Aalto University
School of Economics

Revenue models in the context of online digital audio companies: Making an optimal choice between advertising and paid subscriptions

Information Systems Science

Master's thesis

Jens Sørensen

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Department of Information and Service Economy
Aalto University
School of Economics

AALTO UNIVERSITY SCHOOL OF ECONOMICS ABSTRACT
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ABSTRACT

Objectives of the Study

This study sets out to examine the digital Internet audio market through eight case companies and their business models, and determine whether future entrants into the market should focus their monetization efforts on advertising-based models or subscription-based models. The main objective of the study is to provide an educated guess on which revenue models future entrants should emphasize based on the current situation in the market today.

Academic background and methodology

The study is based on research into business models, targeted and mobile advertising, and winner-take-all market characteristics in platform industries. A widely used business model evaluation framework is described and used to assess the selected case companies to examine the current characteristics of players in the market in detail. The results of the empirical study are then used as a basis for formulating key findings about the market and to formulate a recommendation for future market entrants concerning their potential choice of revenue model and value proposition.

Findings and conclusions

The study finds that digital Internet audio companies are roughly divided into two camps: subscription-based companies offering on-demand music and advertising-based companies offering streaming audio in various different collections of feature sets. Despite many negative arguments against selling advertising, the study finds that it is still a smarter market to enter into given the winner-take-all tendencies of the subscription-based market and the significant funding incumbents are competing with against each other already. Future avenues for research are opened in studying whether a winner-take-all market truly does emerge in subscription-based online music, in how strongly Internet audio advertising ends up growing, and how a revenue model is determined and then paired with a logical value proposition that fits it.

Keywords

Revenue model, value proposition, business model, digital media, digital audio, Internet audio

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Aalto University and *everyone* behind making it a reality must also be acknowledged. The new university is a fantastic thing and, having seen a time before it in 2006 and after the early transition process in 2012, I am confident students entering Aalto after I have left are stepping into a much better place to study than I ever did – and the foregone Helsinki School of Economics was is no way bad at all, which is saying a lot for Aalto. The possibilities going forward are endless, and hopefully new students will get to experience other fields and be cross pollenated with the other Aalto schools much more than I ever did.

Finally, the encouragement of my parents and their non-relenting focus on my and my siblings education since the early 1990's are probably the single most important reason I've ended up writing a master's thesis, overall. Without them I wouldn't be leaving university with a commendable academic record, nor would I feel confident in my ability to outsmart the next guy, whoever that may be.

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2. INTRODUCTION

For decades around the world, traditional old media corporations have been able to maintain strong market positions due to the scarcity of content distribution mediums. These include government issued broadcasting licences for television and radio and the heavy startup costs of firing up printing presses to produce newspapers and magazines, before also having to physically deliver them to the consumer. In light of the fact that it is also very difficult to entice consumers to a new TV channel or radio station, the heavy costs of starting up become even riskier. Incumbents have reaped the benefits of an industry that has historically had high barriers of entry. These traits have begun to move into the history books as the spread of digitalization increases across various industries, especially the wide range of different media that exist; in other words, the digital revolution of the new millennium has begun to destabilize this status quo (Finnemann, 2006).

The Internet and world-wide-web and their ubiquitization amongst consumers of the developed world has made the distribution and availability of all types of content outrageously cheap in comparison to times of the past. With the emergence of easy-to-use tools available to the general public for distribution, such as Blogger.com for blogging (text), YouTube.com and Vimeo.com for video, and Soundcloud.com for audio, access to this distribution channel has almost no barriers for anyone with the willingness to create content or share content that they already have.

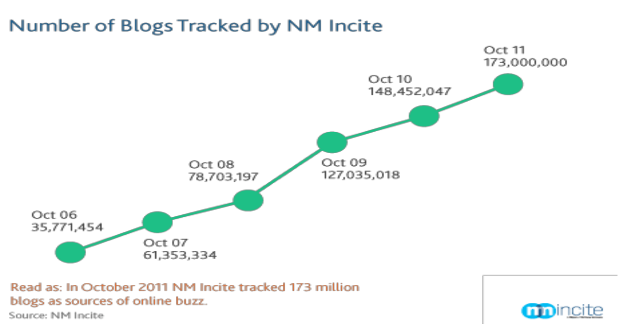


Figure 1: Growth of blogs 2006-2011

Media incumbents can no longer rest on their laurels. For example, according to NMIncite (a Nielsen/McKinsey company), there were 181+ million live blogs that they were tracking globally at the end of 2011 – all with the potential to reach just as many people as the incumbents and proof of the surge in user generated content (Finnemann, 2006). The tremendous growth can be seen in the figure above. Suffice to say some major blogs have turned into significant news media entities in themselves, such as The Huffington Post and TechCrunch.com.

Marginal costs of production and distribution on the Internet are practically zero. This means it costs next to nothing to distribute your blog or video to one more potential consumer. Additionally, with the unrivaled potential reach of the Internet, it quickly becomes apparent that a situation has emerged where anyone has the chance to reach significant masses of content-consuming consumers. The trouble emerges when a content creator begins searching for ways to turn a profit on his or her content creation investment when distributing via the web; even if many or most of the web's content creators create content as a hobby for free, the real challenge for the traditional media incumbents comes from the potential of commercially oriented players distributing premium content via the web, all the while benefiting from the leaner cost structure that they enjoy of being a digital web-oriented newcomer. The barrier in front of this is that many online content distribution platforms don't offer the ability to monetize content directly, and this still plays into the hands of the incumbents. Quality content will follow the money and, for the time being, go to traditional media houses, since everyone including content creators has a mortgage to pay and a stomach or two to feed.

Simultaneously, whilst the web has allowed for the democratization of content creators, it has spawned a new battleground for those vying to become the next web-based platform for content distribution due to possibilities of long tail business models (Osterwalder & Pigneur, 2010, pg. 68). In the context of text, WordPress announced that 14.7% of world's top million websites ran on its blogging platform. For video, YouTube owns a staggering 44% of the global online video market, which it hasn't yet been able to monetize to its fullest potential. The challenge for these platforms is to lure in quality content creators, build a viable audience for them, and develop a business model around this multi-sided network that is sustainable in the long run – with these factors in place we will begin to truly see the displacement of incumbent media corporations with new, innovative web-based companies, as long as they are able to build models to lure in the best quality content creators as well.

2.1 The realm of digital audio

Whereas text and video media have moved strongly towards the web and other smart technologies during the new millennium, audio has not followed suit as strongly. Everyone has seen banner ads on websites replacing print for well over a decade now. TV, in turn, has moved to the Internet en masse, for example in Finland, for years already with services such as Ruutu.fi (Nelonen Media/Sanoma Corporation), Katsomo.fi (MTV Media Corp.), and Areena (YLE, the Finnish national broadcaster). New technologies are allowing for new monetization methods as well. IPTV has been large in the US and UK for years already, and Channel 4 began targeting IPTV advertisements for students already in 2008 (Barnett, 2008). In 2013, Sky TV in the UK hopes to bring targeted advertising to its viewers via its massively distributed set-top boxes that already allow on-demand viewing (Hall, 2011). In relation to consumer privacy in the context of targeted ads on the Internet, the Internet Advertising Bureau in the UK has found that 75% of consumers are comfortable with targeted advertising after learning about how it works (Hargrave, 2011). It seems as if the path is set for mass targeting of advertising to very select consumers – this is beyond just demographics as has traditionally been done.

In audio, the story is slightly different. Music download by payment is an online digital replacement for buying a CD and isn't directly comparable to streaming media, and thus isn't considered in this paper. Music services such as Spotify and Pandora, that are more comparable to streaming media, have truly begun to shine in several usage contexts across the globe. The two exhibit a clear difference in revenue generation strategies: to offset the content costs of on-demand music, Spotify is focused on growing its paying subscriber rate which is up to an impressive 20% in January 2012 (FT.com, 2012). Pandora, meanwhile, is focusing on advertising and derives the bulk of its revenue from that strategy compared to a figure seven times smaller for its subscription base (TheNextWeb.com, 2012).

Yet, traditional analog FM-radio still holds its own as a business globally due to a strong hold on in-car distribution, which exist thanks to technological boundaries. The industry is set to reach $62 billion globally by 2015 (PRWeb.com and GIA Inc., 2009). Technological boundaries have begun to crumble, however, following the widespread growth of the smartphone and the development of 4G technologies that support the growing bandwidth demands of modern web-usage in a mobile context – this movement seems set to leave Digital Audio Broadcasting (DAB) as a relic of technology (Ala-Fossi & Jauert, 2006). In just over a decade since it reached the masses, we can say that now almost the full power of the Internet can be with us at all times, including the car. This has already been mirrored in a growing fashion in web radio – in a 2009 article (Heine, 2009) advertising revenue from online radio in the US was already stated to be growing at 25% year over year, a number set to keep growing as evidenced by the advertising revenue growth of Pandora Media in 2011 (MSN Money, 2012) and the fact that Pandora already accounts for 3.6% of *all* radio listening in the US (Pandora Blog, 2011).

Nonetheless, business models for online media platforms are still searching for optimal configurations. YouTube has been around since 2006 and garnered a dominant status under the ownership of Google, but has not been able to monetize significantly with advertising money and is still reportedly unprofitable, albeit working on a premium content strategy in the US. At the same time, Pandora Media is operating a growing digital radio service in the US that is growing advertising revenues faster than subscription revenues, according to its latest financial figures reported on MSN Money in early March 2012. As research by Poltrack and Bowen (2011) shows, targeting advertisements on TV is improving significantly through the use of new technology, and Pandora is doing so in audio, but is not yet profitable. Stuart Clark, the Managing Director of Havas Media International says in an article by Brule et al. (2012) published in Campaign Asia-Pacific, "radio is poised to witness a second burst. Micro communities are able to become even more micro … with increased fragmentation [of content], a brand's ability to pay for niches for premium audiences would be far greater than to pay to reach the masses." With the targeting and unlimited content distribution potential of the Internet and other technology, advertising has the ability to become exponentially more relevant to the consumer in the near future across all media, and radio is still on its way to the Internet age. The big question is how players in the industry will make money in the future *sustainably*.

2.2 Goals and research questions of the research paper

This research paper will focus on the question of the optimal revenue model, part of the overall business model, for an online media platform specifically in the online digital audio context, that will allow players in this field to sustainably take their place in the market. The optimal revenue model is highly dependent, of course, on the particular service an audio platform is attempting to provide to the consumer, in other words the overall business model proposed. There already exist on-demand music services such as Spotify, "smart" music-based streaming services such as Pandora in the United States, curated playlist radios such as Slacker Radio and 8tracks.com, not to mention the web-based stream of traditional FM-based stations that have ported their broadcast on to the Internet, allowing them to be heard beyond the geographic limitations of their radio frequencies. From all of the different service options as part of the overall business model we can still pick out one general trend that companies in all media must take due to the associated revenue model consideration – should we rely on advertising or on charging subscription fees for access to our content?

In an online context, the advertising option can be taken as a given to mean targeted advertising that is directed as closely as possible to the most relevant and potential customer of the advertiser. So the focus in this research paper is to emerge with an educated guess looking into the future, of whether online audio platforms should look to monetize primarily with targeted advertising or with subscription fees for access to content.

The paper will begin with a literary review of the academic background behind business models, targeted advertising, mobile advertising, and winner-take-all markets. Utilising this information to set the stage, an empirical study of the business models of eight online audio companies will be conducted utilizing a framework based on Osterwalder and Pigneur's (2010) business model canvas. Observations made in the business model study will be utilized to scope out how much weight is being given to targeted advertising or paid subscriptions across all the companies in their revenue model and business model in general. This business model analysis will be coupled to a set of metrics for all the companies including, for example, revenue, amount of raised risk financing, available user statistics, number of employees and press coverage. These metrics will be mirrored against the results of the business model analysis in order to look at where the money seems to currently be flowing – a good measure of which business model seems to be attracting the most attention and thus best prospects for the future.

With the results gathered from the empirical business model and company metrics studies, an educated guess will be formulated concerning the future prevalence of targeted advertising versus paid subscriptions and a recommendation made for what future companies should focus on. The paper will then conclude with discussion concerning the future of digital audio in relation to the findings of this study and final thoughts on why the current trends in the digital audio market are as they are and how they impact the future. Suggestions for future follow-up research, when the market has taken a few steps further towards maturity, will also be discussed.

By no means does this study seek to find an absolute answer for which revenue model will ultimately be dominant in the digitalized audio market. Rather, it seeks to provide early insight into a developing market and what the early players are betting on currently. The empirical study will be the basis of an educated guess of the market's future to spur the thoughts of anyone interested in digital audio.

The goal of this paper is to answer the main research question, which is as follows:

> *"Should digital audio companies of the future build a revenue model with targeted advertising or paid subscriptions from the listener?"*

This question will be answered utilizing the methodology described above. Through early insight into the market described during the introduction to this paper, I have formulated a prediction of what could be an answer to the main research question. Based on the general trend of the digitalization of media across all platforms, I also ask as a secondary research question:

> *"As platforms for digital media have emerged, advertising dollars have followed suit. As digital audio platforms begin to emerge with greater levels of end-user uptake, will the advertiser dollars follow suit as well? If so, should future digital audio companies be focused on advertisers and be prepared to take hold of these advertisers and their dollars as this digitalization happens?"*

To clarify further, I predict that businesses that have a working model built around targeted advertising will stand a greater chance of luring the advertising dollars that follow digitalization. Companies that build a model based on paid subscriptions will have trouble convincing advertisers to come their way.

This is a direct result of the true complexity of business models in platform businesses such as online audio – the revenue model for a digital audio business on the consumer side of the platform is actually the value proposition that the digital audio platform has for a potential advertising partner. There are several value propositions present, one for each side of the platform (Osterwalder & Pigneur, 2010, pg. 92). If the revenue model for the consumer side is based on subscriptions, then the value proposition towards the advertiser is relatively weak since consumers don't want ads.

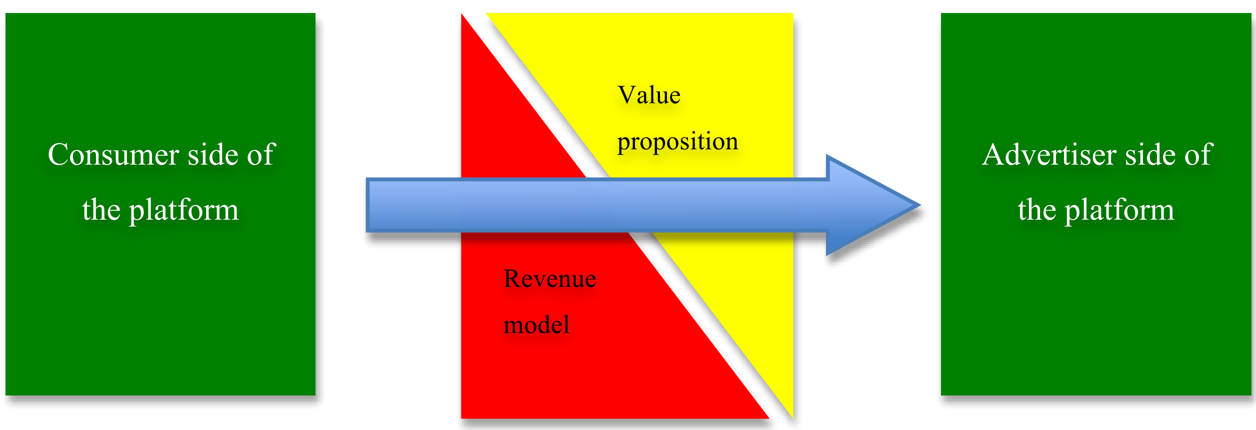


Figure 2: The complexity of business models and interdependency across stakeholders

Thus, my prediction about advertising is also based on the belief that it makes sense to build a strong value proposition towards advertisers considering the potential $62 billion size of the market to be digitalized. If during the process of executing the business model it is found that consumers are actually willing to pay a subscription fee for content that provides a sustainable revenue stream, then it is easier to iterate focus away from advertisers than towards them. This is also echoed by consumer backlash against the emergence of ads after they had begun using the service without them, as exemplified by iHeartRadio and Pandora in the USA (Yahoo! News, 2012) – consumers would probably prefer to have ads removed, not added to a service.

2.3 Limitations of the research

This research is limited by the early stage of the market that is being studied. The digital audio startups and companies that are being examined do not disclose all the information they have about their user metrics and revenue levels, and several numbers are simply industry estimates. There are also still a relatively small number of companies to study and due to many numbers not being available this study takes a more qualitative than quantitative approach to determining an answer to the research questions.

Even though there may be companies that are currently working with an overall business model and associated revenue model that would end up being in line with the findings of this paper, it may be that their execution of the business model is lacking. Thus, good business models that exist currently may not prevail due to poor execution, and this has an impact on how the results of this study can be interpreted. The importance of proper execution of a business model is highlighted in the beginning of the methodology section of this paper.

The early stage of the digital audio market also means that many of these companies may end up shifting their strategy or may already be doing so behind the scenes, and relevant factors in the market such as music licensing fees may change and have an impact on future decisions. This would naturally have an impact on the findings that this paper will present. Also, licensing deals are not standard in all cases and therefore may be contractual secrets between a studied company and recording agencies. All data is not likely to be available due to focus on unlisted companies. At the end of the day it is also completely possible that, whatever the results of the empirical study, that the current market will have bet completely wrong and that some near-future upstart emerges to completely transform the market, rendering the results of this study obsolete. Thus it must once more be emphasized that this study can only present findings based on current trends.

Now that we have introduced the paper, we can head forward to looking at the academic background in the literature review.

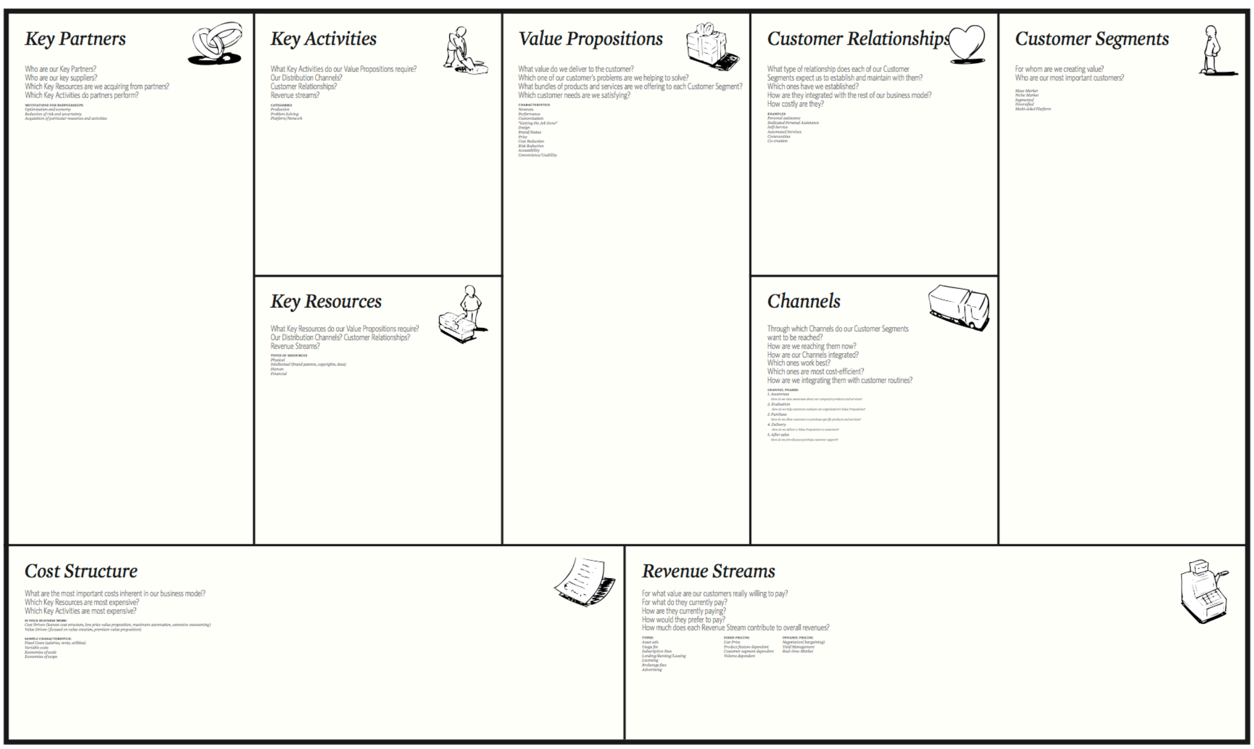
3. LITERATURE REVIEW

The academic background of this paper consists of the following: research conducted on business models and revenue models and their evaluation, research on mobile and targeted advertising, and research on winner-take-all markets. The relevance of each to the paper will be discussed in each section, but this introduction will quickly go over the main points. Every business has some form of business model of which the revenue model is one significant, but not stand-alone, portion – whereas the business model describes the overall actions of a company, the revenue model is only the peak of the iceberg in showing how all of the different aspects of a company put together make money. Therefore, it is important to understand the background of the entire business model, and then the revenue model and how it is affected, before making a revenue-focused recommendation when forming an answer to the research questions of the paper. To delve into the revenue model further, mobile and targeted advertising are studied since they are two main drivers behind potential revenue generation in the context of online audio and radio, and are the central factor in the research questions of the paper. Finally, many information-based industries exhibit tendencies for winner-take-all markets where barriers of entry are substantial and the risks involved equally so. Certain technological platforms also exhibit such characteristics, including traditional television and radio, which is why studying them in the context of the future industry being developed now in online digital audio, is also important.

To further clarify why the whole business model should be understood in this study, we should note that business models in digital Internet audio have a lot in common with all other media companies. The main action from an operational point of view is to take content, push it into the chosen medium, and distribute it via selected channels to the content consumer, also known as the customer. What is relevant is to note that every company studied in this paper performs this basic act, but does so in a variety of ways while making money either through subscriptions or advertising. So, in digital Internet audio, one very basic act takes a wide variety of different forms, but is nonetheless still monetized through basically one of only two ways. Since the basic act of taking content and distributing is so similar, the intricacies of differentiating the business model seem to have a lot of importance.

3.1 Business Models

The backbone of this research paper, due to the research question, is completely focused on business models, whilst everything else supports this topic. Primarily, the business model generation handbook by Dr. Alex Osterwalder and Yves Pigneur (2010) plays a central role by being the main framework behind the methodology used in this paper. The book aims to be a practical guide to formulating innovative business models for the purposes of companies both old and new, and was “co-created” with the help of almost 500 active participants who provided their experiences and expertise into the matter – an empirical study of sorts to help back the model put forth by the authors themselves. The definition of a business model on page 14 goes as follows: *“A business model describes the rationale of how an organization creates, delivers, and captures value.”* This definition by Osterwalder and Pigneur is widely spread in the “startup lingo” of today, and helps to point out a key point of all business – everything relies on *value*.



Source: http://www.businessmodelgeneration.com

Figure 3: The Business Model Canvas by Osterwalder and Pigneur

The creation of value can be taken to mean the usefulness of a product; the more value something creates, the more people will be willing to pay for it since it truly solves a problem that they have. In the context of media, a product such as a piece of business news can, for example, create value for a stock market investor by informing him or her about changes in an important company's prospects for the future. The delivery of value, in turn, would be determined by whether the investor receives this news via an article in the newspaper, a news bulletin on TV at the office or an Internet link shared by a colleague on a social networking site. Once value has been created and delivered the initiator, in this case the media company must also capture it or, in other words, make money from it sustainably in order to be a viable business. This example might capture value from the cost of the newspaper subscription, the cable TV contract with the investor's office or a targeted banner advertisement on the Internet. The value creation, delivery, and capture processes are broken down further into nine building blocks by the authors. This definition will be returned to and expanded upon in the methodology section of this paper to be discussed further in the context of the sample companies being studied.

Rajala (2009) cites Morris et al. (2005) in his dissertation; Morris' et al's paper was written when the business model had "no generally accepted definition" (pg. 1) and thus they described their own six-component framework. Morris et al.'s summary of business model frameworks from various authors between 1996 and 2003 have anything from 3 to 8 business model components, with data gathered via anything from CEO interviews to detailed case studies, of which each bear very visible resemblances to each other. In light of this, Osterwalder's framework gathered from a wide empirical base of data from interviews and case studies, seems to be the most current and widely utilized business model framework with a proper evaluation guideline.

In this paper the digital audio companies are, fundamentally, software-oriented technology firms that have built their own platform for the distribution of audio content – the importance of new technology solutions and applications is central in each case, despite the obvious importance of a successful business strategy as well. Rajala's dissertation, "Determinants of Business Model Performance in Software Firms" (HSE Print, 2009), looks at how business models perform in software firms. The fifth paper in his dissertation, "Antecedents to and Performance Effects of Software Firms' Business Models", which joins research from earlier papers, identifies three main antecedents of software firms' business models: service orientation, technology orientation, and openness of innovation. To study performance, these were integrated into a structural equation model populated by data from a study of Finnish software firms ranging from small to very large. Rajala finds that focus on these three antecedents has a “remarkable influence on firms’ business model focus” and that they “explain a significant deal of the variation” between business models and have an impact on financial performance (pp. 22-23).

Rajala’s most interesting finding is that customer proximity (ie. long-term relationships with a service orientation) is correlated with good financial and market performance, which he hypothesized to find in his data based on previous literature around the same topic. This might have a clear impact on digital audio companies choices – companies monetizing primarily based on advertising have to play a dual role in the market, since they are serving both the end-using listener and the advertiser. A digital audio company that monetizes subscribing end-users can retain full focus on the service experience for them, but the advertising-based platform needs to serve two different groups of customer, which incurs additional organizational weight and increases the odds of something being done wrong.

Girotra and Netessine discuss how business model innovations can also be achieved by building risk into them (Harvard Business Review, 2011). Risk management options in a business model’s value chain include figuring out whether there are ways to reduce, transfer, or assume risks to increase potential for value creation. The article discusses how companies like LiveOps distributed the risk of underutilizing a call center employee to the employee himself, and how Blockbuster removed the risk of owning an underutilized VHS tape on their shelves in the 1990’s. The same thing can be seen in subscription-based digital audio companies like Spotify, which outsource the risk of underutilizing the music library available to their customers. No matter how much a user listens, they are still charged the full monthly fee for access. This risk transfer to the listener doesn’t exist in the advertising-based market, where an additional listener doesn’t automatically mean additional advertising revenue for the company – the company carries the risk of having to try and monetize that new user with advertisements.

3.2 Revenue models

A revenue model is described as the “ability to translate the value [a company] offers to its customers into money” (Dubosson-Torbay, Osterwalder, Pigneur, 2002). Osterwalder and

Pigneur have been researching business models well before their successful book from 2009. Working with Magali Dubosson-Torbay, their paper from 2002 described an early version of their business model framework. Dubosson-Torbay, Osterwalder, and Pigneur (2002) identified the need to "align the revenue model with the nature of the product", and described potential e-business revenue models as those based on subscriptions, advertising and sponsoring, commissions from provided services (eg. performance-based advertising), revenue sharing, and by selling a product.

Enders et al. (2008) describe the revenue models of social networking sites and classify them as advertising models, subscription models, and transaction models. They show how each can be used as a different strategy for social networking sites to increase revenues, either by lengthening the "long tail" of revenue (advertising), "fattening" the tail (subscriptions) or "driving demand down the tail" (transactions). Advertising relies on high user amounts, subscriptions rely on a set level of willingness to pay and transactions rely on being able to provide value to another party on the platform.

This model can be applied to digital audio companies as well in that both social networking sites and digital Internet audio companies are platform businesses – only the product differs but the dynamics are alike. Transactions and advertising in digital audio are probably mixed, since performance based advertising (charging for clicks and purchases) is the same as facilitating the transaction between a listener and a third-party seller. Jelassi and Enders (2008) have also described different classifications for internet-based revenue models (despite not widely utilizing the term) in their book in a very broad set of different case examples of different strategies in e-business.

3.3 Targeted advertising

There is a broad range of research on targeted advertising, which is a logical direction considering the targeting potential provided by new technologies on the Internet. The research has significant implications for the digital Internet audio market, in that the major benefit it will eventually have over traditional FM-radio is the ability to specifically reach certain users and provide specific performance metrics, instead of advertising to a broader demographic that a traditional radio station is directed towards, with performance measures conducted via consumer studies and surveys.

Advertising on the Internet was an area of research already in the early days of its broader reach (Bhatnagar & Papatla, 2001), and while many of the arguments seem outdated including the model presented by Bhatnagar & Papatla, there are still relevant points that still hold true today, such as targeting based on search queries. The effectiveness of many early Internet advertising techniques was already starting to fade in 2001 (click-through-rates down to 2%) and already then it was put forth that effective targeting in the future would be imperative for the success of Internet advertising, despite the difficulty of proper execution (Bhatnagar & Papatla, 2001, pg. 42).

The value of targeted advertising has been demonstrated in the context of newspapers (Chandra, 2009). Using a model based on reader characteristics, numbers, and their degree of homogeneity it was shown that the value of advertising grows substantially when there is a higher degree of targeting; a framework is also put forth that applies this knowledge to any other advertising medium such as radio or the Internet. The mathematical model presented (Chandra, 2009) needs to be populated with relatively rich data that the author had available from the newspaper market, and thus cannot be directly put to use in this paper to display the value of targeted advertising on digital Internet audio services. However, the top level learnings from the paper are still likely to hold and we can reasonably assume that Internet-based audio services stand a much greater chance of proper targeting than traditional FM-radio services, and therefore have greater financial value as well. Also, it is put forth that consumers "derive higher utility, or lower disutility" from advertising that is targeted towards them (Chandra, 2009, pg. 82).

Targeted advertising can in itself act as a signal by conveying information both in the content of the advertisement and the advertiser's choice of advertising medium (Anand & Shachar, 2009). Advertising is more effective if it reaches the correct potential consumers for each product, and reaches them through the correct medium. Anand & Shachar present a model that does its best to answer the problems that targeting and media selection can solve in terms of advertising "noise" and the constant proliferation of advertising most everywhere. The paper suggests that it is of equal importance that the consumer is aware of being targeted towards, since she then knows that the advertiser has only paid for the advertisement since he truly wants to reach her specifically. This finding effectively gives Internet-based media solutions a strong upper hand over traditional offline mediums, since specific targeting down to the individual is only possible online from a technological perspective.

While reach and frequency, in other words heavy exposure, remain crucial amongst advertisers in offline media, the same survey noted the importance of measurability in the online context (Cheong et al., 2010). As advertising executives are less content with computerized estimations of reach and frequency in the offline context as compared to the 1990's, there is a clear avenue for measurable and targeted online to keep eating at advertising budgets overall. The same advertising executives considered online as a medium "in flux" so clearly there is still a lot of opportunities that are untouched. Finally, the Advertising Bureau in the UK has found that 75% of consumers are comfortable with targeted advertising after learning about how it works (Hargrave, 2011), which dispels the common notion that properly targeted Internet advertising is not viable due to privacy concerns.

3.4 Mobile advertising

Vatanparast & Butt (2010) propose a conceptual model to serve as a basis for evaluating the critical success factors of a mobile advertising strategy. Based on empirical research, the study determined with statistical significance that successful mobile advertising relies on the consumer, the message, and the media. The consumer must be satisfied in their perception of privacy when being advertised to in a mobile context, must realize the purpose of the advertising being mobile, and the advertisement should perform and not be "clumsy" due to its mobile nature. The message must have quickly understandable content, be related to the mobile context, and be relevant for the consumer. Finally, the mobile medium itself is going to be regulated in many ways, meaning straightforward rules for advertisers and consumers need to exist with enough leeway for allowing innovation. Intelligent audio advertising in an audio context could definitely fit into this description, and there is no reason that it shouldn't work when executed properly.

Karjaluoto et al. (2007) describe the implementation process of successful mobile marketing campaigns. The most relevant point that they bring out for this paper is the importance of the technical infrastructure itself for sending out mobile advertising. In the article itself the authors have studied mobile advertising performed via SMS and MMS messaging, but the same phase of implementation would also need to be completed for mobile audio advertising. The platforms that join digital audio advertiser and listener don't seem to exist yet on a significant level, apart from Pandora in the US and, to some extent, Spotify elsewhere. Solely from the point of view of the advertiser, there aren't yet many options to even consider digitalizing radio-advertising budgets, which could imply a positive answer for the secondary research question.

3.5 Winner-take-all markets

Since the digital Internet audio market is comprised of platform businesses, it is important to keep in mind the potential for a winner-take-all tendency in the market, which has significant competitive implications for potential newcomers in the future. Platform businesses are likely to be served by a single platform when multi-homing costs are high, network effects are positive and strong, and demand for differentiated features is weak (Eisenmann, 2006). This constitutes a "winner-take-all" market, where the biggest player takes a lion's share of market share and the rest get nothing or next to nothing. A good example of a winner-take-all market is the recent battle between HD-DVD and Blu-ray, where Blu-ray emerged as the one, and only, winner (Hagiu and Yoffie, 2009).

High switching costs and strong network effects are listed as major barriers of entry into any e-business by Jelassi and Enders (2008, pg. 57); high barriers of entry help incumbents in the marketplace survive and maintain dominant positions. They elaborate further on the concept of switching costs by describing four different forms of switching costs: relearning costs (having to learn a new product), customized offerings (having to "teach" a new product concerning preferences and so forth), incompatible complementary products (also known as backwards compatibility, the ability to use other products tied to the primary product), and customer incentive programs (loyal customer benefits from old product not available in new). The first two of these traits are clearly applicable to digital Internet audio companies in that it takes time to learn the competing service and "teach" it preferences like building playlists and so forth.

However, even though high switching costs may dissuade newcomers from entering the market, the real point of focus should be on the multi-homing costs between services once there are several potential winners already in the market, as there are in digital Internet audio. Multi-homing is a situation where a consumer can opt to use more than one platform (Choi, 2010) for the same purpose at no significant additional cost, for example having and using more than one e-mail account. Low multi-homing costs have the social benefits of lessening the tendency for a winner-take-all market (potential monopolies) and allow content owners to spread their content across a wider base of users (Choi, 2010). When multi-homing costs are high, consumers are very likely to choose one service provider and stick with it, unless switching costs to a competitor are low and the additional value from the competitor is significant. This is why it pays off to make sure that, if consumers are not multi-homing, there is a reason for existing customers to remain instead of switching, as happened to many early-moving Internet companies in the late 1990's (Jelassi and Enders, 2008).

Network effects can be either direct or indirect (Jelassi and Enders, 2008). Direct network effects occur if the change on one side of a platform has a direct positive or negative impact on the other; for example, more listeners has a direct positive impact for advertisers, who have more people to advertise to. Indirect effects affect players not directly involved with the platform, for example providers of complementary goods (perhaps an explosion of demand in mobile Internet-based radio could positively impact, indirectly, smartphone manufacturers). One of the prerequisites of a winner-take-all market, in addition to high multi-homing costs, are positive and strong network effects. Essentially, this says that it doesn't make sense for an individual user to change from one platform to another unless everybody else does so as well (Jelassi and Enders, 2008, pg. 145).

Finally, the last prerequisite for a winner-take-all market is that there exists minimal demand for differentiated features across platforms. For example, Blu-ray discs are meant to store or transmit digital content and there exists no need to maintain a second platform such as HD-DVD with the exact same feature set – in essence, what the product does. In practical terms, if there is no demand for differentiated features, then there is no true way to compete in the marketplace for new entrants.

The literature review comes to a close here and next we can begin the empirical analysis of the paper, which will eventually allow us to form conclusions and answers to the paper's research questions.

4. METHODOLOGY AND DATA

With a firm footing from the introduction and academic background of this research paper, we can proceed to the empirical portion of the study. As stated in the introduction, the business models of eight digital audio companies will be analyzed and mirrored against a set of metrics concerning each company. We can then see whether targeted advertising or paid subscriptions are receiving more attention currently as a revenue model, and why that might be. The data for this portion has mainly been gathered from online sources such as company websites and trustworthy media sources. The section begins with a look into the business model evaluation framework and based on that proceeds to evaluation of the companies and the presentation of their metrics.

4.1 Formulating the business model evaluation framework

The basic definition of a business model (Osterwalder & Pigneur, 2010, pg. 14-17) was "*the rationale of how an organization creates, delivers, and captures value"* and effectively describes three "pillars" of a business model. This basic definition is further broken down into nine building blocks of the business model, described in the following order by the authors:

Table 1: The building blocks of a business model by Osterwalder and Pigneur

1	2	3	4	5	6	7	8	9
Customer segments	Value propositions	Channels	Customer relationships	Revenue streams	Key resources	Key activities	Key partnerships	Cost structure

These nine building blocks are directly related to the three pillars of the basic definition: value creation, value delivery, and value capture. Quickly summarized, value is created when a customer problem is solved holistically (the entire process of creating the product or service), value is delivered when the product or service reaches the customer in some way, and value is captured when the initiator makes money, hopefully in a sustainable way that covers his costs and provides profit. Analyzing the function of each of these nine building blocks in the value chain, I have placed each of Osterwalder and Pigneur's building blocks into one of the three pillars of their basic definition in the table below, and reorganized them in a chronological manner from idea inception to revenue generation:

Table 2: Chronologically ordered business model building blocks in three basic pillars

1	2	3	4	5	6	7	8	9
Value propositions	Customer segments	Key resources	Key activities	Key partnerships	Cost structure	Channels	Customer relationships	Revenue streams
Value creation	**Value creation**	**Value creation**	**Value creation**	**Value creation**	**Value creation**	**Value delivery**	**Value capture**	**Value capture**

With the added categorization highlights to Osterwalder and Pigneur's building blocks, I hope to emphasize a key realization that seems to hold true in the real world – the most important aspect of any business model is *how much value is created*. If a product or service creates a lot of value, then a functional business model is two-thirds complete. The delivery and capture of value cannot be called trivial, but they are irrelevant until proper value has been created. Without it, there is nothing to deliver or capture! Nonetheless it must be said that delivery and capture must be attempted, perhaps even in several ways, to test and verify that value has been created.

This research paper is only focusing on one of the building blocks of a business model – the revenue model, which is they key block in the value capture pillar. We must assume that the companies being studied are executing the creation of value properly, since otherwise value capture has no relevance.

A further important notice is that the value propositions, which can also be called the "idea" behind the business model, is only one building block in the midst of five others within the pillar of value creation. A lesser idea, coupled with fantastic work, can succeed in the real world.

Essentially this means that the core driver behind a successful business model is the *execution of value creation*. In layman's words, the quality of the work a business does has a huge impact.

Table 3: Explanation of building block division into three pillars

Value proposition	**Value creation**	• The "big idea" behind any business model is more formally called the value proposition. It is the "what" in a description of a business model, and the core underlying component in creating value • In the value creation pillar because: The first step to serve any customer is to know what you're serving them, and a good knowledge of the customer's needs is a key aspect of creating value
Customer segments	**Value creation**	• Value is created when an idea/value proposition is directed at the correct customer segment(s). The "who for" in a business model is critical and cannot always be determined ex ante. • In the value creation pillar because: If directed at the wrong customer segment, a sound value proposition might end up creating no value whatsoever. Proper determination of the segment is important.
Key resources	**Value creation**	• It takes different factors of production to create value in any context anywhere. Manufacturers need factories, information businesses need brains. • In the value creation pillar because: Despite a great value proposition for the exact customer segment, key resources are the tools needed to make anything happen, in other words, to create value
Key activities	**Value creation**	• Key activities are the things that need to be done using key resources to make the value proposition happen for the selected customer segments. Putting the tools to use, in other words. • In the value creation pillar because: Until something is done, no value is created. Setting the correct activities is a key action since resources can be allocated inefficiently, slowing down value creation
Key partnerships	**Value creation**	• Not every resource and activity can be found and completed in a single business, at least not often. Media companies have advertising and content partners, airlines have catering services, and so on • In the value creation pillar because: If necessary partnerships are correctly identified and managed, the value creation potential of a company can be levered significantly. Poor partnerships destroy value.
Cost structure	**Value creation**	• The sum of the costs of operating all the red building blocks in the value creation pillar. Properly optimized cost structures allow a company to compete against more cumbersome competitors • In the value creation pillar because: a properly optimized cost structure also means that a company has the potential to create value through lower prices to customers, or use higher margins for investments
Channels	**Value delivery**	• Once the value creation pillar has been run through the product or service needs to reach the customer through some channel. Brick-and-mortar stores or the Internet through a myriad of devices, for example • In the value delivery pillar because: This is quite straightforward – a channel exists to deliver a created service or product to the customer. Until the customer receives something, no money can be made
Customer relationships	**Value capture**	• When the product or service reaches the customer, a company needs to determine what kind of relationship they generate with them. Most companies hope, of course, for a recurring relationship • In the value capture pillar because: A properly managed customer relationship can greatly increase the lifetime value of a single customer (Kotler and Armstrong, 2011) and thus captures value over time
Revenue streams	**Value capture**	• Once everything else has been done, it is hopefully time to make money or, fancily said, capture value. This could be argued to come before the customer relationship block, but revenue is always the goal • In the value capture pillar because: Businesses capture value by making money. For non-profits or clubs value could be captured by making the customers or beneficiaries happy, but business make money.

Osterwalder and Pigneur describe the business model's building blocks in a different order as seen in table 3, more suited towards the innovation of a company's existing business model or concocting a whole new business altogether, both from a very customer-oriented approach. In evaluating the business models of the companies being studied in this paper we are simply observing as outsiders looking in at a given state. The business models at the companies are already functioning and this allows us to look at the chronological path that each company's value proposition undertakes in the process towards becoming a revenue stream, as in tables 2 and 3. This is therefore a more operational view of the business model. The aim is to structuredly look at the overall business process that companies are undertaking in order to end up at their chosen format of revenue stream, which streamlines focus on to the revenue model specifically.

4.2 Business model evaluations

Using the framework described in the previous section, we now proceed to the business model evaluation of the eight companies being studied in this paper. The companies vary in size and were selected from relevant competitors listed for Pandora and Spotify on their respective Crunchbase.com profiles. The goal of this evaluation is to look closely into the entire business to determine the background of each company's revenue model. This information can then be utilized in conjunction with gathered company metrics presented in the next section to determine what lies behind the chosen revenue models and the implications that poses for new entrants.

Osterwalder and Pigneur's (2010, pp. 212 – 215) evaluation method will guide the assessment of each company's business model building block through a strengths and weaknesses approach. Their method includes a set of questions for each building block that examines the strengths and weaknesses from both a company's internal and external perspectives. The aim is not to quantitatively score each building block for each company, however. A qualitative assessment is more fitting, which can then be used as a basis for discussion of the findings later in this paper. The assessment is from an external perspective and considers public information only.

4.2.1 Pandora

Value proposition	**Value creation**	• Overview: "To play only music you'll love." Pandora is focused on playing music based on a user-given artist or track and building a stream of songs similar to that, utilizing data from Music Genome Project • Strengths: Everyone listens to music, and Pandora offers a convenient way of discovering new content. Customers seem to be very pleased considering the company's growth rate • Weaknesses: Fully reliant on music (and recently comedy) content and tied to music in the very DNA of the company. There might be other content needs customers need to satisfy.
Customer segments	**Value creation**	• Overview: Pandora has both advertising customers and listener customers. According to its 2012 10-K document, advertising segmentation has decreased, but no specific listener segmentation exists • Strengths: Pandora's largest advertising revenue customer is Google, which only accounts for 2.7% of revenue. Pandora is apparently aiming for any and all listener segments since no specific mention exists • Weaknesses: Although it is positive that advertising comes from a very broad set of segments, this also incurs costs through an expanded sales team. Not targeting any specific listener segment seems risky
Key resources	**Value creation**	• Overview: Pandora's technology is fully reliant on the Music Genome Project, something which no other competitor has available. A well-established ad sales team offers a competitive edge • Strengths: The Music Genome Project is unique and gives Pandora's streaming software the capability to deliver listeners new music discovery. Pandora's sales team has had time to develop for longer. • Weaknesses: Other methods related to social information and sharing are emerging that create possibilities for smart music discovery without the Music Genome. Ad teams are expensive/replicable
Key activities	**Value creation**	• Overview: Continuing the Music Genome Project and selling advertising efficiently on the local and national level. Maintaining and developing the technological platform is a given for all the companies • Strengths: Pandora's key activities have already functioned for years and, based on the growth of advertising sales, are improving constantly. The amount of music in Pandora's database is growing. • Weaknesses: Heavily reliant on human resources which cost significantly. Selling digital audio ads is still a fresh market and requires education of advertisers as well.
Key partnerships	**Value creation**	• Overview: Advertising partners such as Google are important, but Pandora seems to be heavily focused on partnering broadly with different hardware manufacturers for distribution, including radios and cars • Strengths: Pandora is available on a very broad range of different platforms • Weaknesses: Pandora receives no monetary compensation from its distribution partners directly, thus betting a positive impact from distribution on current revenue. New competitors can build partnerships faster since Pandora has done groundwork.
Cost structure	**Value creation**	• Overview: Significant music costs are about half the size of Pandora's revenue. Aside technological costs, Pandora is reliant on paying salaries to its advertising sales teams and Music Genome employees • Strengths: Current music costs are contracted until 2015, and growth increases negotiation leverage • Weaknesses: Uncertainty heading past 2015 concerning music costs, listener growth means costs follow
Channels	**Value delivery**	• Overview: Browser, broad range of mobile devices, connected home devices, and automotive channels • Strengths: Pandora probably has unparalleled reach across different distribution platforms to replace FM • Weaknesses: Many channels increase the cost of maintaining them technologically. Paved road for new competitors means Pandora may have paid the cost for many others as well to reach these channels
Customer relationships	**Value capture**	• Overview: Pandora requires registration to use the service with contact details and basic demographics • Strengths: Direct relationship with the user until account removed, high switching costs if hardware-user • Weaknesses: Low multihoming costs between Pandora and competition, account doesn't mean usage
Revenue streams	**Value capture**	• Overview: Pandora's 2012 annual report form 10-K states that the company expects to see advertising form a major portion of its sales for the foreseeable future. It currently stands at 87%. • Strengths: By focusing on advertising as a major revenue source, Pandora is able to invest heavily into an army of ad sales teams, which it wouldn't do otherwise. Advertising revenue is doubling y-o-y. • Weaknesses: Selling advertising costs money, whereas subscriptions can be bought by listeners directly on the Internet. Are advertisers as loyal as paying listeners? Can competitors sell ads more efficiently?

Pandora is an interesting company in that it was founded all the way back at the beginning of the millennium. The company was almost bankrupt before the smartphone distribution channel saved it from the abyss and sped it to new growth and an IPO in 2011. The company is still not profitable but is certainly growing fast in terms of revenue and user amounts, even if it is only available in the US.

The company's main revenue focus is on advertising. As stated in the company's annual report for 2011, Pandora generated 87% of its revenue through advertising and the rest through its Pandora One subscription service.

The ad-based strategy Pandora has is reflected in their customer segmentation. Instead of going after a specific niche of listener, the company is forced to do its best in reaching as broad a range of demographics as possible in order to widen the arena in which it can sell advertising. Also, advertising has an impact on the key activities of the company, since they have to focus on selling ads but also on developing the technology around putting ads into their streams and targeting them properly.

Even so, since Pandora is focusing on advertising sales primarily, it's sales team has likely received plenty of focus and has probably developed a competitive edge over competition in terms of efficiency. Nonetheless, selling advertisements always makes the cost structure of a company heavier and increases risks through the added weight on margins. With the total level of investment Pandora has seen despite not having reached profitability, it seems that investors are willing to believe and bet big on an ad-based revenue strategy, despite the costs that are easily visible in the business model. In April 2012, Pandora had begun to make believable inroads into the lucrative local advertising markets in the USA (New York Times, April 15th, 2012).

4.2.2 Spotify

Value proposition	**Value creation**	• Overview: "All the music, all the time." Spotify is an on-demand music service that promises its users the ability to find any song at any time and play it anywhere with its mobile service. • Strengths: Spotify in many effects removes the need to buy music. Spotify's library contains most of the worlds music and is completely accessible with an internet connection. Gives consumers a vast library. • Weaknesses: Consumers are offered the digital library of all the music in the world, when they really only will listen to a tiny portion of it. If users don't find just the music they want, the library won't help
Customer segments	**Value creation**	• Overview: Spotify has one primary customer segment – listeners. The brand is clearly directed to a younger audience. It also serves advertisers, but clearly has a smaller focus on them than Pandora. • Strengths: Spotify is fully focused on the listener, or at least more so with a smaller revenue emphasis on advertising. With greater focus on the listener, the user experience and services are bound to benefit • Weaknesses: Company website says they have ten million registered users, in comparison to 125 million at Pandora (albeit Spotify makes more money). Might growth with limited target segments be difficult?
Key resources	**Value creation**	• Overview: Spotify is based on an innovative peer-to-peer system that keeps Spotify's own data costs down. Spotify's 15 million track library and the licenses for it are a key asset. Massive funding. • Strengths: Spotify has been a partner to all major record labels since before its launch. It's P2P engineering solution cannot easily be replicated. Spotify's funding is substantial • Weaknesses: Many others can also offer a similar-sized music library as Spotify through digital distribution companies – there are many things that can be copied and Spotify is reliant on funding
Key activities	**Value creation**	• Overview: Spotify's main role is to ensure that it's music library has all the possible content available so that it's value proposition holds true and that users will subscribe. Internationalization and platform dev. • Strengths: Spotify has had a substantial majority of the world's music content available from the very beginning. It has managed to enter key markets already in Europe and the USA. • Weaknesses: Many smaller music labels have recently pulled out of Spotify due to copyright payments being too small. Also, some big names still refuse to license Spotify. Slow internationalization?.
Key partnerships	**Value creation**	• Overview: Spotify's value proposition makes it extremely important to have all record labels on board (labels own 18% of Spotify [TechCrunch, 2009]). Distribution partners (mobile operators) important. • Strengths: Record label partnerships at the deepest level are hard to copy and operators sell for Spotify • Weaknesses: The record labels have a great deal of say about Spotify, which is fully dependent on them. No way for Spotify to fully remain in the driver's seat.
Cost structure	**Value creation**	• Overview: Spotify's on-demand music model means licensing fees are much greater for each song play. Smaller sales team but probably relatively large partnership team to grow distribution • Strengths: Spotify has good relationships with the major labels and licensing probably manageable though this is completely uncertain since no public information available. • Weaknesses: Partners such as mobile operators and Facebook do a lot of Spotify's sales, eating margins
Channels	**Value delivery**	• Overview: Native client for Windows and OSX, native app for all major smartphones, operator sales • Strengths: Functional native client solution keeps development in Spotify's hands and isn't dependent on browser compatibility. Targeted younger crowd is savvy with these channels. • Weaknesses: Pandora is miles ahead in hardware channels. Operators eat at margins.
Customer relationships	**Value capture**	• Overview: Spotify requires registration and product download and install. Social via Facebook • Strengths: Once a user has commited to download, install, and register – they're bound to come back • Weaknesses: As for all the companies here, multihoming costs are low. No high switch cost for Spotify.
Revenue streams	**Value capture**	• Overview: Spotify's website says 30% of registered users are paying subscribers, rest free ad-based • Strengths: Amazing conversion to paying subscribers gives Spotify truly substantial revenue base that can probably slowly yet surely begin to sustain itself with some more scale • Weaknesses: Dependence on getting users to pay means it will become increasingly difficult to maintain the same rate of paying vs. ad-listeners as early adopter base exhausted. Might have to increase ad sales?

Spotify is the shining star of the digital music world at the moment but is facing its fair share of troubles as well. In late 2011, over 200 smaller record labels pulled out of the service (Business Insider, 2011) and by trying out the service one can find that large bands such as Metallica, Coldplay, and the Beatles still can't be found. Spotify's value proposition to the listener is sound if everything they want is available on the service, but the vastest library of long-tail music (the least listened to) won't help if key components of the mainstream are missing. Spotify must now use its substantial venture funding to prove that, when it reaches scale, it can truly provide artists proper compensation for use of their material on the service. If any major record labels were to pull out of Spotify, it would be a deathblow to a company promising "all the music" but only providing "lots of it". Fortunately, all four major record labels own a portion of Spotify (TechCrunch, 2009), which makes pulling out a bit more complicated.

Assuming the service retains all the music, the big question is can it grow user figures to such scale that it can become sustainably profitable? Can it keep adding paying subscribers at the same rate of total users once the pool of early adopters paying for the service has been exhausted? Even if the value proposition is sound and truly delivered, there is still no way to be certain if the company can actually make people stop buying music but rather leasing it all every month.

The risk for Spotify is not being able to attract more paying users. It is expanding into different countries where it can exhaust an early adopter pool ready to pay, but these come at the cost of negotiating licensing fees in each new country – competitors are already beginning to eat away at Spotify's prospects in Russian and Asian markets by companies such as Deezer. Rdio is also grabbing markets abroad with a similar service, and MOG joined Deezer and Rdio in beating Spotify to Australia. How can it convince more and more people to sign up and pay in the countries where Spotify is already live? Can it expand to new countries fast enough to saturate paying users?

If Spotify needs to begin growing its advertising sales even further, then it is probably behind competition in having to modify the user experience and grow its sales capabilities. Spotify's value proposition is highly aimed at a music entertainment experience, which can be ruined by ads, and the cost structure is likely dependent on subscriptions due to the costs of on-demand music.

4.2.3 We7

Value proposition	**Value creation**	• Overview: "We7 is an ad-supported music streaming service." We7 promises a free listening experience where listeners listen to ready-made playlists or a Pandora-like format where a playlist is built on a song. • Strengths: The value proposition is very simple – choose a playlist that fits and press play. Like radio. • Weaknesses: We7 makes the bet that listeners prefer passive instead of active listening; where the user selects the specific songs he or she wants to listen to. Is this what the customers want?
Customer segments	**Value creation**	• Overview: Based on observations of the service on the browser, the design and featured music is clearly directed towards a younger audience. The service has 3 million UK users, meaning its found a following • Strengths: The service has been strongly focused on the UK market and only expanded to Belgium in 2011. Instead of a demographic focus, We7 has at least succeeded with geographic focus • Weaknesses: Can the service expand into different geographic regions quickly enough?
Key resources	**Value creation**	• Overview: We7 is dependent on a successful advertising sales team and playlists that meet the demands of what customers want to hear. "Smart playlist" technology that learns user preferences needs to work. • Strengths: We7's model is relatively simple and, by functioning on a playlist model, its legal resources don't need to be as robust. A simple model allows the service to focus on the user experience. • Weaknesses: The simple model of We7 is easily replicated and has been replicated by many others as well. Are the key resources (advertising, localized playlists) being deployed fast enough across borders?
Key activities	**Value creation**	• Overview: Ensuring playlists meet the demands of listeners, ensuring technology works, selling ads. • Strengths: The simple model helps We7 focus – playlists and tech seems to work and ads are playing • Weaknesses: Highly replicable model that depends on brand recognition – should a key activity be accelerated international growth? The UK and Belgium doesn't sound like much for three years work.
Key partnerships	**Value creation**	• Overview: We7 probably relies on external partners to help with advertising sales. Most importantly We7 needs to have good relationships with the labels and digital distributors to ensure music catalog • Strengths: Radio streaming means more standard music contracts, allows We7 to focus making money • Weaknesses: Could We7 partner more effectively with eg. operators to speed up internationalization?
Cost structure	**Value creation**	• Overview: Music costs, advertising sales and playlist generation are the major cost segments • Strengths: We7's cost structure is probably significantly leaner than the competition, but this is likely down to slow international growth • Weaknesses: According to DMWMedia We7 posted a $5.8 million loss already in 2009, when it was only in the UK. Could this mean the organization is not being as effective as it should be in growth?
Channels	**Value delivery**	• Overview: Web browser, iOS and Android smartphone applications • Strengths: Web browser makes it very easy for a listener to arrive and start using the service. Smartphone compatibility makes the service mobile, which is very important for radio in general • Weaknesses: Competitors are miles ahead in hardware compatibility and distribution across many more platforms – We7 looks to be falling behind in widespread distribution of the service
Customer relationships	**Value capture**	• Overview: Registration is optional but brings new features. Facebook and other social network logins available and make spreading the word easier • Strengths: Possibility to login with many existing accounts, cater for the casual non-registered user as well with significant ease in comparison to competitors • Weaknesses: Very low multihoming and very low switching cost as well, since non-registered users only listen to premade playlists and thus have no personal playlists to lose when leaving We7.
Revenue streams	**Value capture**	• Overview: Fully ad-based, with a premium option in mobile that is very hard to even realize exists • Strengths: Clear model that puts the interests of the listeners and advertisers in tune with each other • Weakness: Banner ads on the website are ugly, very few audio advertisements play when using the service. Is the revenue model sustainable over growth? Can the operation scale internationally due to the costs of expanding an international advertising sales team? Or has this been the reason for slow growth?

We7 raises a lot of questions about the potential of an ad-funded streaming radio model for a digital audio play. It has slowly progressed with a full focus on the UK and made a decisive pivot away from an on-demand service to a streaming Pandora-like service in late 2010. The company might have noticed the emerging dominance of Spotify in the on-demand music space and determined that Europe was lacking a Pandora-like service after Pandora itself pulled out of the UK and Europe in 2007.

The big question We7 raises concerns the viability of an advertising-based platform when seeking to expand internationally. Pandora has the benefit of a large home market in the USA with a relatively homogenous advertising sales market. Despite Pandora's initial troubles in selling local advertising, it has managed to pull itself out of the chasm and expand into local markets in the USA (New York Times, April 15th, 2012). Can We7 replicate a similar approach with the more heterogenous European market, and does it have listener relationships on par with Pandora? Considering users can simply arrive on We7's website and begin to listen without providing any additional information, how can We7 offer as targeted an approach as Pandora? International expansion without this user data is a difficult equation for We7, since learning new markets in new countries in Europe for advertising sales takes time and money. So far, We7 has only officially surfaced in Belgium.

Nonetheless, We7 did receive a second round of funding in July of 2011 bringing its total funding to at least $6 million. This was in conjunction with the announced launch in Belgium, so perhaps the company has a believable plan to enter international markets soon enough with its advertising-based revenue model. It certainly is the only player to be this focused on advertisements, has lured in a significant listener base in the UK, and has garnered support from investors. At the end of the day, We7 makes a good case for advertising-based revenue generation by offering a value proposition suited for both listeners and advertisers, with no conflicts of interest.

4.2.4 Slacker Radio

Value proposition	**Value creation**	• Overview: "Slacker has the most personalized content of any radio service. With Slacker, you can personalize your content and listen everywhere." Slacker promises curated music, news, and comedy. • Strengths: Slacker goes beyond just music and delivers news, sports, and comedy. Less competition. • Weaknesses: If users really want content the way Slacker offers it, why are the competing companies growing their user base much more rapidly? Is the user experience more complicated with the offering?
Customer segments	**Value creation**	• Overview: Slacker has listeners and advertising customers. With the wide range of content available, and the fact Slacker comes preloaded, it is reasonable to assume that the listeners are widely segmented. • Strengths: Very focused on only the US market, which helps make advertising sales more efficient • Weaknesses: Can Slacker keep up with Pandora?
Key resources	**Value creation**	• Overview: Significant funding, professional DJs, broad catalog of music and talk content • Strengths: Slacker has an unparalleled catalog of content and almost $70 million in funding to monetize • Weaknesses: Does the company have too much to handle in order to clearly deliver its value proposition to the end-user? With so many key resources, is the company really able to deploy them coherently?
Key activities	**Value creation**	• Overview: Platform development, content utilization, distribution via channels • Strengths: Slacker monetizes from ads but has outsourced this to YuMe. This gives the company more room to focus on putting its content to work and developing the platform to entice users • Weaknesses: Are there too many activities for Slacker still? Userbase grown through preloads. Execution quality questionable – app functionality and website simplicity isn't par with competition
Key partnerships	**Value creation**	• Overview: Slacker has content partners (ABC, ESPN), music label partners, technical partners for distribution channel (preloaded by operators) and maintenance, and YuMe as an advertising partner • Strengths: Slacker has a lot of content others don't have through exclusive content deals • Weaknesses: The company also has a lot of partnerships to manage, which may take away from its focus on the end-user experience. Do the partnerships react to changes in the market fast enough?
Cost structure	**Value creation**	• Overview: Music costs, platform development costs, partnership costs, distribution costs • Strengths: Advertising growth is taken care of by YuMe, a large advertising network. • Weaknesses: The technical costs at Slacker are bound to be higher than competition – there are so many different distribution platforms supported by Slacker, all which need to be constantly updated.
Channels	**Value delivery**	• Overview: Slacker is available very widely – web browser, desktop, every smartphone OS, home electronic devices, and is syncable with a range of cars via the smartphone • Strengths: Probably the most widely channeled digital audio product there is • Weaknesses: Has the technical development budget eaten up marketing efforts? Does maintaining support on such a broad range of devices cost too much, or should they focus on most popular channels?
Customer relationships	**Value capture**	• Overview: Registration is optional but brings new features. Two subscription plans are offered that remove ads and add features, but only 400,000 users pay for the service out of a total 30 million installs • Strengths: New users can arrive on the website and begin to listen immediately • Weaknesses: Very low multihoming and very low switching cost as well, since non-registered users only listen to premade playlists and thus have no personal playlists to lose when leaving – same as We7. Only way to hold on better is with paying customers, which Slacker seems to have trouble adding
Revenue streams	**Value capture**	• Overview: Despite two payment plans, majority of Slacker listening seems to be ad-funded • Strengths: Several options for users to pay Slacker, each with a specific option set • Weakness: Banner ads on the website are ugly, and audio ads don't play often. Though Slacker is preinstalled on a wide variety of smartphones and available on the most platforms, the listener numbers don't reflect the same message when compared to competitors. If users not loyal, will advertisers be?

Slacker takes an interesting twist on the digital audio space by providing more than music, most likely in an attempt to more directly imitate traditional radio. News partnerships with ABC and sports coverage with ESPN are key assets that set the company apart from the rest of the competition in the entire space of digital audio.

The main point of note is that the company is built around creating a perfect radio-like stream of audio content, and the company's official slogans and intros don't ever single out music on its own. While the company is significantly funded, there are a lot of key activities that need to be done in conjunction with each other to make the user experience work whilst including all the possible content available. To further complicate matters, the wide ranges of distribution channels are probably a huge resource burner that might detract from efforts to make the user experience clearer. Thus, despite the effective outsourcing of advertising sales to YuMe, Slacker has burdened itself with a seemingly heavy cost base.

Slacker has decided to lure in new users with the promise of a broader range of content than just music, but has so far succeeded in gathering only 400,000 paying users (ReadWriteWeb, 2011). The problem is that the total amount of installs is up to 30 million, but the majority of those have come from preloaded installs on devices sold by operators. Organic growth from potential users own initiative hasn't surfaced in news reports about Slacker yet and the brand recognition as seen on the company's Alexa Web ranking (shown in the company metrics section) is lacking behind.

Since only just below 1.5% of the company's users are registered subscribers, we can consider Slacker an advertising-based company. Considering the company only added ads in 2011 (ReadWriteWeb, 2011), they must have realized an inability to convert users into subscriptions. With broader content, the company should be focusing on getting users to extend listening time in order to grow potential media space for advertising.

4.2.5 Rdio

Value proposition	**Value creation**	• Overview: "Rdio is the ground-breaking digital music service that is reinventing the way people discover, listen to, and share music." Essentially Rdio is a copy of Spotify but fully subscription-based. • Strengths: Clear on-demand value proposition that is delivered to the user in an understandable fashion. • Weaknesses: Not very innovative, simply a copy of eg. Spotify – how to entice users?
Customer segments	**Value creation**	• Overview: Rdio is, again, not specifically aimed at anyone in an official sense, but judging by looks and service offering is directed at a young professional or tech-savvy individual willing to pay for content • Strengths: Rdio can focus 100% on the user experience demanded by users willing to pay a subscription • Weaknesses: Is the paying segment large enough, or is Rdio too early in the market? No ads fallback.
Key resources	**Value creation**	• Overview: Talented engineers and significant funding (with capability for follow-on funding) • Strengths: Rdio's technical team has developed a very functional, multi-channel product with a small amount of employees (less than 70 as stated on recruitment page of Rdio). Lots of funding available. • Weaknesses: Hard to find, the company truly seems "lean and mean" as they state on the website
Key activities	**Value creation**	• Overview: Platform development, marketing, content acquisition, geographic expansion • Strengths: Very focused activities that seem to be done efficiently considering amount of distribution channels available. Service is expanding internationally to get potential paying users before competition • Weaknesses: Rdio has 12 million tracks in its library, but is an on-demand subscription service and thus must strive to have all the music available in its catalog, so it is enticing to every potential user
Key partnerships	**Value creation**	• Overview: Rdio is mostly in the drivers seat, but still needs the partnership of the record labels and music licensing agencies and their digital distributors, like all the rest of the companies. • Strengths: Very lean structure and able to move very quickly with minimal needs for partnerships • Weaknesses: In the chosen format for operation, Rdio doesn't incur any weaknesses from partnerships
Cost structure	**Value creation**	• Overview: Music costs, platform development costs, internationalization costs • Strengths: Very lean cost structure that is mostly predictable in terms of platform development • Weaknesses: Music costs and internationalization costs might be less predictable
Channels	**Value delivery**	• Overview: Rdio is delivered to the customer via the web browser, smartphone, and home entertainment • Strengths: All the key platforms for desktop and mobile are covered as well as TV and media players • Weaknesses: Hasn't entered the car distribution scene publicly at least
Customer relationships	**Value capture**	• Overview: Registration is required. Non-paying users can access the system but only get 30 second clips • Strengths: New users have instant access to the service and registration creates a direct relationship. The service offers little value until customer pays, which customer knows immediately. Paying customers have high switching costs due to social and personal playlist features of the service • Weaknesses: No free trial, means customer must make a purchase decision to really use Rdio properly and fall in love with it. Can't really fall in love before trying it out.
Revenue streams	**Value capture**	• Overview: Very simple – two subscription plans, one for desktop, one for mobile add-on • Strengths: Very simple, customer knows what the name of the game is. Focused on paying customers. • Weakness: No fallback to try and offer value to customers not willing to pay for a subscription.

Rdio is a very likely candidate to be the big surprise in the on-demand music market. It has quietly expanded to nine countries, all of which are large potential markets (USA, Canada, Brazil, Germany, Denmark, New Zealand, Australia, Spain, and Portugal) and some, which Spotify, the other large and well-funded player, hasn't entered yet. Considering Spotify has gathered almost $190 million in risk financing, and Rdio to date has only $17.5 million (but large add-on potential through its existing investors, who sold Skype to Microsoft for $8.5 billion in 2011), Rdio may have nicely jumped in after Spotify paved the way for them. Whatever the background, the future is sure to be extremely competed between Deezer, Rdio and Spotify, perhaps MOG as well.

Rdio has the benefit of being able to focus fully on the user experience, with no advertising revenue stream whatsoever. Spotify, on the other hand, must deal with the costs of selling advertisements as well, a market that comes down to "the boots on the ground" (Jeff Lanctot of digital ad agency Razorfish. New York Times, April 15th, 2012) or, in other words, how large a sales force a company has. This is a clear benefit for Rdio, but comes with a risk as well – what if there aren't enough potential customers willing to pay for music-as-a-service as of yet? Advertising is at least a good backup for Spotify.

Rdio is thus relatively focused, but has to hedge its subscription bet by being available in as many geographies as possible as quickly as possible to saturate the market that is already available for music subscription services. International expansion always comes with costs attached, although perhaps less so when there is no advertising team to expand. The real benefit comes from looking at the company's business model – it is operating with the bare minimum resources.

Rdio's revenue streams are probably quite predictable, as monthly subscriptions are a repetitive sole source and churn rates can probably be estimated quite well in relation to growth rates. Then again, there is only one revenue stream, but as long as the service works it is probably quite sustainable. Pricing is also in line with the competition; so as long as the value proposition works for potential consumers and costs remain lean and predictable, Rdio should succeed with its revenue model.

4.2.6 8tracks

Value proposition	**Value creation**	• Overview: "Listen for free to the best internet radio, handcrafted by people who know and love music. Or, share your own online mixtape, a streaming playlist with 8 or more tracks." 8tracks lets users listen to and/or create music playlists of at least eight songs with the premise that humans make great playlists • Strengths: Very simple to understand, users express themselves and share creating network effects • Weaknesses: Limited by Digital Millennium Copyright Act (DMCA) music license in innovating further
Customer segments	**Value creation**	• Overview: 8tracks is clearly directed at a youth-oriented self-expressive segment. Advertising customers exist as well on some scale. • Strengths: Operating under a standard DMCA music license, 8tracks works globally and can reach every potential user around the world. • Weaknesses: Is the targeted user base around the value proposition too much of a limiting niche?
Key resources	**Value creation**	• Overview: Talented engineers, active community of playlist developers • Strengths: With a small team the company is agile enough to put resources to use effectively and rapidly in just the right places. The service has managed to gather a huge community of playlist creators • Weaknesses: Small team a limit for further growth? Hasn't taken external financing to accelerate growth
Key activities	**Value creation**	• Overview: Platform development, community support and growth • Strengths: Very focused on platform development based on employee count, community management is probably relatively simple due to popularity of the service • Weaknesses: Even though the company should probably think of the next steps in innovation, there are limitations to what it can do due to the DMCA music license (8tracks website, 2012) and a SoundExchange gap on how much it can earn (SoundExchange Small Webcaster terms, 2012)
Key partnerships	**Value creation**	• Overview: No visible partnerships, advertising efforts look to be internal • Strengths: Full internal focus • Weaknesses: Could 8tracks deploy resources more effectively by outsourcing some components?
Cost structure	**Value creation**	• Overview: Standard music costs, platform development costs • Strengths: Very lean cost structure, predictable music cost and only ten employees on payroll • Weaknesses: Music costs increase substantially once service grows to a certain point under DMCA rules
Channels	**Value delivery**	• Overview: 8tracks functions on the browser, iOS, Android an unofficially on WP7 and webOS • Strengths: Focused on the main end-user devices the target group would use • Weaknesses: Not aggressively growing into wider distribution to keep up with other digital audio services available such as Pandora and Spotify
Customer relationships	**Value capture**	• Overview: No registration required, simply arrive on the website and start listening • Strengths: Quick access for new users to try out. High switching cost to other services (no other service has the specific user-generated playlists that 8tracks has). Inherently social with user-generated content means relationship has strong network effects and spreads naturally to new customer relationships • Weaknesses: Low multihoming cost as with all other services. Other services have user-generated playlists as well, who has the best ones? A question of consumer perception at the end of the day.
Revenue streams	**Value capture**	• Overview: Banner advertising on the website, a slightly hidden "plus version" for $25 / 6 months • Strengths: Non-intrusive to the listener, power users can pay for the service • Weakness: Valuable to the advertiser? Should be expanding into audio adverts faster, but will this shy away existing users who have become accustomed to no audio and video advertising?

Out of all the companies studied, 8tracks is the smallest and “leanest” operation. It has been around since August, 2008 and grown steadily to form an active community of playlist developers, and was voted the best website of 2011 by TIME magazine. The beautiful simplicity of 8tracks is also a burden, since it limits the growth of the company severely. The terms for a “Small Webcaster” license from SoundExchange (US collector of music fees) mean that 8tracks can essentially only grow to annual revenue of $1.25 million (SoundExchange, 2012) before it has to begin paying substantially higher music costs. This would force 8tracks to take on significant outside funding and begin to grow aggressively in an attempt to reach a scale along the lines of Pandora where it might begin to be able to cover its music costs. Currently, 8tracks is still a small-scale project where the employees do not all work full-time – the community keeps the service alive.

The business model of the company is extremely lean and without the restriction of the licensing fees, 8tracks could probably grow organically to be a large player in the market. With such a lean business model, the company is probably able to be successfully profitable and sell advertising space along the lines of the top limit allowed by SoundExchange. The 8tracks Plus version is relatively unemphasized on the website, and is thus probably not a center of focus for the company as its growth prospects are limited under current licensing rules. It is priced cheaper than the competition as well, which is a question mark in the revenue model.

Thus, 8tracks is a display advertising-based service with a successful value proposition and active fan base. It could grow exponentially if only restrictive music licensing rules were removed from the equation, which limits the ability to say whether its revenue model could succeed on a larger scale or not. It’s stated future plans are to possibly add audio and video advertising to the service as stated on the service’s developer API terms of use website (8tracks.com, 2012). These plans are probably part of a quest to grow beyond the limits of the Small Webcaster contract the company has opted into for now.

4.2.7 MOG

Value proposition	**Value creation**	• Overview: "Search for music you love and discover music you don't know you love yet." MOG is an advertising and subscription-based on-demand music service in the USA and Australia • Strengths: Relatively simple value proposition that users have grown to understand via Spotify, Rdio • Weaknesses: Very similar to Spotify and Rdio – how to truly differentiate?
Customer segments	**Value creation**	• Overview: MOG has listener and advertising customers, and is available in USA and Australia • Strengths: 500,000 out of 13 million pay for the service, meaning there is direct revenue. Advertising pitch very focused at "young, affluent & tech-savvy" meaning good focus in marketing team • Weaknesses: If ad-focus is so well segmented, does it suck up the potential of other potential listeners in other demographics? Pandora seems to cater for all, MOG is very youth-focused
Key resources	**Value creation**	• Overview: Advertising team, talented engineers • Strengths: Most visible and clear advertiser pitch on the website, and very good case studies of successful campaigns. Ad team hard to replicate if doing well. Engineers (iPad app) praised in media • Weaknesses: Is the advertising team large enough? Total employee count at 120.
Key activities	**Value creation**	• Overview: Advertising sales and related demographic expansion, platform development • Strengths: Engineering team is clearly efficient and successful in activities, since MOG has received media praise for beautifully functional software. Advertising sales is focused and likely efficient • Weaknesses: Is the company too focused on a single segment in its advertising activities? Perhaps the demographic segments of its customers should be broader so the team could sell ads more horizontally.
Key partnerships	**Value creation**	• Overview: Technical partnerships with home entertainment systems and car manufacturers • Strengths: MOG can truly be used anywhere. For example, directly integrated into new BMW's • Weaknesses: Is scaling distribution eating away from efforts to grow the listener base? Or is it a pre-emptive bet to grow the user base via increased ways of accessing MOG?
Cost structure	**Value creation**	• Overview: Music costs, platform development costs, advertising sales costs • Strengths: Doing a lot means more potential for success (or quicker failure). Likely predictable costs. • Weaknesses: Heavy cost base due to on-demand music, widespread distribution, and heavy ad sales
Channels	**Value delivery**	• Overview: MOG is available on desktop, smartphone, home entertainment systems, and some cars • Strengths: Very widely available means more integrated touchpoints for new customer acquisition • Weaknesses: Heavy costs in scaling distribution efforts to so many different touchpoints
Customer relationships	**Value capture**	• Overview: Registration necessary, possible via Facebook. Most customers on advertiser-relationship • Strengths: Emphasis on Facebook login spreads social potential of marketing. Quick to use. • Weaknesses: Low multihoming cost as with all other services. Other services have user-generated playlists as well, who has the best ones? A question of consumer perception at the end of the day.
Revenue streams	**Value capture**	• Overview: Most users listen to the advertising-based free version, with a small percentage paying • Strengths: Strong focus on advertising means MOG probably has an efficient and capable ad team. Small percentage of paying customers offer a relatively steady secondary revenue stream • Weaknesses: Are the margins strong enough for an on-demand music service based on advertising?

At the time of writing, it was unclear whether or not MOG had been sold to Beats Audio, owned mostly by Taiwanese mobile manufacturer HTC (TIME Techland, 2012). Nonetheless, the company is actively moving forward and joining the race with the competition to expand internationally. MOG announced expansion into Australia (TheMusicVoid.com, April 19th, 2012), coming second to Rdio and Deezer but beating other large players such as Spotify. This may be an attempt to saturate the available market of consumers willing to pay a subscription on the service – growing the advertising team internationally will cost MOG money.

MOG is essentially another version of Spotify and Rdio but clearly has a dilemma when compared to the other two competitors. MOG has a much smaller subscription base than Spotify and is more reliant on advertising (more advertising listeners than Spotify), despite running a similar on-demand music service, which incurs higher music licensing costs. Both Spotify and Rdio are available in many more countries than MOG, which only just launched in Australia, meaning they've had an opportunity to grab early adopters willing to pay for such a service – the "low hanging fruit" in the market. MOG has the problem of having to expand an advertising offering abroad as well, whereas Rdio is simply focusing on the customers willing to pay a subscription fee. Spotify has similar problems to MOG in internationalization, but has significant amounts more funding, almost ten times more, than MOG.

MOG's revenue model, in a subjective view, doesn't seem to have worked yet and it may be that the rumored acquisition has happened since the company couldn't expand on its own any further. The company makes a lot more money from its subscription listeners and is probably intent on converting free listeners, but at the same time it would become less interesting to advertisers. Advertisers favor MOG since it truly emphasizes their presence in the service and make the user experience, with advertising, quite favorable. On the other hand, Spotify's user experience with advertising is significantly less favorable, which has been thought to have a positive impact on conversions to subscribing customers (at least judging by Spotify's official numbers, it has. Spotify has 30% paying subscribers, whereas MOG has only just under 4%). MOG's international expansion is very likely an attempt to begin emphasizing subscriptions in new markets.

4.2.8 Deezer

Value proposition	**Value creation**	• Overview: "Discover your favourite artists, tracks, and albums anywhere, anytime." Deezer is another on-demand music service that replaces music purchases with monthly subscriptions • Strengths: Consumer familiarity with model, and 15-day free trial to get accustomed with the service • Weaknesses: Again, similarity to Spotify and Rdio. Any way to differentiate and compete?
Customer segments	**Value creation**	• Overview: Deezer is aiming to be the first truly global music service, launching in 200 countries by the end of summer 2012. No advertising customers, just listeners paying a subscription • Strengths: Able to focus on getting paying users only. Youthful company but targeting everyone. • Weaknesses: Is the potential for paying customers of music subscription services ripe yet? Be it or not, Deezer is hedging this weakness by expanding everywhere globally at once.
Key resources	**Value creation**	• Overview: Music licenses, talented engineers, internationalization management • Strengths: Aggressively deploying music licenses by internationalizing globally, using all that top management can muster to put into use • Weaknesses: Will Deezer "overdeploy"? In other words, will it stretch its resources too far in international expansion; given it only has 74 employees?
Key activities	**Value creation**	• Overview: Internationalization, platform development and maintenance • Strengths: Aggressive internationalization happening, efficiency proven. Platform functions very well. • Weaknesses: Will execution quality suffer due to aggressiveness? What is preventing others from accelerating internationalization as well?
Key partnerships	**Value creation**	• Overview: Mobile operators for distribution • Strengths: Deezer has achieved 1.4 million paying subscribers largely via the help of mobile operators Orange France and Orange UK. Relationships are probably good and will help international growth. • Weaknesses: Is there any expansion dependency on the operators, and how do they eat margins? Would current paying subscribers have subscribed without operator deal – will Deezer replicate success abroad?
Cost structure	**Value creation**	• Overview: Music costs, platform development costs, internationalization cost • Strengths: Cost structure mostly same as competition, no advertising sales costs • Weaknesses: Internationalization costs are probably substantial, and Deezer has a wide range of platform compatibility to maintain (all smartphones, IP radios, televisions etc.)
Channels	**Value delivery**	• Overview: Deezer is widely available on a lot of platforms and also sold via operators • Strengths: Deezer should be able to reach pretty much all prospective customers, operators help with sales and free trial is a good channel into enticing future paying customers • Weaknesses: How much do operators eat at margins? What is cost of channel maintenance?
Customer relationships	**Value capture**	• Overview: Facebook login immediately activates free trial period of 15-days, aim for subscription and recurring monthly payment relationship. Social connection spreads word to new customers • Strengths: Emphasis on Facebook login spreads social potential of marketing. Free trial quickly set up. • Weaknesses: Low multihoming cost as with all other services. Other services have user-generated playlists as well, who has the best ones? Same challenges as competition. Who's brand is best?
Revenue streams	**Value capture**	• Overview: Two levels of subscription, entirely in line with competition such as Rdio • Strengths: Focus on paying subscribers cuts costs and promises recurring, steady revenue once user is locked into a paying subscriber relationship • Weaknesses: No fallback if free user doesn't convert after trial , might lose to an advertising-based service

Not many non-French people have heard of Deezer, yet, considering it only began expanding out of France in late 2011. With extremely aggressive internationalization happening to 200 countries around the world, it is extremely likely that people will discover Deezer in more and more markets very soon. Deezer's growth in France and the UK has been accelerated by an extensive partnership with major operator Orange, and it remains to be seen if a similar operator-driven strategy will follow in new markets as well.

Deezer's internationalization strategy is so aggressive that it remains to be seen if the risks associated with such fast progress become a reality. But, in light of the growing competition for paying subscription customers, speed will be very central in beating Rdio, Spotify, and potentially MOG. Spotify and MOG as to some extent burdened by their advertising teams, but have still managed to expand internationally (MOG only as of very recently). Rdio has pushed into nine countries already, but Deezer is attempting to go for 200 at once! Should their internationalization succeed, they will be the first on-demand music player in a lot of countries and, as a result, will probably be able to saturate the existing market for early adopters willing to pay for a music service. Deezer would then have these early adopters as a basis from which to begin converting non-paying or non-using customers (those that haven't found music subscription, yet) – something that all players in the market will have to end up doing, anyway.

Is the revenue model for Deezer's approach sustainable? Most likely, yes, as long as the cost structure of the company does not expand hand in hand with growth in international reach. The subscription revenue model means that Deezer is able to collect revenues before they incur substantial expenses (music and data related costs form listening). They are charging what has formed into a market price ($5/month for a desktop subscription, $10/month for mobile as well) completely in line with competition, probably capturing the full willingess to pay (these prices are in with the Open Music Model developed at MIT by Ghosemajumder, 2002). Once a user begins to pay, the revenue stream will be predictable with a relatively steady customer churn rate.

Since online music subscriptions are characterized by high switching and multi-homing costs, there is a huge chance that Deezer will be a winner-take-all player in online music if its internationalization succeeds. This is because its' offering is exactly the same as the competition but it will reach more new customers faster and saturate the market.

4.3 Company metrics

Table 4: Metrics on companies studied

Company name	Founded	Employees	Revenue (USD, 2011)	Funding (USD)	Users	Alexa web ranking	Revenue model
Pandora	2000	530	$138 million	$157 million (incl. IPO)	125 million (87% ads)	367	**AD**
Spotify	2006	300	$250 million	$189 million	10 million (3 million paying)	1,694	**SUB**
We7	2008	n/a	$1.5 million	$6 million	3 million (mostly ads)	67,989	**AD**
Slacker Radio	2006	n/a	n/a	$68.1 million	30 million (400,000 paying)	12,208	**AD**
Rdio	2008	70	n/a	$17.5 million	n/a	12,634	**SUB**
8tracks	2006	10	n/a	$0.3 million	n/a	5,575	**AD**
MOG	2005	120	n/a	$24.9 million	13 million (500,000 paying)	13,843	**AD**
Deezer	2007	74	$50 million	$19.3 million	20 million registered (1.5 million paying)	1,517	**SUB**

Source: Company websites, CrunchBase.com, Alexa.com

The metrics shown above are the latest available figures from a variety of sources. These figures develop relatively quickly even during the process of writing this paper, but give a good general overview of where these companies stand in relation to each other. The companies were selected for the paper to give even comparison for advertising revenues and subscriptions and to take into account all the big players primarily; five of the companies here can be said to derive most of their revenues from advertising, and three are subscription based services.

A number of points of note can be seen from these metrics already. Firstly, the companies were founded mostly within a period of 2-3 years between 2005 and 2008. Pandora came into being in early 2000, but didn't begin to make a significant impact until around 2004. This realization gives a good glimpse into what seems to have been a very narrow entry window into a market that seems to have begun to fill up. Those founded earlier, such as Pandora, Spotify, and Slacker, have sucked in a lot of venture capital in comparison to We7, Rdio, and Deezer, which are faring with much less. It remains to be seen which investments will pay off – those with smaller funding levels have a better chance of providing a good return on investment. When looking at the numbers, it might very well be that the largely funded early players have paved the road for those coming a few years behind. Spotify has ten times more funding than Deezer, but only five times the revenue and two times as many paying customers – in terms of overall registrations, Deezer outdoes Spotify two to one.

Secondly, Rdio and Deezer seem to prove that subscription-based companies need to employ a significantly smaller amount of people, at least in comparison to Pandora and MOG who do their best to sell ads. Spotify also sells ads despite generating most of its revenue from subscriptions, and as a result has four times as many employees as Rdio and Deezer. This is a stark highlight of the cost structure risks that selling advertisements brings to a company.

In the next section, the findings of the business model evaluation study linked to the metrics provided here will be discussed, and an educated guess concerning which revenue models should be emphasized in the future will be formulated.

5. FINDINGS

With the empirical results of the study available from the previous section, we can begin to discuss the findings and formulate an educated guess around what digital audio companies of the future should do with their revenue models.

5.1 Key assumptions

There must be several key assumptions made for the findings to be discussed in the proper frame of mind. As discussed earlier, the revenue models being studied in this paper are only one part of the entire business model for each of the companies, so we must assume the companies are executing well in the other building blocks so that the revenue model is getting a proper chance at success. Also, a number of factors in the business model, such as the music licensing elements of each cost structure, are subject to change in the future depending on developments in the legal environment. The legal environment in the online privacy context also has a potential impact on the possibility for advertisers to target specific users. Also, the general stability of the economy especially pertaining to the IT industry is relevant – a potential financing bubble can cut the lifeline of many companies still developing towards a sustainable business, just as happened in the dot-com bust at the turn of the millennium. These assumptions are summarized below:

1. The companies are executing well
2. The legal environment will remain stable
3. The general economy in the IT industry will remain stable

5.2 Key findings and implications from empirical research

There are five key findings from the empirical research conducted in the previous section of the paper. They are based on the business models of the companies and their relevant metrics and consider the overall activities of the companies and how they are situated in the market. The findings have implications for potential new entrants into the market and they are discussed after the finding has been presented.

1. *Current subscription-based services and advertising-based services are doing fundamentally different things.* Currently, the subscrition-based and advertising-based companies presented in this paper are competing for wholly different markets that share only the commonality of requiring their users time for the service. Despite the importance of a user's time in the competitive market, the example of Pandora versus Spotify should be painted more clearly from the point of view of the value proposition studied in the empirical portion. Essentially, Pandora is offering its users a personalized streaming music radio that is listened to passively – something that at its very core is an attempt to digitalize FM-radio. Spotify, on the other hand, is essentially leasing the user all the music in the world so he or she doesn't actually have to buy it all at once – this, at its very core, is an attempt to replace CD sales and .mp3 sales on iTunes and similar digital music stores. These lead to different user experiences and fulfill different consumer needs, and thus seem to be monetized differently as well. The other companies exhibit very similar traits to Pandora and Spotify in their respective leagues when looking at their value propositions and key activities. This seems to be an example of aligning the revenue model with the nature of the product, as described by Dubosson-Torbay, Osterwalder, and Pigneur (2002).

   When examining the value propositions further, MOG is the only exception of trying to compete in Spotify's market with a primarily advertising-based revenue model. This is something We7 has deviated away from in 2010 since the cost structure doesn't seem to work in terms of higher music licensing costs for on-demand in comparison to radio-like playlist music. Otherwise, looking at the value propositions and by using the services, it seems to hold true that the advertising-based companies are competing against traditional radio with a passive listening experience (press play and listen to what comes), whereas subscription-based companies are competing against music sales in CDs and online (search and listen to specific songs and albums). Apart from MOG, it was difficult to find companies to study that were breaking this trend (advertising-based for passive listening and subscriptions for active) and thus none were included in the study[1].

Implications: There is a clear divide in the markets being sought by the different companies operating different revenue models. This difference isn't very apparent to the uninformed citizen, since many of these services are marketed in similar fashions, but becomes apparent when studying the business models and using the services of the companies studied. SiriusXM, the satellite-based radio company that has attempted to replace traditional radio since the turn of the millennium with a subscription-based radio service, has sunk from its year 2000 peak of a $61 share price to a $2.16 share price on May 9th, 2012 (Yahoo! Finance, 2012). This goes to show the risk of linking a value proposition with an incorrect revenue model, in an environment where users can get similar value through an advertising-run model, as well. SiriusXM is not performing well, but still remains a question mark as to whether it will sustain in the long term.

The main implication, then, seems to be that choice of value proposition has a very significant role on the choice of revenue model, and vice versa. This can be seen in the clear divide of the current market in the studied companies in terms of value proposition linked to revenue model, perhaps most clearly when looking at the large players Pandora and Slacker versus Spotify and Rdio.

2. *On-demand music services that monetize through subscriptions primarily are operating in a winner-take-all market*. A multi-sided platform market such as online on-demand music, where the user selects which song to listen to and when, is likely to be served by a single platform since multi-homing costs are high, network effects are positive and strong, and demand for differentiated features is weak (Eisenmann, 2006). When looking at the value propositions and business model building blocks of the subscripion-based revenue model companies, they are staggeringly alike, apart from Spotify's model which also

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[1] A company called Grooveshark is offering advertising-based free on-demand music, but was left out of the study as it seems to be in tremendous legal battles with every major record label and thus its true viability as a company cannot be determined.

incorporates a free ad-based version (probably built to entice users to familiarize themselves with Spotify and convert to a paying subscriber).

Multi-homing costs across these platforms are very high since it would require paying multiple subscriptions with minimal benefits from doing so. Network effects are likely *to become* positive and strong (social features built-in to the platforms will strengthen as user numbers grow), and demand for differentiated features is likely to be quite weak – the main feature of these platforms is having all the music that exists available all the time, and it is safe to assume that all players will eventually have the same access to every label, considering the importance of digital distribution when generating returns for content ownership (Galea, 2007).

The demand for differentiated features is also shown to be weak through the empirical results, which show that these companies are essentially offering their customers the exact same service with very similar features. Once the companies have all the music there is, the remaining potential for differentiated features revolves around the potential innovations around the music and other audio content. If someone could create a demand drawing features that others could not replicate easily (exclusive content, as an example), then this might set them apart. Spotify is attempting the acquisition of exclusive features with the Spotify App Finder, and has also partnered officially with Facebook. Close integration with the social network also increases Spotify's customer proximity, increasing the likelihood of the successful performance of its business model (Rajala, 2009). Spotify's prospects, in general, look quite good.

Girotra and Netessine (2011) described the basis for how the subscription-based companies are transferring asset underutilization risks to the end-user, which is a benefit that advertising-based companies don't have. However, transferring this risk, considering the relatively low cost of maintaining digital assets, doesn't go nearly far enough to outweigh the risks of entering a market displaying winner-take-all tendencies.

Implications: This is a substantial finding in relation to the market in general. Winner-take-all markets are difficult if not impossible to enter since those who come second or worse end up with nothing or near to nothing. It is probably already too late for future companies to enter the market to compete with on-demand music services Spotify, Rdio, and Deezer who are already rushing to acquire users and assume the dominant position in the global market. All of the companies have significant funding, with Spotify leading the way with a staggering $189 million in total venture capital raised. Deezer, in turn, is racing to 200 countries during 2012 and Rdio is quietly adding more countries and operating leanly whilst moving forward.

Even though high switching costs are a significant barrier of entry (Jelassi and Enders, 2008), the subscription-based music market doesn't necessarily display high *switching* costs. Despite the brief hassle of shifting to a new app and having to reconstruct personal playlists and music preferences, it is quite easy to change from one service to another. Additionally, the prices of these services are practically identical and will likely be in the future as well (Ghosemajumder, 2002), meaning it doesn't exactly cost anything extra to change services. However, since the benefits of switching are also minimal due to very similar value propositions and non-differentiated features, the emphasis remains on the multi-homing costs, which are high – not the low switching cost.

3. *Advertising-based companies are not operating in a winner-take-all market.* The primary reason for this is that multi-homing costs are low due to the relative ease of switching from one website to another or one application to another. This can be seen in the data as well, since each company boasts a wide variety of distribution channels for desktop and mobile accessible to most everyone. This multi-homing cost can be increased via exclusive distribution in more expensive channels for the consumer, such as integrated solutions in home entertainment systems and cars, where it is difficult and expensive to multi-home to another service if your car or home stereo comes with one service but not another. Companies such as Pandora and MOG have successfully begun to execute this approach. It is, however, likely that channels such as home entertainment systems and car dashboards will begin to operate on more open instead of proprietary platforms, which would make these "exclusive" channels available to all of Pandora's and MOG's

competitors as well. A good first example in the market was Saab's iQon dashboard, running on Google's Android platform (Saab Newsroom, March 2011).

Network effects in advertising-based companies seem to be positive and strong. If users are knowingly using a service that has advertising, then more advertisers will help them out by making successful targeting more likely (Jelassi and Enders, 2008). In turn, as user numbers increase, advertisers are more drawn to the platform as well. Finally, demand for differentiated features can potentially be quite high in free services where users can multi-home, but this depends on the value propositions available in the market.

Implications: Internet users are accustomed to using more than one service for the same purpose. The average person has about two active email accounts (Radicati Group, 2011) and social networking sites such as Facebook and Twitter are generally used in a complementary fashion for different purposes where users multi-home when product differentiation exists (Mital & Sarkar, 2011). There is no reason why similarly monetized and differentiated digital audio services should not exhibit similar multi-homing tendencies in their user bases. When looking at the value propositions and key activities of Pandora, Slacker, 8tracks, and MOG, it is apparent that each fits a different purpose and caters to different situations and content demands put forth by listeners. There are many more ways to differentiate in the advertising-based market since consumers are able to multi-home and discover new features that would be too expensive to try out in subscription-based services. It is imperative to differentiate in this market.

4. *Advertising-based companies incur significant costs from operating advertising sales teams.* All of the key companies operating an advertising-based revenue model incurred the heavy cost structure of running an advertising sales team. Where as Rdio and Deezer employ about 70 people, Pandora has 530 and MOG 120 employees. Spotify, who runs a hybrid model, also has 300 employees – the significant variation clearly comes down to the footwork required to run a successful advertising strategy that can begin to penetrate a more local market (New York Times, 2012).

The subscription-based companies do not incur this cost, but as discussed in the second implication, the bear the significant risk of falling second or worse in a winner-take-all market, which can in many ways be even considered to outweigh the cost of running an advertising sales team that can at least stand a chance of being a financially viable company despite being second or even fifth place in the market.

Implications: Any new company entering the digital audio market has to decide whether to try and outmuscle or outwit large incumbents in a winner-take-all market, or bear the operating costs of building an efficient advertising sales team that can actually make money sustainably, something even Pandora is still struggling to do despite being a clear market leader. The customer proximity benefits described by Rajala (2009) are also harder for advertising companies, who have to serve two separate groups of customer. Nonetheless, advertising in the online context at least has a significant foothold over offline mediums (Anand & Shachar, 2009 and Chandra, 2009), and it isn't as if building successful advertising sales teams hasn't been done before.

5. *Capital requirements for competing in the market are likely to be substantial.* Considering the average funding gathered by all of the companies studied regardless of the chosen revenue model, it is very likely that new entrants will have to have substantial capital to begin making significant inroads into the competitive field. The cost structure finding discussed previously highlights this finding – subscription-based companies have to compete to live in a winner-take-all market and thus have the financial means to do so. Advertising-based companies in turn can grow their advertising team in line with their growth in listenership, but need significant financial means to hire the required amount of people. The competitive field there also goes up against established traditional FM-radio channels that have established sales channels.

   Implications: Because the competition is extremely well funded and the cost structure risks are substantial, any new entrant into the market needs to examine options for minimizing these risks in order to garner traction with potential investors to fund product development and go-to-market activities, perhaps at more affordable rates than the previous investment levels the companies have seen. Formulating the value proposition in close formation with the revenue model is a central aspect of getting it right, since it effectively determines what cost structure implications and market entry risks the new entrant will end up having to deal with.

5.3 Which revenue models should future companies emphasize?

Following analysis of the studied companies' business models, metrics, and the key findings presented from them, there is one central element that sways an otherwise arguable case. The subscription-based music market is being competed for fiercely by three well-funded and fast-growing companies (Spotify, Rdio, and Deezer). Spotify CEO, Daniel Ek, commented that every priority for the company is now on growth instead of profitability (TechCrunch.com, April 13th, 2012). Deezer CEO, Axel Dauchez, said late in 2011 that his company wishes to be the first truly global music service, as it announced plans to launch in 200 countries before the end of 2012 (PaidContent.org, December 7th, 2011). Rdio, meanwhile, has quietly without much commentary grown to nine countries and has outpaced competition to markets such as Brazil. There is a clear race to acquire users (Hagiu & Yoffie, 2009) and with all the traits of a winner-take-all market (Eisenmann, 2006), it seems as if the train has already gone by for subscription-based digital audio.

Digital audio companies of the future should emphasize advertising-based business models and design value propositions aligned with that revenue model, due to the winner-take-all tendencies visible in the market for subscription-based services.

Despite the costs of operating an advertising sales team, which is clearly burdening the companies operating with that model, the possibility for creating a financially viable company still exists since winning the market outright isn't required and specific niches are very likely to exist. The wide product differentiation shown by Pandora, Slacker Radio, 8tracks, and others operating in the advertising-based market proves that there is very likely to be significant space for other feature sets and content libraries that users can multi-home to for different usage contexts and needs.

Additionally, in line with Karjaluoto et al. (2007), there needs to be a technological framework available to allow advertisers access to reach mobile listeners of Internet-based digital audio. With the early players such as Pandora this market is clearly beginning to emerge, but the advertising-based market clearly allows for development in simply allowing advertisers to reach Internet-users via audio, whereas similar possibilities don't exist in the subscription market to the same extent, bar the hybrid models of Spotify and MOG.

The only way subscription-based services could begin to differentiate and break the winner-take-all tendencies of their market would be to have exclusive content not available on other subscription-based services or for free anywhere else, or irreplicable features. This kind of content is unlikely to be found in the realm of music, and is an approach Slacker Radio is trying to make in heading for the subscription-based market with their talk content from ESPN Sports and ABC News. This content, however, is also available for free on the service using their main ad-based product, so it doesn't really shift the fundamentals of the subscription-based market as users can multi-home to the free, ad-based content and then jump back to another subscription-based service or advertising-based service.

At the end of the day, Slacker has almost $70 million in funding and thus has been able to use the kind of muscle needed to negotiate the kind of content from ESPN and ABC that would theoretically allow it to differentiate in the subscription-based market beyond music. This kind of accessibility to exclusive content that would primarily justify the cost of a subscription for a user *and* secondly differentiate from other major players is, however, very unlikely to find a way into the hands of new market entrants, and sets the barriers of entry even higher (Jelassi and Enders, 2008). This is another reason to avoid going after exclusive subscription-based content, unless armed with the proper resources and funding.

Incumbent subscription-based companies are definitely not operating in a bad industry. It's just that new entrants have no more room left to enter the market competitively in the future, since the current players have already gone so far. As mentioned earlier in this paper, the basic act of distributing content and monetizing via ads or subscriptions is inherently so similar across all media, that the importance of being able to differentiate in the business model is extremely important, which we have seen in the findings of this paper.

6. CONCLUSIONS

With the findings presented in the previous section, we can begin to conclude the study. We will first revisit the research questions and discuss these in relation to the main findings. Discussion concerning the future of digital Internet audio will open up thoughts concerning the industry and possibilities that new entrants will have in years to come. Lastly, some closing remarks and suggestions for future avenues of research will bring the paper to a close.

6.1 Revisiting the research questions

The research question of the paper initially asked: should digital audio companies of the future build a revenue model with targeted advertising or paid subscriptions from the listener? Based on an initial prediction, it was then also asked whether it would be reasonable to try and monetize based on advertising due to the digitalization of the market and the arrival of significant potential for digitalized advertising revenue that could come along with it.

The prediction leading to the secondary research question as it is was rejected, but was in the correct direction. The most significant reason to focus on advertising, and answer to the main research question, was the winner-take-all tendency of the subscription music market, which is emergent from the study of the subscription-based companies' business models and using their services more closely, showing how similar they already are. This essentially means my initial thoughts were misguided; the main reason for supporting advertising-based revenue in future attempts at digital Internet audio was not due to the digitalization of the market in general and attempting to capture the advertising market. Rather, the main reason for suggesting advertising-based revenue models is the fact that the other option, subscriptions, seems to have gone by as an opportunity due to clear winner-take-all tendencies of the market and the significant funding already pushed into the industry. With little room for differentiation in feature sets, it seems unlikely that new upstarts entering the game so late could still have a chance to properly compete.

My initial thoughts, which led to the secondary research question, were themselves not entirely wrong as stated, but they were hard to show to hold true at the current point in time. Clearly, Pandora's growth figures in the US do their part in showing the potential of digitalized audio advertising dollars, but the competitive market still needs to grow further and Pandora needs to be challenged in the US and globally as well to truly see if audio advertising dollars begin to go digital in significant amounts compared to today's advertising budgets – a clear avenue for future research once the competitive market has blossomed further during the next few years.

6.2 What is the future of digital Internet audio?

This paper has focused on digital Internet audio. It quickly became apparent that this is still largely synonymous with music, when looking at the active competitors in the market. Only two companies exhibited content that wasn't music only; Pandora includes comedy and Slacker Radio features talk portions from ABC News and ESPN Sports, whereas every other competitor was solely focused on delivering music to the listener base it had gathered. There is a large content gap between traditional FM-radio and their Internet-based counterparts. The celebrity of the radio DJ is still existent in FM, but the talk personalities and celebrities are still largely missing from Internet companies, which are largely focused on delivering music. Startups have begun to enter the talk audio space, such as Stitcher (podcast aggregation) and Snackr (computerized text-to-speech engine to deliver text news to the listener as audio). With the heavily funded competition from incumbents that are focused on music, there seems to exist a clear gap for differentiation with varying content that goes beyond music.

Rajala's description of the benefits regarding openness of innovation (2009) could be applied to the creation of content in the context of this industry, which was just identified as one possible differentiation point for future digital Internet audio companies. Platforms that are open to user-generated content outsource the risk of content creation costs (Girotra and Netessine, 2011) whilst increasing differentiation in the market in general. The path shown in user-generated video content by YouTube and Vimeo, which have shown staggering growth rates, is likely to find a replicator in the audio space as well sometime in the near future due to these points, perhaps tied to some form of replicated FM-radio experience. The digitalization of the car (Saab Newsroom, 2011) will have a significant impact on developments in the market.

Advertising with audio in a mobile and contextual setting has a lot of possibilities as well. As Karjaluoto et al. (2007) describe, the mobile setting is a “call-to-action” media rather than an attention media and a context-rich digital audio environment could open up various different possibilities for new forms of audio advertising. As long as the prerequisites set forth by Vatanparast & Butt (2010) are met concerning the success factors of mobile advertising, one could imagine driving a car with a digital Internet radio that is context-aware, playing an advertisement for cheap petrol on the same road the listener is driving on, and perhaps offering a discount if the listener acts immediately and heads for the petrol station directly. In addition, of course, this advertisement would have been played since the car’s petrol level sensor had fed information that the listener was low on petrol, and thus in need of the advertised product, leading to higher utility from the advertisement (Chandra, 2009).

An interesting addition to this type of development in radio advertising could be related to the interactivity of the advertisement, the adoption intention of which was studied in the context of TV (Cauberghe & Pelsmacker, 2011). Interactive digital television (IDTV) allows users to interact with whatever is being shown on the TV through their remote control, and the article shows that the only true barrier to broader adoption of the technology amongst advertisers is development to a stage where consumers have a high level of perceived ease-of-use. Perhaps interactive digital radio could be another development avenue for advertisers – through voice control interaction, the driver in the previous example could have immediately purchased the petrol, perhaps at a discount provided for immediate purchase.

Whatever new entrants end up doing, not only do they need to set their revenue models around advertising, they also need to build their value propositions around such a monetization format so that the value proposition and revenue model go together and are matched with the nature of each other (Dubosson-Torbay, Osterwalder, Pigneur, 2002).

6.3 Closing remarks and suggestions for future research

This paper has studied whether new entrants into the digital Internet audio market should focus on monetizing through advertisements or subscriptions. It has found that the subscription-based market is already undergoing a race to acquire users and displays strong tendencies towards a winner-take-all market, and based on this suggests that new entrants enter the advertising-based market which displays a much stronger possibility to differentiate from incumbent competition with varying feature sets.

Three avenues for future research have become apparent whilst conducting this study. A brief introduction to each is presented next.

1. After the market has matured further, will the subscription-based music service field truly come out as a winner-take-all market? In a few years time it will be possible to more concretely assess what has happened to the competitive field and whether or not one of the current competitors has emerged as a clear winner. Despite displaying clear tendencies to becoming a winner-take-all market, it is not a fully certain outcome. Some new innovation amongst the incumbents might increase the demand for differentiated feature sets, or external partners such as mobile operators may keep existing players alive in the market by providing music as a service as an add-on to their customers' monthly mobile plans. Orange is deeply tied with Deezer in France and the UK, whereas Spotify is heavily reliant on TeliaSonera in the Nordic countries, and this may keep the marketplace alive for more competition, at least to the extent that there are mobile operators without similar music partners.

2. Will audio advertising dollars go digital at a sufficient rate to foster a sustainable advertising-based digital Internet audio industry? Despite the rapid growth of Pandora, it is still suffering from profitability problems, even if it is the clear market leader in selling advertising for digital online audio. If the competitive field around Pandora becomes more vibrant, it remains to be seen whether or not the advertisers can keep up and provide the new competitors with enough advertising dollars to keep the new industry sustainable.

3. Research in revenue models specifically seems to be lacking amidst the swathe of literature on the entire business model. What options exist in different contexts for revenue models and why truly are they chosen – how are they made to fit naturally with

the value proposition as new innovations emerge? (Dubosson-Torbay, Osterwalder, Pigneur, 2002) Successfully paired value propositions and revenue models could be studied by looking at competitors that had similar value propositions but different revenue models (or vice versa) but failed. Any emergent patterns that could be generalized across industries could then be used to create a mathematical model or conceptual framework for pairing the value proposition with the correct revenue model.

This was an interesting paper to write considering how current the industry being considered was at the time of writing in spring 2012. The speed at which developments were occuring was clearly apparent in that several facts had time to change during a period of only a couple of months, and it is extremely possible that significant shifts in some direction or another have already happened behind the scenes.

In all likeliness, some new startup somewhere in the world has already started building a new company that fills the gaps in the market that have been presented in this paper. My own personal view is that the main catalyst for a strong change towards digital Internet-based audio that is advertising-based will be the digitalization of the car. Once the car dashboard forgets FM and moves into the Internet age, and once networks are fast and reliable enough to support that happening, there will be nothing to hold back Internet-based digital audio companies from truly capturing the market for advertising. There is a chance that this will take longer than many early adopters might think, since the rate new cars are bought probably isn’t nearly as fast as the rate at which consumers buy new smartphones. It will be an interesting change to watch unfold, however fast or slow it may occur.

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