CHANGING THE BEAT: TECHNOLOGY AND THE MARKET FOR DIGITAL MUSIC

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In this essay, Greg Mangan explores the impact of technological progress on the music industry. He skilfully presents a price-discrimination model, showing that it can provide a profit-maximising strategy for the sale of digital music. Interestingly, he concludes by arguing that offering free music as part of a price-discrimination model is a viable long-term strategy for this dynamic industry.

Introduction

Music is an audible art form, not a commodity. Markets for recorded music exist because technological advances created goods that could be consumed in lieu of being present for actual performances by the original artists. Distribution of recorded music is an innovation of the 20th century, a flash in the life of an art that stretches back millennia.

Recent decades have seen a sharp decline in music sales, however, with many proclaiming these "rough times" as the end of an era (Albini, 2014). The problem is that the fall in demand for recorded music is being wrongly equated with a decline in the music industry as a whole. A significant factor causing this fall in demand has been the advent of music piracy - illegal downloads from file-sharing sites. However, this has overshadowed a more important issue: the general impact of technological change on music markets.

This essay does not deal with music piracy but rather with this general impact of technological advancement, specifically the modern ubiquity of the internet. It firstly explains how free streaming of songs is reducing the demand for digital music. Secondly, a simple price-discrimination model for the artist is presented. This model puts emphasis on the live performance aspect of music rather than the recorded which, it is argued, ultimately benefits the artist.

Background and Key Concepts

The art of music should be seen as distinct from the music industry. The music industry is a catch-all term which refers to artists, producers, publishers, music labels, concert promoters and many more. When referring to 'the artist', it is assumed that they have control over the pricing of their work. This essay will refer solely to pricing of digital music in an Irish context, but its implications hold for American and European markets also, where the industry is similar in structure.

Current pricing of 'music downloads' across a variety of online stores such as iTunes, Amazon, and Bandcamp see individual songs retailing at either 79c, 99c or €1.29. In the Irish market, full album releases retail for between €7 and €13. There is very little price competition among retailers.

Music streaming services generally offer online access to an expansive database of music through both a web browser and a smartphone application (also allowing songs to be downloaded for offline access) for a monthly subscription fee. The two largest of these services are Spotify and Deezer, who currently account for two thirds of the global market (Mathews, 2012). Both charge €9.99 for their premium streaming service, which will be referred to as 'convenient streams'. Both of these companies offer a free version of their service - with limited mobile access, mandatory audio advertisements and no offline downloads - which will be referred to as 'inconvenient streams'.

Other large sources of inconvenient streams come in the form of music videos. Through websites like YouTube and Vevo, users can watch a song's accompanying music video for free, but must watch short advertisements before the video plays. These videos are often consumed as inconvenient streams, as users can listen to the song without watching the video, and are similarly restricted in that the videos cannot be downloaded.

Depreciation

Causing the Depreciation

The issue with music streaming services, specifically the inconvenient streams, is that they effectively depreciate full price music downloads, although this is not the intention of the companies offering these services.

Firstly, music videos are made available to stream primarily as a form of marketing, and constitute a sunk cost. While they are almost never sold on markets, they can still generate revenue from embedded advertisements, but this is not their main aim. Music videos make individuals aware of the artist and their work, adding value to an artist's overall image, offering an extra dimension to engage with other than sound, and attracting new fans (or customers).

Secondly, inconvenient streams from both music videos and music streaming services are offered as a way of sampling the full product. In the case of the music video, after watching the video a user may follow links to websites where the artist's music can be purchased. In the case of streaming services, an individual who is attracted by the free steaming service as a whole may convert to the premium service for the added features. This 'freemium' strategy is the usual business model of music streaming companies.

However, regardless of original intent, these inconvenient streams are affecting the 'access versus ownership' trade-off in digital music due to technological development. *Ownership* of digital music, (i.e. the ability to play a downloaded digital song on any compatible devices, whether online or offline), can be seen as being strictly higher-valued than *access* to digital music by all individuals. This is because in virtually any situation where a user can access a song through a free or premium streaming service they would equally have been able to play the song if it had been previously downloaded. However, the converse situation is not necessarily true.

The crux of the difference in utility lies in internet access. Technological developments have meant that the utility of accessing a music stream has increased for consumers. Whereas a decade ago, having access to a music streaming service would not have carried much value for the average consumer, the current widespread availability of high-speed broadband (Popham, 2012), the availability of 3G mobile internet and the low entry-price of smartphones means that the utility of music access has increased relative to ownership, reducing this gap between their valuations.

While the value of music access is increasing relative to ownership, equivalently the value of ownership can be seen to be decreasing relative to that of access. As such, it is this technological development, and its effect on individuals' valuations of inconvenient streams, that is devaluing music ownership and leading to a fall in demand for full price music downloads.

Addressing the Depreciation

In its origins, the premium streaming model aimed to address the issue of the overall fall in music sales both physical and digital. There was a sense of recouping losses, as the hope was that a consumer who was not willing to pay €10 per album would be willing to pay €10 per month for music access, rather than not paying for music at all. There have been many issues with this model; for example, there are still only a small proportion of Spotify's active users that are actually premium subscribers, and furthermore the amount in royalties that are distributed back to the artists themselves is minute in many cases (Edwards, 2013).

Another form of response to the fall in demand could be to build a long-term model around price discrimination in the market for digital music - lowering the price for specific individuals. Price discrimination assumes that the seller may separate the markets and prevent reselling between them (Varian, 1999). This is possible in the digital music context as most online retailers are selling a license to the music which does not grant any rights to resale, reproduction or redistribution (Amazon, 2014). A company called ReDigi which tried to circumvent this, launching a marketplace for pre-owned digital music, has run into many legal issues in recent years (McIntyre, 2014).

Firstly, the case of zero-pricing for music downloads offered by all artists to all consumers in a market should be rejected. This would leave relative prices unchanged (as those of current pricing). Lesser known artists are no more likely to be consumed than before. While there should be a greater quantity of music demanded in the market, these smaller artists are no more likely to be 'discovered' than before. Conversely, larger artists (whose music was already being purchased) would see a substantial drop in revenue, with very little added benefit, as they are no more distinguished from lesser known artists than before.

However, artists targeting specific individuals with free music downloads (while still maintaining current music download pricing for the rest of the buyers in the market) may be a more viable solution as this creates price incentives for individual buyers. The individuals to be identified are those who are most likely to have a high preference for an artist's music. Though it may seem counter-intuitive to offer free music to the group of individuals most likely to purchase it, it is justifiable if you widen the scope to look at the market for concert tickets.

Two-good Model

Price Discrimination

The analysis up until now has been focused specifically on the market for digital music, but expanding to a two-good world, with digital music and concert tickets, allows a new outlook. Proposing a simple model, an artist could operate a system of price discrimination in the market for digital music with two price points - the current price-point and zero-pricing - with the aim of increasing demand for and maximising profits from the sale of concert tickets.

As mentioned, price discrimination assumes that the artist can separate the market, which in this case translates to identifying those individuals who are most likely to attend their concerts. This can be done in any number of ways by the artist, for instance targeting individuals that have previously attended their concerts, individuals that have attended other artists' concerts where they have been the opening act, and targeting individuals that engage with them through social media platforms. The scope of targeted individuals and so the extent to which they discriminate can be at the discretion of the artist and be dependent on factors such as their financial standing.

The Artist

Maximising profits through concert ticket sales rather than albums sales would seem like an economically sound objective. While artists' contracts with record labels may vary hugely, they can usually only expect a cut of around 10 per cent from album sales: for example, iTunes pays 14 per cent of sales in artist royalties (Byrne, 2012). The artist's cut from concert ticket sales is generally higher, as it is sometimes perceived as a loss-leader for record sales by the record labels, although this is beginning to change as concerts become more lucrative (Byrne, 2012).

While some musicians are in fact profit-maximisers, it is also fair to assume that a certain proportion of them are not. Many artists may simply wish to have his or her art, both live and recorded, consumed by as many people as possible. This still fits within the remit of the two-good model, however. Offering free music downloads to targeted individuals is certainly going to have a positive effect on the distribution of an artist's recordings. The expected increase in demand for concert tickets will have a similar effect. While supply of concert tickets is fixed over certain ranges, an increase in consumer demand for them does not translate directly to a higher price, but rather a larger venue being booked for the artist. Performing in a venue with a higher capacity (and selling a higher quantity of higher-priced tickets in the process) allows the artist's live performance to be seen by a larger number of individuals.

The focus of the proposed model has been the effect on the artist, with little said about the interest of the record label. Record labels were much more importance in the past, providing capital, skills and advice to artists who would otherwise not have been in a position to release recorded music. Nowadays costs of recording and distribution have fallen to the point where anyone with a laptop can conceivably record and publish their music online. That is not to say that record labels have become redundant, but rather that artists can feasibly be successful (in whatever way they choose to define that success) without signing a recording contract.

The industry middlemen have been slow to accept this technological change. This is a particular problem in the US where the Recording Industry Association of America (RIAA) are often accused of regulatory capture – its former Vice President of Litigation was recently made second-in-command at the US Copyright Office (Klein, 2013). Copyrights and patents are used in ways that seek to protect the profits from dated music industry business models, and hamper the technological developments that are changing how individuals value and consume music.

Beyond the two-good world presented there are alternative revenue sources for the artist. Most sell merchandise such as clothing, accessories and poster prints. Ironically, an unlikely source of revenue has re-emerged in the form of a recent resurgence in vinyl sales (Topping, 2014). Vinyls have become a collector's item, with a large amount of modern artists selling limited releases of their new albums on vinyls, which are marketed at their die-hard fans. This underscores the idea that the music industry is not actually in decline, but rather going through structural change.

Conclusion

Though technology effectively created the market for recorded music, modern advances have seen the value of the industry's products fall considerably. In particular, free streaming of music is having a negative impact on how individuals value music ownership and is causing a fall in music sales.

Considering a pricing model for this market in transition, it has been shown that a simple price-discriminating model in the market for digital music can function as a profit-maximising strategy for the sale of concert tickets. This is also a beneficial strategy for those artists who are not profit-maximisers.

While the concept of offering free music is not revolutionary, it is generally perceived as a once-off promotional exercise. Viewed instead as a long-term model, and incorporated into an intelligent price-discrimination strategy, the idea should be adopted by the artist to keep time with changes in technology.

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