising companies to continue surviving. All radio experts again cited Pandora as an example of a company barely able to survive, let alone expand, given the per-stream royalties they are required to pay in the United States. Recall that Pandora's royalty fees for each non-subscription song played play is currently set at $0.00102. Also, Pandora's royalty fees are set to rise roughly 37 percent over the next four years (Peoples, 2011).

4.5. Piracy and Population

All but one expert, Farina, agreed that music piracy affected the willingness of subscription-based streaming services to enter the Canadian market. Citing the U.S.' Special 301 report on Piracy (see page 24), the on-demand expert believed that the United States and other countries would conclude that Canadians do not want to pay for music. When questioned about the recent launch of a subscription-based, on-demand service by same the company the on-demand expert represented, he countered by explaining the competitive nature under which the offering was launched. The personalized player, he claimed, was geared toward other businesses not consumers. It was a way for his team to build closer, more strategic relationships with Canadian broadcast distribution undertakings (BDUs) such as Rogers and Bell.

Roman believed that Canada's relatively small population plays a role in determining whether streaming services would attempt to do business in the country. He referred to an article

[16] See Time's 'RIM Launches BBM Music, and It's Doomed Already' (Newman, 2011)
See also PC World's '5 Reasons RIM's BBM Music Service Will Flop' (Slatterly, 2011)

in which David Hyman, president of California-based streaming application MOG, cited Canada's high royalty fees and relatively small population as a reason for aborting immediate plans regarding Canadian expansion. However, not all experts were in agreement with that opinion. Farina and Bray argued that small population and high royalty fees failed to keep similar U.S. streaming services like Rdio and Slacker from entering the Canadian market. Rdio and Slacker have been operating in Canada as semi-interactive and on-demand services respectively, which means they fall under the Canadian Copyright Board's Tariff 22 rules.

4.6. Past Experiments

All experts questioned the overall willingness of Canadians to use streaming services based on the failure of Astral Media's short-lived Radiolibre.ca, a subscription-based music service geared toward French and English Canadians that launched in 2006 and was terminated six months thereafter. Farina and the on-demand expert attributed the service's failure to poor execution, poor marketing and poor functionality.

Roman believed that the rates charged by Canadian Internet service providers (ISPs) like BCE Inc.'s Bell Canada unit, Rogers Communications Inc., and Telus for data usage could act as a deterrent to consumers who want to use music streaming services on their mobile phones or media tablets. For example, in March 2011, U.S.-based movie and television streaming service Netflix reduced the default audio and video quality settings on content streamed through its Canadian service to reassure consumers who were worried about going over their Internet data limits. This meant that their content would use up two-thirds less data to stream on average. The on-demand expert used the Netflix example to support hypothetical scenarios involving a complex battle between consumers, streaming services and ISPs regarding data limits. While most radio experts believed that ISPs would eventually lower their data fees as Canadian smart

phone penetration rose, other experts remained skeptical. The on-demand expert believed that if music streaming services became as popular as Netflix in Canada, they would have to change their audio quality settings as ISPs were highly unlikely to change their data rates. This expert noted that many people in Canada now switch their devices to free wireless local area networks (WiFi), which are becoming more ubiquitous.

4.7. Radio's Place in a Multimedia Market (Q5) (Q6)

Following the discussion about streaming services, experts were asked to discuss the place of terrestrial radio in the midst of new technologies in Canada. Experts were asked (Q5): "to what extent streaming services were similar or dissimilar to terrestrial radio". Respondents were then asked if (Q6) "personalized streaming services posed a threat to terrestrial radio networks".

When respondents were asked to contrast and compare terrestrial radio to new streaming services, answers and opinions varied significantly. Respondents were first asked if they thought that Internet radio services like Pandora and Last.fm bore any resemblance to terrestrial radio. Roman resented the use of the word radio in promotional language by Pandora and Last.fm. This expert was referring to Last.fm's former slogan: "Last.fm, the last radio station you'll ever need." Roman stressed that terrestrial radio has unique qualities and virtues that make it distinct from new digital services. Radio is essentially over-the-air and wireless and that invoking the term was a compliment to the position that radio holds with society, the consumer and the listener. Roman also believed that no matter how forcefully newer services attempted to promote themselves by relating to terrestrial radio they would ultimately fail as they would be unable to provide local content, local talk-oriented programming and a variety of content formats (comedy, concerts, interviews, etc) – three core qualities that terrestrial radio provides. The on-demand

expert agreed with this idea, saying that the streaming services invoked radio for strategic advertising purposes. He believed that the usage of 'radio' by streaming companies was merely an attempt to promote their technology as being more sophisticated and exciting than conventional radio is.

However, not all experts were equally adamant in distancing radio from personalized streaming services. Bray believed that streaming services were correct to use the word 'radio' as long as they were providing and promoting music. Bray viewed services like Pandora and Slacker as similar to terrestrial radio in that they were both a source of music and were designed to promote the discovery of new music.

Much debate and discussion ensued when the experts were asked whether streaming services posed a threat to terrestrial radio networks in Canada. Before discussing what effects streaming services like Pandora and Spotify could have on terrestrial radio networks, a more general discussion about technological advancements in Internet and audio delivery systems took place. All experts admitted that the rapidly changing nature of technology posed significant challenges to their respective businesses. As Roman explained:

> It pains me as a radio broadcaster to say this but what we don't know could seriously affect the future of our business – I mean we talk about the limitations and the things that the Internet-based streaming services can't do like local and talk, and the differences with terrestrial radio – but I'm always amazed at new compression algorithms, always amazed at bit rates and the conversion of certain spectrum into what might be usable for other purposes. More efficient servers and even broader band. All of these things play into what is going to be required of all of us if we are going to play in the Internet space (D. Roman, personal communication, Nov 25, 2011)

All radio experts believed that streaming services like Pandora, Slacker and Last.fm should be viewed as competition to terrestrial radio. Farina admitted that Astral, the radio company he represents, was preparing to launch an on-demand service that aims to compete directly with other services mentioned in this thesis. Farina cited a number of reasons for the launch of the on-demand service. First, terrestrial radio needed to find creative and interesting ways to reach out to younger audiences who listen to much of their music online, and that an online service might be the answer. Second, a number of other companies, whom Farina declined to identify, were planning to launch similar offerings.

Most experts agreed that terrestrial radio networks would have to 'fight fire with fire' and present streaming service of their own to compete with rivals. Some experts were quick to point out the difficulties associated with such an endeavor. Bray believed that convincing senior management at a terrestrial radio network to invest resources in the development of an online service would be among the largest hurdles. As he explained:

> Most CEO's are looking at the next 90 days – many of them won't even be around in the next five years – so the idea of cutting into your profit margins and investing in the future is met with skepticism. And why shouldn't it be? Their bonus is based on the next 90 days, or the next 365 days, certainly not what's going to happen in the next five years after they retire. It's kind of frightening, because who's going to champion the future? If you're trying to hold onto your economic survival, the idea is, say, 'oh let's take 20-30 percent profits and put it all into the future endeavors like streaming services and Facebook in a speculative fashion,' you can imagine how that's greeted. They don't want to do it. You're 60 years old, you're trying to get your bonus and get out. Why would you

> say 'let's revamp the whole sucker!'? (D. Bray, personal communication, October 19, 2011)

This view was corroborated by a Roman who spent nearly 30 years in the commercial radio industry. While perhaps not as caustic as the preceding response, his views paralleled those expressed above:

> It's true that those who can affect change, the one who are the leaders, are all operating on incentives and they'll be in the game for five to seven years. And to get that layer of senior authority to buy into long-vision planning is a very tough game -- mostly because they are looking at the next quarter. They are looking at how that fiscal year is going to end up, what their bonuses are going to be, what their take-away is going to be – which really militates against the kind of planning and thoughtfulness of long-term business thinking that is required. (D. Roman, personal communication, Nov 25 2011)

All radio experts added that radio networks would be especially reticent to try developing new streaming services given the paltry revenues that newer Canadian services like Slacker and Rdio have so far generated. Upon external review however, the only report that spoke to Slacker and Rdio's growth was a 2012 U.S. study by the Recording Industry Association of America (RIAA) which noted that in 2011 streaming services Slacker, Rdio, Pandora and Spotify and others had seen a cumulative rise in revenues totaling $241 million, an increase of 13% from the prior year (Friedlander, 2012).

In addition to the challenges mentioned above, all experts believed that for radio to compete with streaming services they will have to develop strong relationships with users through social networks like Facebook, Google + and Twitter via their own streaming service or through their existing radio websites. All experts believed that U.S.-based streaming services had

positively integrated with social networks in ways that terrestrial radio had not, and likely would not, for the foreseeable future.

At the time that the interviews were being conducted, Spotify had planned to launch in the United States by way of a tethered connection with Facebook. Under the arrangement, those who wanted to use Spotify in the United States would need to have a Facebook account. Spotify would automatically update the user's news feed with songs that the user was listening to at any given time, unless the user opted out of the automatic updates. All experts agreed that that partnership would positively benefit both companies and that terrestrial radio would have to do something similar if it was serious about maintaining its credibility with young Canadians, who are heavy users of Facebook. The on-demand expert noted that Slacker and Last.fm had similar social features whereby users could view play-lists created by their friends, but that the Spotify/Facebook example was far more streamlined and intuitive and thus far likelier to succeed.

All three radio experts noted that terrestrial radio had to be especially strategic in combating streaming services through its use of advertising. All respondents noted that consumers young and old were becoming more and more sensitive to advertising – a cornerstone of most streaming services and terrestrial radio. The experts believed that young Canadians have become less tolerant of advertising due to the indicative ad-free nature of the Internet. The on-demand expert noted that a variety of online tools now allow their audiences to skip or block advertising completely. He noted the popularity of PVR technologies for television, free ad-blocking software for web browsers, and offshore accounts where users can stream movies and television shows that are devoid of embedded advertisements normally absorbed by the user through traditional media. Further, this expert used the term "psychological entry fee" as a way

of expressing this phenomenon. According this expert, a person's psychological entry fee is the mental cost of absorbing advertising. He believed that a consumer's ability to tolerate a series of advertisements is becoming more strained and fragile, thus presenting challenges for companies who offer content for free in exchange for the user viewing a short advertisement before accessing the desired content. As the expert said:

> It's a matter of principle, and people who experience advertising as a matter of principle are far more altruistic than the average Canadian, especially younger Canadians who are used to getting content they want for free. I was chair of the Canadian Association of Broadcasters for several years and entertained many conversations about the following question: "is there a disutility of scale to absorbing music?" in other words, is there a certain point where the next songs you listen to is going to make you listen/watch another advertisement, and make you tip over the edge? (On-demand expert, personal communication, October 28, 2011).

4.8. Future Scenarios for Terrestrial Radio (Q7) (Q8)

The remainder of the interview focused on future scenarios for terrestrial radio in Canada. First, respondents were asked to discuss (Q7) "terrestrial radio's general strengths within the context of Canada's shifting media environment, and what strengths terrestrial radio might have over streaming services," Following this, respondents were asked (Q8) "what terrestrial radio ought to be doing to confront the threat of streaming services within and outside of Canada?"

Nearly all respondents reported that terrestrial radio's greatest strength lay in its ability to appeal to users at a local level. All three radio experts noted that a sense of community and emotional attachment was fostered through terrestrial radio's production of local content such as

news, sports coverage, interviews with area policy makers, and even local advertisements. As one expert said:

> People will always turn to local – especially when you look past the teen demographics, it's all local appeal. Local news, local content, local jokes; radio personalities like Roger, Rick and Marilyn in Toronto: they help form a sense of community, they're a friend as you drive to work, or when you're making breakfast for the kids (D. Bray, personal communication, October 19, 2011).

Roman and Bray believed that the production of local content encouraged radio listeners to identify with a particular local station and become more embedded and imbued with the values of that station. Bray believed that this connection yielded two benefits for radio networks: listener loyalty and more predictable listener-advertising profiles. Bray went on to claim that listener loyalty manifested itself in the ways that a listener communicated the values of a particular radio station. Listeners wear "their station as a badge of honor and are likely to self-identify with on-air personalities and the opinions they express" (Bray, personal communication, Nov 25th). Secondly, Bray believed that an advertiser could extrapolate highly important details about listeners depending on the station to which they were loyal. He explained:

> If you study demographics and psychographics and whatever, you can talk about what a CHOM type of person is, but you can't talk about what kind of person a CTV[17] person is, CTV is all over the map! But, if I was speaking to an advertiser about a loyal listener of the [Toronto] rock station Q107, people could predict, with some degree of certainty, stuff like income level, automobile preference, music preference, attitude, etc." (D. Bray, personal communication, October 19, 2011)

[17] Canadian Television Network, owned by Bell Media

Further, most experts believed that radio's emotional connection to an audience was one that had not been heavily exploited by station managers or radio networks for profit or market share. Experts admitted they would not know how to exploit the highly intrinsic value of terrestrial radio to the listener but were well aware of its potency.

Radio experts were then asked (Q9): "if they could list any advantages that terrestrial radio had over streaming services like Pandora or Slacker". All respondents repeated conventional radio's ability to appeal to listeners at a local level and target those listeners through local and live advertising. Roman, however, provided a number of competitive advantages that terrestrial radio possessed over Internet streaming services. They are listed in detail below and paraphrased here:

1. Radio is point to multipoint: Unlike Internet communication networks, radio networks do not become congested if they are flooded with too much traffic. Radio seldom experiences a total shut-down, save for rare situations where a natural disaster might affect signal transmission. However, in most cases terrestrial radio has proven to be a reliable information disseminating medium during emergency situations like tornadoes, hurricanes or even armed conflict.
2. Radio networks are not vulnerable to hacking: A user's subscriber information stored by Pandora or Rdio, for example, can be compromised by hacking or other problems associated with maintaining sensitive data like mismanagement of files or server crashes. Further, websites or applications can be blocked or halted without notice.
3. Commercial radio is free, the Internet is not. There are no subscription service fees or ISP bandwidth charges to listen to terrestrial commercial radio. Public radio, however, is paid in part by advertising and federal tax dollars. However, listeners do pay for commercial

radio with their time. The on-demand expert believed that listening to advertising on commercial radio functions as a unique transaction. Either way, the listener often has very little perception of payment when it comes to enjoying commercial radio.

4. Highway Doppler-Effect: Roman pointed to a research paper that indicated an Internet connection lag for Internet-connected devices in automobiles when they exceeded certain speeds on German highways. This could present challenges for companies like Pandora who are striving to reach agreements with automakers to have their technology pre-installed in forthcoming models.
5. A button in the car: Radio is unique in that it has its own button already preinstalled in every automobile – a popular radio listening centre for Canadians, not to mention a place where many Canadians spend a lot of time. Roman called the button "the ideal user experience" because of how fast it gets to the desired content. Other technologies like mobile phones or computers have layers of connectivity. For example, the smart phone has a login screen, then a home screen, an application icon, then (possibly) a sign-in process to receive the desired content. The radio button skips these layers and allows for instant unfettered access to music, talk, sports, traffic information and other programming.

In summary, there were variable views about the prospect of widespread adoption and success of streaming services in Canada. A complex royalty negotiation process and a lack of public interest were among some of the arguments used by experts against the adoption of streaming services. However, experts believed that streaming services pose a threat to terrestrial radio in their appeal with young Canadians who desire more control and less advertising. Ultimately, all experts agreed that commercial radio would remain the dominant audio delivery

platform in the near future – not DAB nor Satellite radio. Guiding this belief was an assumed understanding of the wants and needs of the Canadian listener. Experts held the belief that Canadians expect any music experience to be closely related to a commercial radio experience: free, easy to use, ubiquitous and reliable.

Chapter 5: Discussion

5.1. Overview of Findings

Most of our respondents clearly believed that terrestrial radio has no choice but to react to personalized streaming service. Experts representing terrestrial radio admitted that streaming services do pose a threat to their operations, specifically in their appeal with young people who are using less and less conventional media. There was no consensus as to what form - on-demand, semi-interactive, non-interactive – a successful streaming service should take. Farina believed that a streaming service focused on popular 'top 40' music and its associated artists as opposed to an infinite number of artists, genres and songs would be more appealing to young Canadians.

There were variable views about the profitability of streaming services in Canada and elsewhere. Experts noted that while some services existed in Canada, they had not yet been profitable and/or had not accumulated enough subscribers to do serious damage to the bottom line of conversional broadcasters. Radio experts were also cautious about the potential popularity of a streaming service developed by an FM broadcaster. The failure of Astral's radiolibre.ca[18] was mentioned by radio experts to support this argument. Despite that fact, one expert admitted to being a part of the development of a forthcoming streaming service which would complement the existing radio stations his organization owns.

Respondents identified two major obstacles to establishing a profitable streaming service in Canada. The first lay with the expert's perception of the average Canadian consumer. Almost all experts believed that Canadians were too preoccupied with other matters to invest time and energy into to learning how to use streaming services. This argument stemmed from the belief

[18] Radiolibre.ca was launched in January 2006 by Astral Media. Initially intended as a 30 day free trial followed by an option to subscribe for $6.99 per month, it was launched in April 2006 for free. Astral soon withdrew from the project and after a month-long process handed it over to Lycos Music in December of 2006 (Freire, 2007).

that traditional radio listeners had developed a perception of what a listening experience should be: easy, free, mobile, ubiquitous and reliable. Further, experts believed that the average Canadian is a creature of habit and familiarity that favours conventional broadcasting over new media. The second reason lays in the economics of streaming services. All respondents noted the small profit margins that most streaming services endure in their infancy as a result of paltry subscriber bases and high royalty fees paid to rights collectives, or to the music labels directly. Experts noted the difficulty with which streaming services would have in the negotiation of royalty rates.

It was interesting to learn the pessimism with which experts viewed the future of current radio delivery platforms. There was a near unanimous agreement that platforms like DAB and satellite radio had 'taken their best shot' with Canadian consumers. There was also broad consensus among the experts interviewed that DAB radio had failed to create a positive impression on Canadians and would likely continue to struggle over the next few years, if not disappear altogether. Experts were similarly concerned about satellite radio. Most believed its strong profit margins proved that Canadians are somewhat open to new forms of radio broadcasting, but that slowing subscriber numbers signaled a dangerous decline in its popularity and appeal.

Experts did not however, rule out the potency and future potential of FM radio. Indeed, with few exceptions, respondents believed that conventional FM radio would continue to dominate as the top media platform associated with audio content. Respondents were divided with regard to what sort of content would dominate FM radio in the near future. One respondent believed that future FM radio programming would move away from entertainment-oriented content and toward informational content such as news, traffic reports and weather. Other

experts believed that a mixture of popular music and information would continue to prevail. All experts believed that terrestrial FM radio would continue to be the dominant form of radio consumed in the near future.

The explanation offered for FM radio's perceived future dominance lies in social, economical and political events associated with other failed radio/audio technologies. Experts often cited DAB's limited success in Canada to support their arguments against future dominance of personalized streaming services. DAB's Golden Age, cited by O'Neil (2007) and others as having occurred between 1995-2005, suffered from a number of challenges. Firstly, there were particular difficulties with the supply of DAB receiver equipment. Initial costs of around $2,000 for high-end consumer receivers gave DAB an elite image that subsequently proved difficult to shake off (O'Neil, 2007). Lower-cost receivers, once they were available, performed very poorly, adding further difficulties to any potential increase in supply of receiver equipment. Secondly, the failure of automotive manufacturing sector to offer DAB as a standard feature in its cars proved a crushing blow to the potential expansion of the platform. As O'Neil et al. notes, "The surprise success of DRRI in getting a commitment from General Motors Canada for installation of DAB receivers in its 2003 models proved short-lived when difficulties emerged over supply of equipment and in engineering a segregation of the Canadian market for those areas where DAB was available" (2007:78). Thirdly, the policies upon which DAB was based, namely that it would be the replacement technology for analog FM and AM radio, proved false and led to much tumult for DAB supporters.. The notion the DAB would replace analogue radio was determined by the radio industry itself and had its origins in the desire to improve the quality of AM broadcasting. As a result, the CRTC issued, "transitional" licenses to all license holders who wished to upgrade their transmission services to digital, on the understanding that

this was for the purposes of simulcasting existing signals over the transitional period. This offering, however, proved to be another misstep:

> The CRTC, having granted incumbents priority access to new digital channels in the first place, could not increase that allocation further for the purposes of experimental digital programming and, in any event, had to protect the public interest and ensure diversity in the broadcast landscape. What emerged subsequently, therefore, was a form of regulatory paralysis, with an initial allocation of spectrum and licensing and no further room for maneuver until substantial progress had been made in the development of a proven service. This transitional regime, in effect, continued indefinitely, and not until 2006 was a consultative process or a longer-term strategy for digitalization considered. The restrictions placed on experimental licenses remained in effect during this period, preventing the development of new programming services and limiting additional content to alphanumeric text. Few, if any, new entrants were licensed, and the lack of any permanent licensing structure meant a lack of interest on the part of investors in developing new digital services on the DAB platform. (2007:82)

In summary, a series of social, political and economic factors made the implementation of DAB in Canada an unprecedented challenge, one which left industry experts weary about the sustainability of future radio delivery platforms in Canada. Indeed, industry experts in the present study likened DAB's struggle to future challenges that personalized streaming services might encounter.

5.2. SST and Personalized Streaming Services

In accordance with the basic tenets of the SST model, namely that technologies are shaped and molded through complex relationships with society, policy and economic factors

(Lievroux on Mackenzie and Macjam, 2007), personalized streaming services will likely face challenges in establishing themselves as complementary or alternatives to conventional radio. Experts in the present study cited highly inflexible copyright legislation, expensive bandwidth caps imposed by Internet Service Providers, a perceived culture of music piracy and the popularity of conventional media as the main challenges associated with the launch of successful streaming service. These factors have already reshaped video streaming service Netflix in terms of the quality of its video content (see page 67), and have the potential to affect music streaming services in a similar manner. The more immediate effect of unsatisfactory social, political and economic issues is the creation of a climate in which a foreign company does not want to do business for a variety of reasons. Such reasons are explored in detail below.

5.3. Economical Shaping: High Licensing Fees

As mentioned previously, royalty collection agencies like Re:Sound AVLA propose tariffs to the Copyright Royalty Board for on-demand, non and semi-interactive streaming services. Currently, Re: Sound requests a rate of 45 percent of the non-interactive streaming sites' gross revenue, or 7.5 tenths of a cent for every song streamed (Tariff 22.A Socan, 2011). Tim Westergren of Pandora (a non-interactive streaming service) has cited these fees as "astronomical" and a deterrent to entering the Canadian marketplace (Berkow, 2011). In addition, some argue that licensing fees which Pandora is subjected to will also affect other streaming services like Apple, Amazon and Google Music (Geistblog, 2012). However, Canada's rights collectives and the copyright board are not as inflexible as some perceive. For instance, when a collective like Re:Sound or AVLA propose a tariff, interested parties can intervene and file evidence at a hearing before the Copyright Board. The evidence proposed helps the Copyright Board determine what rate is appropriate, thus allowing streaming services

the opportunity to intervene and have their evidence for altering the fees heard. As Olivia (2011:21) explains, "Re:Sound's proposal rate is high, but not determinative", it is simply an opening bid.

The fact that large, relatively profitable streaming services like Spotify and Pandora have to this day resisted the Canadian marketplace is, however, a testimony to difficulties associated with balancing profit and growth with economic and cultural norms. As the experts surmised, the challenge for streaming services will be to reach an agreement that benefits Canadian rights holders and ensures that streaming services keep enough revenue to continue operations. Further, streaming services will have to offer their service at a price point that is agreeable to the average Canadian consumer. This is mentioned as there are a growing number of reports and studies that indicate an unwillingness on the part of Canadians to pay for streaming services and a proclivity to pirate audio content. The US-commissioned Special 301 Piracy report speaks directly to this matter (see page 80).

The challenging economics of streaming services, coupled with Canada's high royalty fees have the potential to stunt the growth of the budding streaming service market in Canada. The most immediate effect of these economic conditions on streaming services will be in their lack of availability to Canadian consumers.

5.4. Political: Overcoming Perceptions of Piracy

Graham Henderson, president of Music Canada, formerly known as the Canadian Recording Industry Association (CRIA), has said publicly that Canadians do not have "an appetite for the legal marketplace" and take much without paying for it (Lambert, 2010). Indeed, in a survey released by Music Canada, two-thirds of Canadians "want digital streaming music to be free" (Music Canada Report, 2011). This view is also shared by American policy makers

whose influential 301 Piracy Report, in which Canada is listed as a top offender, has garnered much foreign and domestic attention (Geist, 2012). Adding fuel to the fire is the perception that file sharing is legal in Canada (Olivia, 2011). This perception is incorrect. It is not legal to distribute copyrighted material under the Copyright Act. However, part VIII of Canada's Copyright act has a private copying exemption. Under section 80(1), the reproduction of a music work, the performer's performance of a musical work in a sound recording, or the sound recording itself is not copyright infringement if it is copied onto a recording medium for private use[19].

The most notable effect of perceptions of piracy is the availability of content on a particular streaming service. For example, in 2011 Google Music, a cloud/locker music service nearly launched without the support of Sony Music after Sony refused to license its music catalog on the grounds that Google indirectly enabled piracy through its popular web search engine.

5.5. Social: Low Population, Data Caps

Canada's small population was cited as a deterrent to streaming services looking to launch here. Of course, population is a factor for any country looking to market a product and grow a business. California-based semi-interactive service MOG did not launch in Canada due to its small population size (Lambert, 2010). Our population was 34,482,770 as of July 2011, with roughly 9.27 people per square kilometer (Statistics Canada Table 2, 2011). Demographically, the Province of Ontario has the biggest population with 12,372,996 people (2011). By comparison, in 2010, the United States had a population of 308, 745, 538, with a concentration

[19] See copyright act, R.S.C 1985, c. C-42 describing exemption under 80(1)

of 87.4 people per square kilometer (US Census Bureau, 2012)[20]. Given these figures, the notion that Canada's relatively small population is a weak selling point to streaming services like MOG and others is uncontroversial. Streaming services rely on active music listeners to fuel their business models, which are typically ad-supported and therefore free to the listener. In addition, all streaming services require a connection to the Internet. While Canada leads the world in broadband Internet penetration, it also leads the world in capping bandwidth and expensive Usage Based Billing (UBB) practices.

Canada is one of the few jurisdictions in the world where nearly all Internet providers use UBB (Geist, 2011). Usage Based Billing (UBB) is the practice of an ISP billing "by the byte" for Internet use. ISPs without unlimited download caps will set a limit of 50, 100 or 300 gigabytes per month as included in their users' accounts, after which each gigabyte (or megabyte as is often the case in cellular internet) is billed to the user. Large internet service providers like Bell, Rogers and Telus, who control 96 percent of the Canadian Internet market, have a uniform approach to billing whereby service providers cap the number of gigabytes a user can upload and download as part of their Internet plan. According to Olivia (2011) if a user listens to music four hours a day for 30 days, assuming that they did nothing else on the internet that required bandwidth usage, it would equal approximately 7GB of data per month – assuming the user was streaming music at 128 kilobytes per second (kbps). If the user was streaming high quality music at 250kbps or the golden standard of 320kbps the data usage would double (Olivia, 2011). Canadian consumers are becoming increasing aware of price considerations such as data rates and bandwidth caps. If Canadians deem streaming services too costly, it could negatively affect their rate of adoption.

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[20] The 2012 Statistical Abstract, US Census bureau, see page 8 of entire
Population Selection PDF "Table 1. Population and Area: 1790 to 2010" (US Census Bureau, 2012)

Worth mentioning is that most streaming services, including Slacker and CBC Music, are available to a user with a mobile phone. Restrictions on the amount of data that one can download are significantly more stringent than restrictions for home and business Internet packages. For example, the most expensive 4G Long Term Evolution (LTE) mobile data plan from service provider Rogers has a monthly data cap of 2GB with an additional charge of 10 dollars for every extra gigabyte the customer uses. While most mobile plans offer gratuitous features which do not count towards cumulative gigabyte usage like unlimited text messaging or access to a social networks such as Twitter and Facebook, Internet activities like streaming video and making video calls are not included in the most advanced mobile plans. In this light, a service that streams high quality music may be a cost too great to bear for the average consumer.

5.6. Digging Deeper: How Perceptions of the Conceptualized Listener May Affect Adoption

An interesting pattern emerged through the coding of data regarding the perception of the listener by experts. Without being prompted by a specific interview question related to the nature of Canadian consumers, in four out of five interviews, experts in radio and on-demand services created a conceptual profile of a Canadian listener. Once experts had described the conceptual listener, they would use details from the profile to argue against the likelihood that that user would adopt a streaming service. This profile was used by nearly all experts as the main reason terrestrial FM broadcasting would be the dominant form of radio media in the near future.

Through open and axial coding of themes and details that emerged from description of the conceptualized listener, it became clear that experts were generating a listener profile based on loyal terrestrial radio listeners. Experts were projecting that profile unto future listeners to argue against the possibility of a mixed media radio market wherein terrestrial radio would be competing against streaming services. While not all experts described the listener using the same

exact wording or phrasing, a number of consistent traits emerged and were recorded in Table 1, below. Experts defined the conceptualized listener across a variety of parameters such as music preferences, age, gender, understanding of new technologies, disposable income and more.

Through coding of the interview materials using grounded method, a conceptualized listener profile emerged. The first section, ‘surface impression’ speaks to general details of the listener such as music genre preferences and preferred method of receiving radio content. The second field is a more in-depth category of information related to gender, income level and working life and is labeled below in Table 1.

Table 1 – The Conceptualized Listener

<table>
<tr><th>Surface Impressions of the listener</th><td>Music</td></tr>
<tr><td rowspan="5">- How a listener discovers new music
- What sorts of genres appeal to the listener
- The degree to which a listener can use and understand new media</td><td>- A fan of Top 40 genres like Hip Hop, Rhythm and Blues, Pop.
- The listener is creature of habit: listens to the same music, “eats at the same restaurants”, etc.</td></tr>
<tr><td>Tech Savvy</td></tr>
<tr><td>-The listener is somewhat internet savvy, but predominantly a heavy user of conventional media like cable television
- Consumes radio offline and online through station websites, but mostly terrestrially.
- Knows little of personalized streaming services in or outside of Canada</td></tr>
<tr><td>Radio Habits</td></tr>
<tr><td>- Does not want to pay to hear music: radio is ideal because it is perceived as free
- Idealizes radio because of its ease of use: no programming, no passwords, plus a button already in the car.</td></tr>
<tr><th>In-depth impression of the listener</th><td rowspan="2">-The listener is typically female
-The listener is bifurcated into one of two working lifestyles:
a) Over-worked and/or juggling jobs
b) Homemaker, homebody.
-The listener has little disposable income
-The listener is urban-oriented, likes commercial consumption (fashion trends).</td></tr>
<tr><td>- Gender considerations
- Socio-Economical standing
- Employment situation</td></tr>
</table>

This perception not only informed the experts' arguments and beliefs but also the tactics they recommended should terrestrial radio networks attempt to combat streaming services. To Bray and the on-demand expert, the conceptualized listener was a creature of predictable habits and tastes that favored conventional broadcast media over new, Internet-based technologies.

These experts believed that personalized streaming services would probably only appeal to listeners with niche, eclectic tastes; in other words, not your average Canadian.

Bray argued that most Canadians are not interested in negotiating the assumed complexities of streaming services. The on-demand expert echoed this belief in the form of his 'digital dreamworld' argument in which media industry leaders falsely assumed that most Canadians are early adopters of new media. However, almost paradoxically, he also believed that FM radio would cease its development of music content and instead focus on talk, news, weather, and traffic programming. Streaming services, this expert argued, would become the ultimate provider of music -- but not for some time yet. While Roman endorsed elements of the conceptualized listener profile, he was the most vocal advocate of a media environment in which terrestrial radio competed with streaming services. Similarly, Farina believed that radio networks should develop streaming services of their own and make them compatible with social networks.

The development trends in adoption of personalized streaming services and the habits of the conceptualized listener are both very important, and judging from our results, highly uncertain issues. This is why they are ideal for scenario building. Because all respondents were asked about foreign streaming services (Appendix C, Q1-Q3), the effects of economic, social and political forces on streaming services in Canada (Appendix C, Q4), and future avenues for radio networks (Appendix C, Q5-8) it is possible to extrapolate future scenarios for terrestrial radio networks in Canada. Three scenarios: Mixed Media Market, Business as Usual and FM like AM were created based on subjective evaluation of the interviewee's opinions and arguments.

5.7. Mixed Media Market[21]:

Mixed Media Market is very similar to the present situation wherein radio networks like Astral, Corus and CBC develop streaming services alongside their existing terrestrial offerings. This scenario reflects respondents' opinion that streaming services pose a threat to conventional media, and that their widespread adoption by young Canadians is very likely in due time. The streaming services offered by radio networks will be closely modeled from data in the conceptualized listener profile. They will be easy to use, free and focused on reinforcing popular music -- not enabling the discovery of obscure, niche content. In this scenario there is no one dominant delivery method for audio content. Rather, terrestrial, digital, satellite and Internet-based services will compete with one another for market prominence. Regulatory conditions, much like they are now, will be such that Internet-based companies like Pandora and Spotify can enter the Canadian market with ease. These and other companies will be subjected to rights negotiations not unlike those in their host countries. However, these negotiations will become smoother as both sides become increasingly familiar with the licensing process.

5.8. Business as Usual[22]:

In Business as Usual, some of the basic assumptions made in the conceptualized listener profile are accepted: namely that Canadians are creatures of habit that prefer traditional over new media. There will be a number of streaming services, some tied to existing radio networks and others private, however FM radio is expected to continue to thrive as the dominant audio delivery platform. Radio will continue to be free, locally relevant and convenient. Streaming services will remain on the periphery of the Canadian media landscape, winning some young

[21] The opinions of Bray, Farina, and Roman were used to construct the Mixed Media Market scenario.
[22] The opinions of Bray was used to construct the Business as Usual scenario

consumers but failing to convert the majority of listeners. Satellite radio will maintain a small percentage of the listening market while the DAB format will eventually cease to exist. Needless to say, in this scenario personalized streaming services will undergo a low degree of adoption – far from a Rogers' S-shaped curve (see page 15). Young people will not enticed by streaming services will eventually warm to FM radio -- following the footsteps of their elders.

5.9. FM like AM[23]

Radio is an inflexible medium incapable of evolving into something fresh and exciting to young people. This is the central ideology of the FM-like AM scenario. Eventually FM radio will cease production of music programming in favour of developing talk, news and weather content, just as AM radio did in response to the introduction of FM radio. Terrestrial radio will remain fixed and utilitarian. Canadians will no longer look to radio as a source of musical discovery. That need will be supplanted by music-oriented blogs, recommendations from friends on social media networks, and music-review sites like Pitchfork.com and HypeMachine.com. Over the long term, streaming services that are Internet-based will take the lead as the primary delivery platform for music. This scenario both accepts and rejects many elements of the conceptualized listener profile and anticipates a high degree of adoption of streaming services in the not too distant future.

5.10 Concluding Notions on Experts

The respondents' locations in the scenarios may reflect their current professional contexts. For example, Arpin and Roman have long since retired from the radio industry, perhaps giving them license to be more neutral and balanced in their vision of a future no longer

[23] The opinions of the on-demand expert were used to build the FM like AM scenario.

dominated by FM radio. Also arguing for this mixed market was Farina. He represents conventional radio broadcaster giant Astral, and is personally involved in the development of a streaming service that he ostensibly hopes live to be successful. Similarly, the on-demand expert predicted that conventional radio will cease development of musical content, leaving that task to new players. This opinion is likely related to his standing with his Montreal company which has recently launched an on-demand music streaming service.

Scenarios 1, 2 and 3 above do not provide a wholly comprehensive vision of the possible outcomes of radio media in Canada. They instead represent a detailed image of a Canadian media market which shifts from day to day -- if not hour to hour. Commercial radio is still proving to be adaptive while continuing to respond to the needs of their consumer base. Indeed, the CRTC's 2011 Communications Monitoring Report reveals that commercial radio's audience tuning hours has remained relatively stable. But streaming services like Spotify and Pandora have endured their share of tribulations, and continue to spread to new markets. Streaming service Rhapsody, one of the first to pioneer the subscription model when it launched in the US a decade ago, has acquired Napster from Best Buy to launch in the UK and Germany (Bradshaw, 2012). And Deezer, after working four years in its home country of France, has recently débuted in Canada. Spotify, the most discussed of all services, recently reached 3 million subscribers and signed a global advertising deal with soft drink giant Coca-Cola. These developments point to the importance of continued monitoring of these trends as more streaming services threaten to destabilize conventional radio in Canada.

Chapter 6: Conclusion

6.1. Limitations

The limitations of this study arose from the inherent weaknesses associated with qualitative interviews and the idiosyncratic biases of the experts interviewed. The first limitation stemmed from the time and labour intensive practices associated with semi-structured interviewing. Canadian personalized streaming services, as with any innovation, are fast-moving, organic targets. For example, in the early phases of research, I spoke to Rob Farina of Astral Media about his plans to launch an on-demand player that would be integrated into popular Astral Media radio station websites. In the fall of 2011, Astral Media was the only radio network to be working on such a project in Canada. I completed the collection and coding of interview materials by early January of 2012, but not before Shaw Media and the CBC would announce that they too were developing streaming services. By concentrating time and effort into completing the transcription and analysis of lengthy interview data, important news related to my research had ostensibly me. Retrospectively, I could have leveraged my relationship with Farina to secure interviews with representatives at Shaw or the CBC, had I not made the coding process such a high priority. Nevertheless, I believe that my conversations with Farina and others informed my research in a thorough and professional way, and to assume that additional input from other media organizations would have made my results any more dynamic is, at best, wishful thinking.

The second limitation laid in negotiating interviewee bias. In my case, all interviewees are, or were at one time, employed within the Canadian radio industry. Some, like Farina, Bray and the on-demand expert, held senior management positions of power and influence within their organizations, and as such, were subject to professional pressures to promote their own

endeavors over those of rival companies. I believe that their positions may have influenced the degree to which they were able to provide me with an objective or accurate answer related to a competing radio service. For example, without providing actual data, Bray argued against future prominence of streaming services by noting the low subscriber bases of Canadian Slacker and Rdio in comparison to Spotify and Pandora. But upon my own external triangulation of that and other responses, I realized that he was incorrect. Rdio's subscriber numbers have never been made public, but Slacker's have. Data compiled by Digital Music News in 2012 shows that Slacker is only 100,000 subscribers behind Spotify in the US. This revelation came as no surprise. Barry (2002:680) accurately summarized this problem in his paper about best practices for elite interviewing, in that the "interviewer must always keep in mind that it is not the obligation of a subject to be objective and tell the truth". This is why the triangulation of interview data with multiple sources was extremely important following the completion of Bray's and other interviews. On the other hand, some subjects were more than happy to provide me with the weaknesses of their causes or projects and even speak admiringly about the successes of their rivals. In one interview with a radio expert, I was struck by how often he would lower his voice, and say "I'll tell you a secret", or "here's what I really think". It was only when I began typing that I realized how seductive that communication technique was. As Barry (2002:680) notes, "it's a little too easy to believe you're getting the truth when it's coming from a source who is going out of his way not to give you the party line".

6.2. Recommendations

The result of a year-long examination of personalized streaming services and terrestrial radio, this thesis delivers a snapshot of a budding industry. My discussions with radio and on-demand experts have led me to believe that personalized streaming services will not, and

probably cannot, replace conventional radio. Be that as it may, conventional radio leaders should be alarmed by the weekly per capita tuning hours that have declined from 14.1 hours per week in 2006 to 11.9 hours in 2010 by Canadians in the 18-24 age group (CRTC Monitoring Report, 2011). This worrisome drop suggests that young Canadians are reallocating the time normally spent with radio with other media. This could signal a future departure by an extremely important demographic group as personalized streaming services become more popular and ubiquitous. Radio leaders need to develop new ways to reach consumers, package content whilst winning the "war of relevance" with young people amid new technologies (Bélanger, 2011). Expert Duff Roman best explained this worst-case scenario in one of our conversations:

> Somewhere, there might be a fatal flaw in our [radio's] approach to fending off or joining the new technologies. It's just one misstep and y' know 'for want of a nail, the kingdom was lost', do you know that one? Well, the reason that so-and-so lost the battle of Waterloo, let's use that battle, is not because of superior skill and generalship. The god-damned horse's shoe lost a nail! The horse buckled and reared and threw the general on a rock, broke his neck and that was it! That's the little thing. You took care of everything, but someone didn't take a look at the general's horse's hoofs (Roman, personal communications, Nov 25, 2011)

With this advice in mind, I will offer several pragmatic recommendations to radio leaders looking to avoid such defeat in the near future. These tips are informed by insight I have gleaned through my own conversations with radio experts, and external work by radio and media theorists.

6.2.1. A Case For Registration Gates

One of radio's defining characteristics is its ability to appeal to a listener on a deep, personal level. Marshall McLuhan eloquently summarized this notion when he said that radio "affects people intimately, person-to-person, offering a world of unspoken communication between the listener and the speaker, and that is the immediate aspect of radio: a private experience" (1964:261). Surveys carried out by the Radio Ad Effectiveness Lab (RAEL) in 2004 and 2006 corroborate McLuhan's sentiments. Respondents noted a greater emotional connection to radio than to other media, and perceived radio as more personal than TV and the Internet (in Radio Marketing Bureau, 2011). The personalization of content however, should be just as important to radio leaders as the emotional investment of their listeners — especially as they move forward in their efforts to appeal to young people.

One way that radio networks can enable the personalization of content is through registration. Pandora, YouTube, Google's Blog Reader and iGoogle Home page, as well as other media services, all allow a certain degree of user agency over content in exchange for valuable information about that user's sex, age, location and more. Similarly, radio operators should enable user agency in exchange for user information that is valuable to marketers and brands who advertise to that radio station's audience. After all, the more information an advertiser has about a listener, the better he can package and tailor advertisements and promotions. Gathering, identifying, and communicating with radio listeners at a one-to-one, personalized level should be the centerpiece of radio'— indeed, all of media's — futures.

The current key challenge for radio leaders is to deliver a personalized experience that is commensurate with the information that the listener is surrendering; otherwise the user might not

bother registering. Essentially, it is a transaction of personal information for value. This is what Pandora, Spotify and others have done extremely well: commitment in exchange for control and value.

I was personally involved as a participant in focus groups that Astral Media commissioned in 2011 when it revamped some of its most popular radio station websites. On most of the websites was an option to register their users as V.I.P.'s who would be the first to hear about the sale of concert tickets or station promotions and giveaways via email notification. Very few individuals in my focus group expressed any interest in such a project, if they noticed the registration gate at all. Some participants went as far as to argue that finding and registering to the V.I.P. program was too complicated. In other words, the perceived gains were not proportionate to the disclosure of user data.

I believe that this value can be better delivered through either personalization of a radio website or targeted local benefits specific to a user's information. Below is a list of potential value-related experiences that a radio station could provide in exchange for personal information:

1. Fewer commercials in a given period of online listening.
2. Access to a vault of past shows including talk, interviews, news and music streams based on the user's music tastes.
3. A highly tailored listening experience in the form of a play-list based on the user's favorite artist or bands.
4. Front-of-the-line requesting via Twitter, email and mobile phone.
5. Targeted, local business promotions delivered via email to the user in the style of US-based online coupon company Groupon[24].
6. Music offered at a higher bit-rate, i.e.320kbps as opposed to the standard 128kpbs rate.

[24] Currently, Astral's flagship radio station websites offer a feature similar to this in the form of promotions from station advertisers. For example, the radio station website The Bear 106.9 offers such promotions in exchange for registration to the website. It is not specified, however, how local, or relevant the promotions are given the listener's active location, age, etc. I suggest that The Bear, and other Astral website intensify the local aspect of this promotional service.

Readers may balk at the notion that a commercial radio network could play music for longer with fewer advertisements but Absolute Radio, one of the UK's three largest national commercial broadcasters, has done just that. The company has created a service called the Absolute Radio Account whereby registered users have the ability to listen to continuous, relatively high quality music with fewer advertisements. The service is free but requires the conceding of a user's age, location, gender and music preferences. It came about when Clive Dikens, COO of Absolute Radio, grew frustrated with the current state of his company's registration system: a VIP list of email addresses that was, in essence, a "pointless V.I.P. newsletter list" (Dikens, 2012). Dikens scrapped the list -- over 400,000 email accounts -- and designed the Absolute Radio Account to replace it. This account offered users high-quality studio webcam streams, additional on-air interview content, high-quality 320kbps bit rates, and mostly importantly, more music with less advertising than Absolute Radio's users were used to hearing through its terrestrial broadcasts in the "kitchen and in the car" (2012).

They accomplished this after 11 months of intense negotiations with their clients and rights holders by arguing that the data captured from 'in-stream', registered users would be more valuable than that of 'passive' users who enjoy Absolute Radio over-the-air: "why not offer users more uninterrupted music through our online streaming, even if it means we have to pay a little more in extended streaming rights?" (Dikens, 2012). The company offered their advertisers a ten point plan, arguing that data such as actual user's age[25] and real time location provided a deeper understanding of the listener than data gleaned through traditional measurement methods like

[25] As opposed to asking users to select an age group which best them, ie. 12-17, 18-24, etc.

paper radio diaries and random population samples[26]. In other words, an Absolute Radio account provided active, not static, measurement tools for advertisers.

Since the introduction of the new service in December 2011, Absolute Radio has reportedly added ten thousand registered users each week (Dickens in Ramsay, 2012). These registered users have offered valuable data to advertisers, brands and ultimately Absolute Radio. The lesson for commercial radio broadcasters is that a simple exchange of privacy information in return for a clear, consumer proposition builds loyalty and adds value to a radio station. More radio networks should consider following this strategy and offer meaningful, valuable, personalized content in exchange for strategic user information.

I believe that Astral Media's new on-demand service appropriately addresses the user's appetite for personalization and value. Currently, the service allows users to create their own video and audio playlists and share them with friends over Facebook. The on-demand player is only three months old, but it should serve as an example radio networks like Shaw and Cogeco.

6.2.2. Radio as an Entertainment Experience; Not just a Radio Experience

As the industry saying goes, content is king – and should be omnipotent. The trouble for radio broadcasters today, however, is distinguishing themselves from other broadcasters who are essentially offering the same content. In order for radio stations to differentiate themselves, they must stop thinking of their business as a purely music or news oriented business, and start thinking of themselves as an *entertainment business* that provides an *entertainment experience*. It is often suggested that the newspaper industry, for example, is faltering because it thought of itself as *only* being a newspaper business, instead of a news business that could offer additional

[26] Arbitron's syndicated radio ratings service collects data by selecting a random sample of a population throughout the U.S., primarily in 294 metropolitan areas, using a paper diary service two to four times a year and Portable People Meter (PPM) electronic audience measurement service 365 days a year. Radio diaries are also used in the UK and Canada.

content around the concept of news and information (Kramer, 2011). Radio needs to think of itself as providing media to its consumers, and not simply 'radio'.

Radio leaders need to seize the opportunities of Canada's highly converged media market in order to better facilitate an entertainment experience for their listeners. By doing this they can build closer relationships with their listeners and differentiate themselves from other radio networks. For example, a country music station offering only country music is no different from a host of similar stations. What's more, Canadians can now listen to a variety of country music stations from all over the world through iTunes or other radio station aggregating services and applications. The country station must provide an entertainment experience by integrating country criticism, country observation, interviews with country music artists, play-lists designed by experts in the country music genre on its station website or application.

Radio stations must develop better and more diverse content for their users by re-thinking what it is they provide: an experience. For example, bookstores do not sell books and magazines alone. They provide a unique experience for their clientele. For example, Chapters/ Indigo has decorated reading sections for children, yoga, stationary, and confectionary merchandise, partnerships with Starbucks Coffee Company, meet-and-greets and book readings with authors in-house (Kramer, 2011). Similarly, country music aficionados looking for the ultimate country music experience will be drawn to a station that features a 360 degree offering of country music related content. The most efficient way to compile this experience is by converging different audio, visual and text-based media, ideally, in an Internet or mobile application or a radio station's website.

For example, Jennifer Ferro, General Manager of Los Angeles' popular non-commercial KCRW station has recently taken steps to shift the KCRW network into a more, diverse,

community oriented music experience. In May 2011, Ferro launched an iPhone application as part of a larger re-branding effort to reintroduce KCRW to its listeners as a music discovery experience – not just a radio station. Ferro eliminated the 'search' function on the application to better enable the discovery of new content: "if you already know what you're looking for then you may not find anything new" (in Ramsay, 2011). She also eliminated the KCRW call letters from the title of the application as they were "too value-laden" and might call to mind radio's antiquated and assumed limitations in some listener's minds (2011). Ferro is not the only radio leader attempting to eliminate the term 'radio' and that which it may connote. In a February 2012 interview with CEO Bob Pittman of radio giant Clearchannel Media and Entertainment, he described radio as being "not a set of towers and antennas" but instead a "franchise" of music and information available across any platform that a user desires (Kafka, 2012). In January of 2012, the broadcasting giant even changed its name from Clear Channel Radio to Clear Channel Media and Entertainment, further underscoring the need to re-brand itself as an entertainment company providing a particular experience to its consumers.

Adding urgency to this situation is data from Jacobs Media's annual "Techsurvey8" which gathered feedback online from 57,358 radio listener participants in the US and Canada. The data showed that 43% of Pandora users believed the service should be considered "radio" while 49% say it should not. This data should be alarming to radio leaders as it suggests that some listeners are unaware or ignorant of the fact conventional radio provides more than just music (Jacobs Media, 2012).

In summary, radio leaders need to understand that radio is not just a delivery method, but a potential provider of a value-rich experience. Fortunately, in today's highly competitive media market, radio broadcasters have the attention and interest of a sizeable chunk of Canadian

listeners but they may not have it for long unless they include additional layers of audio, visual and text-based media into their portfolio of listener offerings.

6.2.3. Radio Must Embrace its "Average-ness"

To some, the word 'average' may carry negative overtones or imply that something is sub-par. However, as radio theorist Mark Ramsay points out, average can also mean 'most of the people, most of the time' (2012). As the conceptualized listener profile illustrates, radio leaders perceive most of their listeners to be in the middle of a giant bell curve. The average Canadian eats at the same restaurant, shops at the same store and consumes conventional media. They are creatures of habit and are slow to adopt new media. This is a positive for radio leaders.

For example, according to a 2010 Nielsen Report, although 56% of US households have at least one HDTV, only 13% of total daily viewing on cable and 19% of viewing on broadcast television is "true HD" viewing (Nielsen HDTV Report, 2010). These figures show that the average North American consumer is not a techno-elitist, early adopter of cutting edge devices. Rather, they enjoy conventional broadcasting and the conventional content that radio provides. Global adoption of most innovations is similarly slow-going. In April 2012, technology company IBM released it's the results of its Beyond Digital survey which analyzed the digital behavior of over 3,800 respondents in six countries: China, France, Germany, Japan, the United Kingdom and the United States. The report's author, Saul Berman, asked respondents which of the following terms best matches their own approach to digital device adoption:

- *Early adopter* (12 percent of global sample) – "I adopt the latest and greatest devices as soon as they are available"
- *Mainstream consumer* (35 percent of global sample) – "I purchase at about the same time when many others seem to be purchasing

- *Late adopter* (32 percent of global sample) –"I am typically one of the last to purchase"
- *Straggler* (21 percent of global sample) – "I don't typically purchase new devices, I am happy with the technology I have".

Not unlike or Roger's ideal adopter categories, a large portion of adopters appear near the end of the adoption cycle. The IBM study noted that 32 percent of individuals surveyed do not adopt new innovations until very late, and a sizeable 21 percent of individuals seldom purchase new devices altogether (Sullivan, 2012). This information corroborates the basic assumption of experts as illustrated in the conceptualized listener profile. Further, it indicates, to a certain degree, that the rapid proliferation of technologies is not accelerating their adoption by a large portion of North Americans.

Paradoxically, in an age where an unprecedented range of musical genres is easily available via the Internet, the general public's appetite for 'average' pop hits has never been greater. Canada's best-selling singles chart on iTunes, which is calculated from sales, matches up closely with Canada's Billboard Hot 100 chart, which is mainly derived from radio play and sales. Pop music is incredibly popular, and average Canadians are using the radio to hear it in their car, at home and at work. According to the 2011 CRTC Policy Monitoring Report, one of the top English language station formats is Hot Adult Contemporary station (66 stations throughout Canada), in other words, top 40 pop music. French language station formats are no different. Mainstream, top 40 radio French stations account for a sizeable 22.6 percent of overall tuning shares (2011). Radio's ability to curate pop music is one example of how conventional radio reflects the wants of the 'average' Canadian listener.

In my discussions with radio experts it was clear that they felt threatened by the rise of Pandora and Spotify and wanted to reach 'outlier' consumers who want to hear highly particular,

alternative genres of music. For example, in my discussions with Rob Farina of Astral Media, he said that he had just made a deal to have Canadian alternative rock historian Alan Cross create and lead several programs about niche genres in rock, dance and folk music that would be featured on Astral's new on-demand player. While I believe this is a positive step, I also believe that Farina and others need to remember that radio already serves a loyal Canadian audience through its existing pop-oriented radio stations. Instead of chasing after users with niche, esoteric music tastes, Astral Media and others in the radio industry should embrace their strengths as providers of conventional, 'average' content.

6.3. Significance of the Research

This research finds that radio leaders' perceptions of the average Canadian listener have a considerable influence on their willingness to compete with personalized streaming services. A qualitative examination of radio experts' attitudes regarding their own endeavors and those of companies like Pandora and Spotify reveal a particular interpretation of the wants and needs of the average Canadian consumer. This perception creates the identity of a listener who values a music experience that is free, easy to use, reliable and ultimately -- similar to that of a terrestrial radio experience. This "conceptualized listener profile" supports some of the leading theoretical and technical models associated with the late adoption of technology. However, despite the influence of social, political and economic factors that may impede the adoption of streaming services in Canada, such services continue to surface here and abroad, challenging the assumptions of experts in this study. This highlights the importance of continued monitoring of these trends as more Canadian-specific adoption information becomes available.

By investigating streaming services from the vantage point of terrestrial radio experts, this study contributes a unique voice to a budding area of research that is mostly devoted to the

technical underpinnings of music recommendation services. This study is ultimately of practical value to either business experts looking increase consumer adoption of streaming services, or radio experts attempting to preserve their core audience whilst pursuing new online tools for radio content delivery.

6.4. Final Remarks

In summary, while there has been a slow rate of adoption in personalized streaming services, the impacts of this on Canadian commercial radio have not yet been evident. But that is not the case in the United States. A recent TargetSpot study conducted from January 7-17 of 2012 showed that U.S. Internet radio listening is surging. The data indicated that personalized streaming services have penetrated 42% of adult U.S. broadband households, up 8% from 33% in 2011 (2012). Within this cohort, 42% are households with children, 64% own their own homes, and 22% have a household income of $100,000 per year or more -- up 29% from 2011. These listeners also displayed significant engagement with the medium, with 80% listening from one to three hours per day. This indicates that in the U.S., Internet radio and its audience is firmly established and growing. In Canada, however, personalized streaming services are still a trend, not an established behavior. This means that radio leaders must seize this window of opportunity and make the necessary changes to avoid losing more ground to new technologies. That being said, the way in which radio combats streaming services will be of crucial importance. Radio leaders must take its media's strengths –free, convenient, and locally relevant – and deliver those qualities and more in the form of an online offering that is both attractive and relevant to young Canadians.

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Appendix A: Letter To Prospective Participants

Hello,

You are invited to participate in a research conducted by Geoff Manchester, under the supervision of Prof. Pierre Bélanger, Ph.D. at the University of Ottawa.

The purpose of this research is to explore commercial radio and personalized recommendation music services. Interactions between executives, managers and directors of content and programming will be examined to understand the respective priorities and goals of each organization. Each participant will be asked to take part in one interview session that will take approximately 30-45 minutes. Following this session, participants will be provided with a transcript of their interview and asked to review it and provide any additional comments or feedback. The data that you provide will be kept confidential and anonymous.

Your participation in this study will contribute to a better understanding the evolution personalized streaming services and their effect on the conventional radio broadcasting industry in Canada. Participation in this study is completely voluntary. If you initially wish to participate and change your mind, you will be able to remove yourself from this study. Only the researcher and supervisor will have access to the information you provide.

If you wish to participate or have any questions, please feel free to contact me.

Thank you,

Geoff Manchester

Appendix B: Standard Consent Form

The Transmutation of Terrestrial Radio In Canada

Researcher: Geoff Manchester
Department of Communication
Faculty of Graduate and Postdoctoral Studies
University of Ottawa
Telephone (Cell):
E-mail:
uOttawa email:

Supervisor: Prof. Pierre C Bélanger, Ph.D.
Department of Communication
Faculty of Graduate and Postdoctoral Studies University of Ottawa
E-mail:

Invitation to Participate: I am invited to participate in the abovementioned research study conducted by Geoff Manchester and Prof Pierre Bélanger, Ph.D.
Purpose of the Study: *The purpose of the study is to explore issues surrounding Canadian commercial broadcasters and newer cloud/locker music services which will soon stake their claims in Canada*.

Participation: My participation will consist of attending one interview session for approximately 30-45 minutes during which I will be asked questions by the researcher about my role at my organization. The interview has been scheduled for _____ (place), _____ (date), _____ (time). I will also be asked to review the transcript of the interview for accuracy and additional feedback, which should take approximately 10 minutes.

Risks: My participation in this study will entail that I volunteer personal information and this may cause me to feel self-conscious about the future of terrestrial and online radio in Canada. I have received assurance from the researcher that every effort will be made to minimize these risks by keeping my participation in this research confidential and anonymous.

Benefits: *My participation in this study will contribute to a better understanding of the relationship between commercial and personalized radio*.

Confidentiality and Anonymity: I have received assurance from the researcher that the information I will share will remain strictly confidential. I understand that the contents will be used only for the creation of a Master's thesis and that my confidentiality will be protected by the fact that only the researchers will have access to the data. Anonymity will be protected by the removal of any identifying characteristics from the data during the analysis and reporting stages. The participants will be given the option of concealing their information throughout the research by way of moniker, pseudonym, etc. That if a participant chooses to go this route, you will help guide her/him through a list of options for concealing their information following the interview or at any other time.

If you wish to have your identity concealed please indicate by saying 'yes' or 'no' in the space provided: _____

Conservation of Data: The data collected, including tape recordings of interviews, electronic and print versions of transcripts, and electronic and print notes will be kept by the researcher in a secure manner. The electronic data will be stored on a USB drive and both the drive as well as the printed materials will be kept in the researcher' office. Only the researcher and supervisor will have access to the data and it will be destroyed following the publication of the project.

Voluntary Participation: I am under no obligation to participate and if I choose to participate, I can withdraw from the study at any time and/or refuse to answer any

questions, without suffering any negative consequences. If I choose to withdraw, all data gathered until the time of withdrawal will be deleted and/or destroyed.

Acceptance: I, _____, agree to participate in the above research study conducted by Geoff Manchester of the Department of Communication, Faculty of Graduate and Postdoctoral Studies, which is under the supervision of Prof. Pierre Bélanger, Ph.D.

If I have any questions about the study, I may contact the researcher or his supervisor.
If I have any questions regarding the ethical conduct of this study, I may contact the:
Protocol Officer for Ethics in Research, University of Ottawa, Tabaret Hall, 550 Cumberland Street, Room 154, Ottawa, ON K1N 6N5
Tel.:
Email:

There are two copies of the consent form, one of which is mine to keep.

Participant's signature: _____ Date: _____

Researcher's signature: _____ Date:_____

Appendix C: Interview Protocol

1. What is your take on the competitive landscape of personalized music streaming services in the United States? (icebreaker)
2. Hypothetically speaking, do you think those American services stand a chance in the Canadian marketplace?
3. Do you think the future of terrestrial radio in Canada is moving to a more personalized, controlled space? In other words, more interactive, less static and passive?
4. What effects -- positive or negative -- would political, economic, regulatory and social forces have on the adoption of personalized streaming services in Canada?
5. Are there any similarities between personalized streaming and terrestrial radio?
6. Do you think that personalized streaming services pose a threat to terrestrial radio stations and networks in Canada?
7. What do you consider to be terrestrial radio's strengths within the context of Canada's shifting media environment? Do those strengths give radio the upper hand over personalized streaming services? If so, how?
8. What should terrestrial radio be doing to confront the threat of streaming services within and outside of Canada?
9. Do you have an iPod? What's on your 'top 25'? (social, closing question 1)
10. Tell me about a project of which you are especially proud. (social, closing question 2)