The Scrobble Industry

The role of Last.FM in the current online music industry

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Date:	5th August 2011

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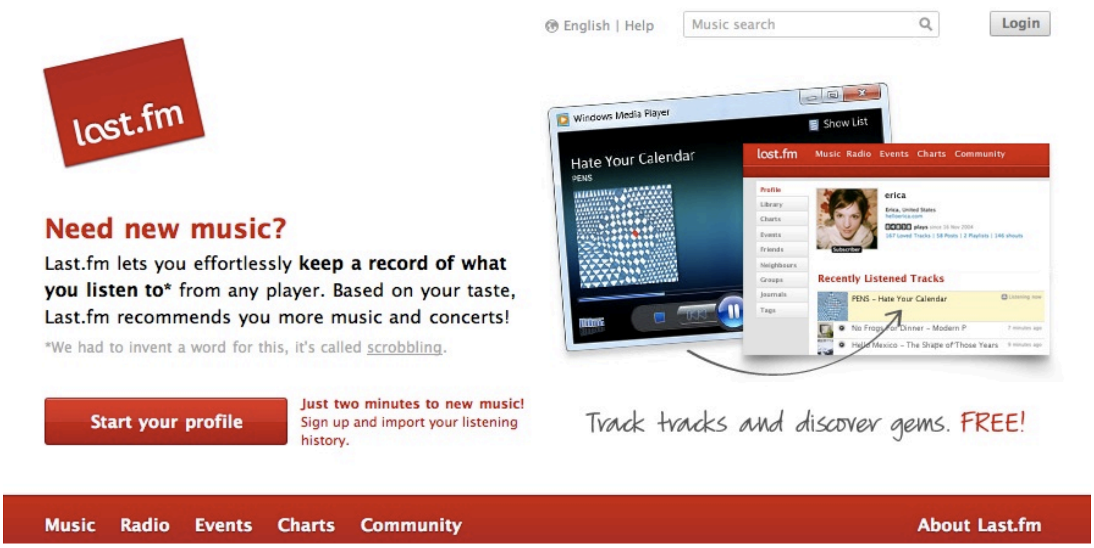
Scrobble:

'To publish one's music-listening habits via software, as counted events when songs or albums are played, to selected internet services in order to track them over time, out of curiosity and/or to make them visible to others' (Wiktionary, 2011)



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Abstract

This thesis is concerned with the online and offline music behaviours of UK youth aged between 16 to 30 who use the music social networking and recommendation website Last.FM. By studying the behaviours of this active music user group, I uncover how young UK users access information about music and the music itself and how they interact with each other and with the content on the website itself. The past and present situation in the music industry is discussed, changes within the industry are analysed and reasons to uncover why the business model adopted by the major record companies in the twentieth century that is now failing are exposed.

The information provided by the target group aims to provide us with a clearer idea of how users are currently interacting with music online and thus gain an insight into changing behaviours since the widespread digitalisation of music. Some of the main findings from the research show that the use of Last.FM results in a diversification of music listened to, increased access to concert information and thus concert visits (geographical proximity permitting) and also shows how online streaming has become an increasingly popular means to access music online. This research provides a foundation for further in-depth specified research into changing music access behaviours which could help establish a new online music distribution model.

1. Introduction

"Without music, life would be a mistake." - Friedrich Nietzsche

Although some may find the above statement somewhat excessive, I myself, along with a large portion of the global population, have long recognized the importance of music in our everyday lives. Music is an outlet of expression, a means to convey emotions and moreover it is a binding factor as it has the potential to bring together cultures, groups of individuals and even raise consciousness about certain issues. Alongside all of above, music is also primarily a source of entertainment and pleasure.

In our modern day society, the ability to create, produce and share music has never been easier. The low cost of instruments and auxiliary components means that for all individuals, both amateur and professional, in the developed world and even many in developing countries, offers them the opportunity to create music. Thanks to technological developments in the field of music software, it is possible for many amateur music makers to obtain various software which provides them with the opportunity to create, edit, remix and publish music. Additionally, the technological advancements in the last twenty years have also given rise to widespread Internet access and means that music can readily be uploaded and shared either with small groups of friends or posted openly online for other users to listen to.

These advances provide musicians with a new platform by which to share and promote their music, which in turn should realistically lead to more exposure and thus a larger base of people who will purchase their music either directly or via streaming applications. The platform that the Internet provides artists with means that the artists themselves have more opportunities than they would have had during the most part of the 20th Century. During the previous century, it was the five major record companies, namely Universal Music Group, Sony Music Entertainment, Warner Music Group, BMG and EMI, that controlled the majority of any music sold in record stores or heard on the radio. The music industry as a whole was therefore very dependent on how a record company supported and marketed an artist and would directly influence the amount of people they would be able to reach. With increased availability of music online through various channels, this offers many artists (amateurs and professionals) more exposure but also proves to be extremely problematic due to rampant illegal downloading and sharing of files that remains a problem today.

The fact that illegal downloading has seemingly become an ingrained part of music users behaviour online, there is the question of whether a new type of approach to how music is disseminated and information regarding music is shared needs to be adopted. An approach that ensures that on the one hand, artists can receive a fair remuneration for their art whilst the music users do not need to pay too much for a product they have increasingly become accustomed to having more choice in purchasing methods (freedom to download single tracks instead of whole CD albums) or even obtain free online (through online streaming and illegal downloads). Additionally, the vast amounts of music available online nowadays means that the way in which we interact with music, through the act of listening to it, obtaining information about it and sharing this information is changing. New online platforms for buying music such as iTunes and Amazon, online streaming services such as Last.FM, Spotify and Grooveshark are changing the way in which users access and purchase music. New online applications and websites that can thus potentially hold the key to forming a new type of business model for the industry.

Last.FM and the rise of Scrobbling

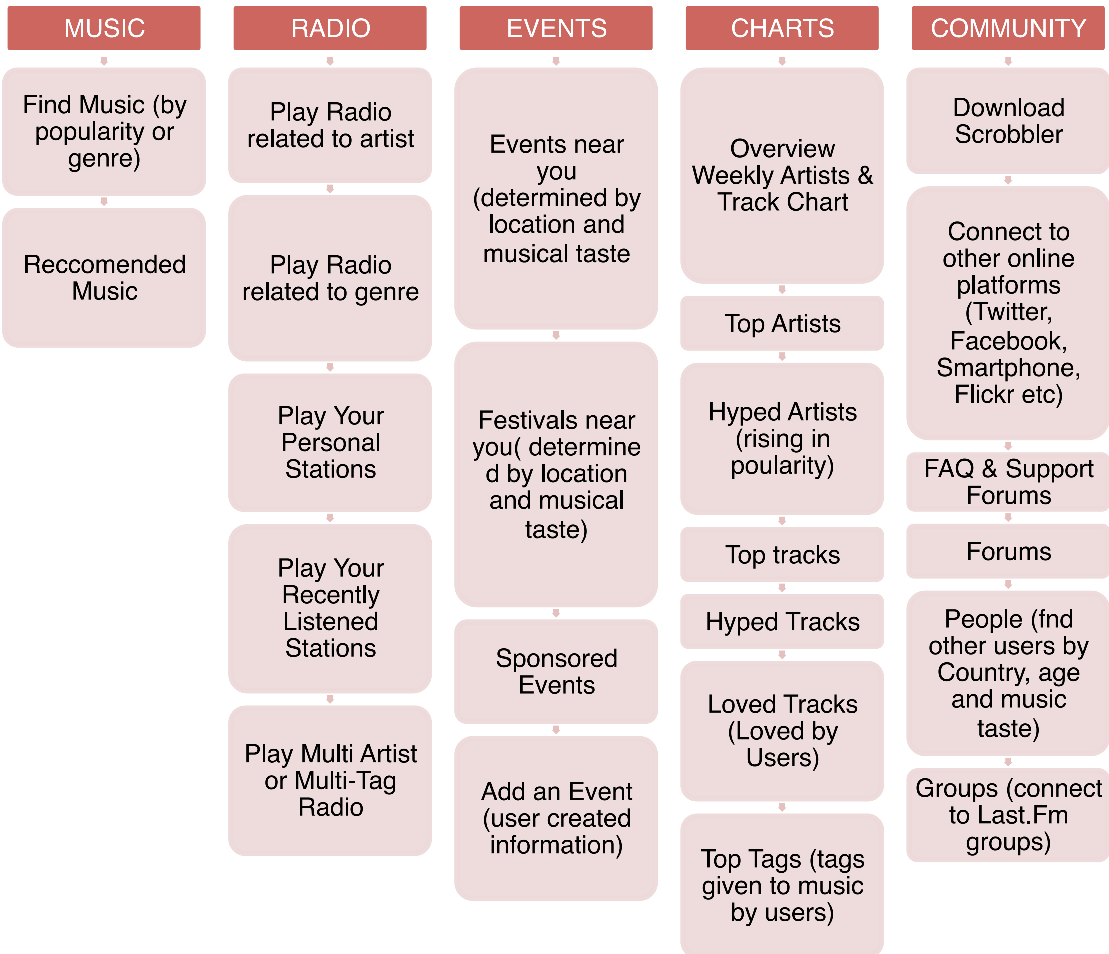
For this reason, I decided to use one such site as my main topic of research, namely the website Last.FM. Last.FM, by their own admission, is primarily a music recommendation service in which it records the users listening behaviours, which are tracked using an Audioscrobbler which when activated tracks all the music you listen to on your computer, mp3 player, mobile phone or other digital music playing device. This action has now been called ‘Scrobbling’ referring to the action of having the track registered online. The website as it is nowadays is made up of two initially separate sources, namely Audioscrobbler and Last.FM. Richard Jones started Audioscrobbler in 2003 as a computer science project whilst he was a student University of Southampton School of Electronics and Computer Science in the UK (BBC News, 2003).

Around the same time, Felix Miller, Martin Stiksel, Michael Breidenbruecker and Thomas Willomitzer, all from Germany created Last.FM in 2002 which was effectively a music community site and also an Internet radio station. The site worked by users creating music profiles of their favourite music which then created ever-updated playlists of their favourite music. By 2003, Last.FM had already won prizes such as the Prix Ars Electronica (Europrix, 2006) and in that same year realising that both their creations complemented each other so well, Audioscrobbler and Last.FM merged.

After building a large base of active users over the first few years of the site's existence, major media organisations started to realise the potential of the site and in May 2007, the American media conglomerate CBS Corporation acquired Last.FM for $280 Million but keeping the existing management team at the time in place. The CBS corporation which has a stake in various television companies, publishing houses and websites and the President and CEO Leslie Moonves said at the time that 'Last.FM is one of the fastest growing online communities out there' and that Last.FM's strength in building communities around music and syndicating content was "central to CBS" (BBC News, 2007). In reply to some concerns that a major media company had taken over what in effect was a user created independent website, one of the founders Martin Stiksel said "When we said revolution we mean that - we put the users in charge. CBS gets this. They understand that consuming media is changing, the patterns are changing." (BBC News, 2007). Last.FM currently has its main office in East London, employs seventy two people from various nationalities and from the latest data from 2009 released by the site they claim to have around 40 million active users over 190 nationalities (Last.FM, 2009).

Last FM site structure

Apart from being primarily a recommendation service, the Last.FM website is made up of five main hubs namely Music, Radio, Events, Charts and Community. The section below describes the various options made available for users to access through these five mentioned hubs.



The music section provides recommendations of most popular artists according to the users taste and also the most popular artists from the user database, also searchable by genre.

Secondly, the Radio section is where users can listen to playlists of certain artists, genre’s or relating to their own music taste however as of all users now must pay GBP3/ €3/ $3 per month (not in UK, USA and Germany) due to the need for Last.FM to pay licensing fees for the music that is being listened to.

Thirdly, the events section provides the users with listings of artists they like according to their music library and it can also be set to a certain region so to further personalise the user experience.

The fourth section is the Charts section which provides users the chance to see which were the most listened and most hyped tracks and artists for the last week.

Finally the Community section provides the user the opportunity to search for various Last.FM group pages or search for individual users using the option to define age, nationality and music taste.

The users own home pages and dashboard are a collection of some of the most popular services provided by the website. On the users home page they can view their own charts, friends’ charts, events, recommendations and loved tracks.

Last.FM and other emerging music applications

Last.FM is an interesting test case as sites such as these could play a pivotal role in determining the future of the music industry, which is rapidly changing and adapting as a result of increased music piracy, changing technologies and more user choice. It has become clear that there needs to be a revision of the business models adopted during the 20th Century in order to accommodate an increasingly digitalised world.

In the last decade, the most successful single online application for selling music has been Apple’s iTunes Store. The application which was originally launched in April 2003 has sold over 10 Billion songs, a landmark reached in February 2010 and sells approximately 46 tracks a second (TG Daily, 2010). Apple claims that the iTunes store has approximately 13 Million songs in its catalogue and has been the number one music vendor in the USA since April 2008 (Apple Inc., 2008). The success of the iTunes store coincided with the huge success of Apple's line of iconic mp3 players, the iPod, and it is the success and ease of how users can carry around entire libraries with them on one digital device that have altered demand for how and when users want to access music.

However it seems that with online piracy still widespread, users still feel they do not need to pay for music or that the cost of purchasing music through stores such as the iTunes store is still too expensive. Therefore other various distribution models are being explored and are increasing in popularity, especially online streaming applications. One such example is the very popular streaming application Spotify which has varying forms of subscription services which could prove to be an interesting alternative to combat rampant online piracy and dwindling physical CD sales. The application offers a simple, easy-to-use, fast online streaming application with very much the same recognisable design of Apple's iTunes. Spotify has a very large extensive database of music, currently with around 10 million music tracks, adding approximately 10,000 new tracks per day and offers an interesting alternative to the normal means of online music distribution. Last.FM also provides direct links to the application providing them with a large potential user base.

However in order for streaming services such as Spotify to have the support of the record companies to use their music and be a legal alternative to illegal file sharing and downloading, they need to create revenue streams for the artists and their record companies and do so by means of sponsorship and paid subscriptions to the service. Spotify itself currently has the support from a selection of the major record companies such as Universal, Sony Music, EMI, Warner Music, Merlin and The Orchard who allow their artists music to be used on Spotify. Certain large record companies believe in the potential of Spotify that much that they have a stake in the company owning a percentage of their shares. Sony BMG owns 5.8%, Universal owns 4.8%, Warner Music owns 3.8% and EMI owns 1.9% (The Swedish Wire, 2009).

It is also of interest to explore how websites such as Last.FM can contribute to the existing research regarding online interactivity and how this can change people's real life actions and behaviour. Especially the fact that using such recommendation services can actively support and promote more interaction between users in the physical world and also potentially produce a knock-on effect; namely the promotion of concert visits. An increase in visiting concerts could be very important for the future of the music industry as it provides a valuable revenue stream for artists which may have been otherwise lost due to online piracy or decreasing revenue shares from online music sales. Research conducted by Alan Krueger found that from 1999 to 2002 there was a sharp decrease in the number of record sales and which had not increased since 1994 at all, so it was a natural by-product that concerts would become a more important revenue stream. His research found that concert prices were increasing in order to cover losses incurred (Connolly & Krueger, 2005, p. 23). It is interesting to evaluate if Last.FM has an effect in ensuring that users visit more concerts due to the information made available via the site.

In the following section I will outline my main research question, sub questions and hypotheses that will test during the course of my research. I conducted a survey amongst young Last.FM users based in the UK in order to analyse the effects that the use of this site causes, namely the motivations behind the use of the site and possible effects on use of other related media. Also I will seek to analyse if it contributes to changing musical tastes, different listening behaviour and even variations in their music purchasing and/or downloading behaviour. Further information on the specific research questions and the method used will be explained in the following sections.

2. Research Question

Main research and sub questions

The main aim of this thesis remains to fully understand what impact the use of Last.FM can have on its users in a specific country and the lessons that can be drawn for the music industry in light of new consumption patterns. In this situation, I have decided to conduct research into how users based in the United Kingdom use Last.FM. The reason for choosing the United Kingdom as my basis for surveying users is due to the fact that there is a large active community of users in the country with the site headquarters being based in the London and also due to the fact that the UK users have access to a varied and easily accessible catalogue of music, both online and through its strong home grown and international standing with regards to music production. Additionally, in sticking to one country, this will provide a fairer representation of users access to music and concerts alike, two things which will be reviewed during the process of my research. In doing so I will look at various aspects of their use, how this affects their music consumption behaviour and by this I mean their listening behaviour, downloading behaviour, purchasing behaviour, offline activities (concerts, communities, groups etc.) other online media usage and their views on Last.FM.

The central research question being posed is ‘To what extent does the use of Last.FM influence UK users music-consumption behaviour?’ The main research question is the overarching aim of my research made up of various more specific sub questions.

The first main sub question is ‘To what extent do users online music listening habits change since the use of Last.FM?’ In order to question the theory proposed by Wall-Smith et al. that the website has the potential to become the main discovery engine for the vast amounts of music to be found online, it is important to test whether Last.FM users in the UK can conclude that there has been a change in their music listening habits since their use of site. More specifically, with regards to the genres of music which they listen to, which genres of music they have subsequently listened to more and possible explanations as to why this has been the case so to understand which function of the site they find the most useful with regards to new music discovery.

The second main sub question is ‘What are the main motivations for using Last.FM and which functions are used most frequently?’ Firstly in highlighting the main motivations of use of the site the users can then elaborate and explain the main functions that they use most frequently so a clearer understanding of the most used functions of the site can be created. This will be interesting, as it will shed light on what the main attractions of the site are and which aspects of these functions are most appealing. Additionally, this question should give a further insight into how the users interact with the site and if they are more active users (thus commenting on groups discussions, event pages, uploaded videos, songs etc) or if they are more passive in their use of the site.

The third sub question which posed was ‘To what extent has the interactivity with other users of Last.FM transferred into the ‘offline sphere’?’. By this I will refer to how interaction with online communities as previously discussed can result in real life interaction. More precisely how users with possibly the same musical tastes interact either by visiting events together, meeting in general, working on fanzine’s or other music related activities directly influenced by their use of Last.FM. This is an interesting question to raise so to conclude whether users of Last.FM prefer to keep their interactivity restricted to the online sphere or if it can lead to increased real life interactivity between users. A knock on effect of this would be to the ability to determine if Last.FM can result in more offline activity such as visiting concerts and purchasing merchandise and thus deem it an important utility in a new music consumption business model.

The fourth and final sub question is ‘Apart from Last.FM, which other online music sites or applications do you use ad how does this, if at all, coincide with your use of Last.FM?’ As previously discussed, the modern day music user does not always restrict themselves to one medium and it is thus interesting to see if there are direct links between the use of Last.FM and other music platforms such as Napster, Spotify or online music stores such as Amazon, iTunes or 7Digital (with whom Last.FM has a direct working relationship offering purchasing links from the site) or even through p2p file sharing networks.

3. Theoretical Framework

When conducting research into the use and effects of the Last.FM site by its users, it is important to acknowledge existing empirical research and relevant theories before attempting to gain new insights into how and why the targeted Last.FM users interact with the capabilities of the website. I have decided to create three separate sections to this theoretical framework in order to gain a clear insight into the existing research in the relevant field. The first section will cover literature on the music industry itself in order to better understand the current situation in which the music industry finds itself, also referring to the recent changes in the music industry in order to understand and be able to discuss any future role that Last.FM may be able to play within the music industry. Secondly, I will focus on exiting research in relation to how people interact with forms of new media such as Last.FM so to better understand what actions young users undertake online and how this affects their offline behaviours also. Thirdly I will look into how youth and young adults interact with music online providing some background as to how, specifically UK based users which are the test group, interact with music online and later be able to compare this with the results from my research.

3.1 Changing structures in the Music Industry

The effect which mass culture, and music in particular, can have on a society is something that has long been discussed by sociologists and academics throughout the 20th and 21st centuries and has lead to many studies investigating their impact on people's lives and (inter-) personal relationships. Theodor Adorno, the celebrated early 20th Century sociologist who had some of the most outspoken views on mass culture in general and especially how this affected the general public, believed that popular music was yet another manner in which the capitalist structures in place sought to further control the masses and to 'play a role in maintaining the social relations of capitalist production' (Bennett, p.36, 2000). Music would act as yet another form in which the masses could be kept entertained and controlled to comply with the capitalist structures in which they found themselves and also to use music not so much as an art form to be appreciated but more importantly as a commercial property to be marketed and sold. In commenting on these capitalist structures, Adorno could have been relating to the role of the emerging major record companies in the 20th century which today remain a major influence on the music that is created and disseminated, especially in the developed world. Whilst it can be questioned if Adorno's approach and outlook on the music industry have become outdated, especially in the light of the modern day where listening to music has become somwehat decentralised due to shifting power paradigms within the music industry, the question of what level of influence the major record companies have in the modern day music industry remains very relevant.

The 20th Century Record Industry

In order for us to understand the context in which Last.FM operates, it is of interest to analyse the music industry in which it operates. In the music industry as we know it, the record companies have always been the most important players with regards to the control they exercise over the discovery, creation, production and eventual distribution of artists work. Rothenbuhler and McCourt (Rothenbuhler & McCourt, 2004) discuss how the so called 'Big Five' record companies in the music industry (Universal, Sony, EMI, Warner Bros and BMG) for the most part of the 20th Century amassed great fortunes by creating corporate structures incorporating vertical integration in which the companies became associated or owned institutions involved in the full process from publishing, manufacturing, distribution, packaging and promotion so that they could have control over the process and also be able to profit financially from it (Rothenbuhler & McCourt, 2004).

The level of control that the large record companies obtained especially in the 20th and the 21st Century, went as far as in they were able to market artists or specific genres in a certain manner that created still existent structures of meaning upon these genres. Structures of meaning relates to the manner in which the record companies, by creating clear categorisations and genres for certain types of music, were able to clearly market their music in a certain manner and thus target audiences accordingly. In effect, it is the music industry that is framing how the audiences use and categorise music even today. Negus discussed this phenomenon by outlining that record companies adhere to pre-determined 'genre worlds' which refer to how most musical productions can be categorised on a basis of familiarity and relatively the same manner of creation and how 'ongoing cultural production involves working with recognizable codes, conventions and expectations' (Negus, Cultural production and the corporation: musical genres and the strategic management of creativity in the US recording industry, 1998). The record companies in turn decide which of these genres they have determined to be most profitable and thus assign various resources to one type of music and not others. In general, Negus suggests that 'the recording industry has a direct impact on how creativity can be realized, given meaning and contested' (Negus, Cultural production and the corporation: musical genres and the strategic management of creativity in the US recording industry, 1998). It is the control that the record companies have had that can thus be an important factor in which genres ever become well known or profitable.

However, in light of increased digitalisation, more consumer choice and easier access to a world of music, it can be questioned whether the control and influence of the record companies within the music industry is still as significant as it was before the Internet era. In a wider context, scholars such as Negus have long questioned the role that cultural intermediaries within the media industries play in the process from production to consumption. Negus discusses the notion of cultural intermediaries and states that their role 'suggests a shift away from unidirectional or transmission models of cultural production towards an approach that conceives of workers as intermediaries continually engaged in forming a point of connection or articulation between production and consumption' (Negus, 2010, p. 503). As many artists can now independently produce music, the question is how important the record companies are in creating that link between production and consumption (by music users).

It could be questioned that the role of cultural intermediaries in this case might not refer so much to the record companies any more, but to the influence that sites such as Last.FM could prove to play an important role in the music industry now and in the future. These sites which rely on fan based content and information sharing, potentially offer the music consumers which I will from now on refer to as users, greater choice and freedom in how they discover, listen and interact with music, both online and offline. Sites such as Last.FM, which offer live up-to-date recommendation services along with many other relevant music oriented information, can be one of the foundations on which this new business model can thrive. Such new business models reinforce the notion that there needs to be a re-intermediation of music value chains, referring to the manner in which new artists are discovered, promoted and how their music is distributed. Leyshon et al. discuss this by stating that this must include ‘attempts to radically reconfigure expectations within the industry, for example, by challenging the concept of the ‘album’ or the notion that an artist needs to be ‘discovered by a record label’ (Leyshon, Webb, French, Thrift, & Crewe, 2005). It is thus here where music ‘hub’ sites such as Last.FM can play such a vital role in reorganising the online and offline music landscape.

The 21st Century and the threat of online piracy

In the present day music industry, especially in the last decade, the role of the large record companies has thus been shifting. The major record companies have gone from a position of financial strength and influence into one of defence and legislation and there is one main reason for this, namely online piracy. The act of online piracy has become an integral part of many people’s online behaviour and in a relatively short period of time has become a commonplace activity for many active Internet users. In a recent 2009 study conducted by UK Music, it was found that of the surveyed UK users aged 14-24, 61% stated that they download music via illegal peer to peer (p2p) networks with 83% of these doing so on a daily or weekly basis. This shows just how widespread the act of online music piracy has become. In general, the act of obtaining one’s music online, either legally through sites such as iTunes, Amazon or 7Digitial or illegally via p2p networks, has become the status quo in favour of physically purchasing whole CD’s.

In order to combat online piracy, the major record companies such as Universal, Sony, EMI, Warner Bros and BMG have started various lawsuits. An example of one such high profile lawsuit is that against Napster in 2000 by the RIAA (Recording Industry Association of America). Napster which started as the first major p2p file sharing service which allowed users to swap and download music files operated between 1999 and 2001 and at its peak had approximately 25 million users and a database over 80 million tracks. Eventually, due to the lawsuit by RIAA which Napster lost, the site was forced to close in 2001. However this did not mean the end of online piracy and various other p2p applications such as Kazaa, Limewire and Gnutella became popular and continued the large scale sharing of music files for free. Today most online music piracy is conducted through torrent sites as Pirate Bay, Isohunt and Mininova.

Previously, record companies had to merely contend with large-scale piracy in countries outside the major markets (USA, Europe, and Japan). The IFPI reported in 2002, even before the wide-scale boom in online piracy worldwide, that up to 40% of all CD's being sold globally were illegal pirated copies with countries such as China and Russia reaching 90% and 65% respectively (Leyshon, Webb, French, Thrift, & Crewe, 2005). Whilst this represented a major financial loss for the record companies, it was not until the onset of wide scale online file sharing that the record companies started to experience dramatic revenue drops in their most profitable markets, namely USA, Europe and Japan. In a recent survey conducted by the Institute for Policy Innovation (IPI), it was estimated that global music piracy causes '$12.5 billion of economic losses every year, 71,060 U.S. jobs lost, a loss of $2.7 billion in workers' earnings, and a loss of $422 million in tax revenues, $291 million in personal income tax and $131 million in lost corporate income and production taxes' (RIAA, 2011). RIAA continues to heavily lobby against fairer deals for the major record companies and the latest figures released reveal that they spent an astonishing $1.4 Billion on lobbying initiatives in the second quarter of 2010 alone 'to influence a range of issues, including terrestrial radio performance royalties for recordings, global intellectual property protection, net neutrality, and file-sharing enforcement' (Digital Music News, 2010).

Surprisingly, a study in 2007 by the University of London commissioned for Industry Canada found that there is actually a positive connection between p2p file sharing and the purchase of physical CDs. Two thousand one hundred respondents were asked about how many CDs and paid (legal) electronic tracks they downloaded online and it was found that for every 12 files shared online, 0.44 CDs were purchased, meaning that approximately every downloaded P2P album file corresponded to half of a physical CD sale. The researchers concluded that 'our review of existing econometric studies suggests that P2P file-sharing tends to decrease music purchasing, however, we find the opposite, namely that P2P file-sharing tends to increase rather than decrease music purchasing' (Andersen & Frenz, 2007).

The influence of technological advancements

However, it is not only online piracy which should be one the main causes for concern for the record companies with regards to their influence on the music industry. The record companies unwillingness to adapt to the new technologies, over which they had little control, can also be deemed one of the most important factors in the shifting power struggle within the industry and what has also been referred to as 'a paradigmatic case of a business caught on the hop by technological innovations' (Hesmondhalgh, 2009, p.59). As a result of their failure to adapt quickly enough in the face of increased digitalisation, the record companies have since struggled to remain the most relevant force within the industry and the result is the emergence of a more democratised, decentralised value chain within the music industry.

Hesmondhalgh (2009) among others has questioned whether the current trend of digitalisation will now lead to increased democratising effects on music production and creation unless there are more profound structural changes in an economic and social context. It is also of importance to realise that during the initial Internet boom in the late 1990's, many within the cultural industries sought that restrictive measures be placed upon the capabilities or computers to allow copying and sharing of music files, however they met stiff opposition from software and telecommunications industries who challenged the demanded measures, as this would in turn harm the opportunity for them to create new technologies and devices catering for a shifting music industry (Hesmondhalgh, 2009).

The role of the Internet in democratising the music industry is an issue which is of great interest to both scholars and industry professionals alike. Professor of Management and Entrepreneurship at Indiana University, Mark Fox states that the Internet has now irrevocably changed the music industry landscape as we know it: 'The increasing role of the Internet in the distribution of music is transforming the music industry from an oligopolistic, highly-concentrated industry characterised by significant barriers to entry, to one in which every user is a potential distributor' (Fox, 2005). Leyshon et al. (2005) discuss how, that as often portrayed by the record industry, increased Internet piracy is not the sole factor responsible for the current crisis in the music industry but rather how 'the emergence of software formats and Internet distribution systems represent what can be described as a 'tipping point' that has triggered a wholesale reorganisation of the music industry towards a new business model' (Leyshon, Webb, French, Thrift, & Crewe, 2005). Since 2005 there have been various technological and structural developments concerning the availability of music online and will be discussed in a latter part of this section which have further established the Internet as the most important platform for music to be shared, disseminated and sold.

It seems that in this new online music industry, there could prove to be further effects on the kinds of music we are able to access and that there is a diversification of the artists that attain larger audiences. Connolly and Krueger discuss this by stating that 'less popular artists may gain from the extra exposure and lower distribution costs that the internet has to offer' (Connolly & Krueger, 2005, p. 61) and this in turn means that artists in general and consumers alike will be able to benefit from the new technology utilised through the Internet.

The music industry therefore in itself is at a crossroads. Whilst increased digitalisation has offered the music listener more choice than ever and easier access than has been known, the existing structures in place are shifting and if artists and composers are to be able to make a living out of their art, a new form of legitimate digital distribution needs to be employed. This is the point at which companies like Last.FM could play an important role, as in bringing together various services for the active music listener and in creating vibrant online communities, large or small, could prove a rich platform for any new form of digital distribution to flourish, not to mention providing the artists with more of a platform in which they can promote their live shows and merchandise as alternate streams of revenue.

More importantly, if a new business model for music is to function properly, there needs to be clear cooperation from the record companies to comply and understand the shift in the ways in which users want to access music, how much they would be willing to pay and more freedom in which services they use. There is a need for various copyright protection in order to ensure a fair remuneration for both the artists and the record company that has invested time and money in them, however a new business model concerning how royalties are collected too need to be introduced. David Stopps who is the director of copyright and related rights for the Music Managers Forum UK has stated that "The music industry has moved too slowly in its attempt to create new business models. We need to make it much easier for new business models to get off the ground and to prove themselves." (Intellectual Property Watch, 2011). The major issue that Stopps is referring to is what was earlier discussed in that record companies were too slow and unwilling to adapt to online business models and especially offer music for a far price and to offer the user more choice in which (individual) tracks they downloaded. Such new business models could be smaller music downloading start-ups focused on a certain genre or even the increasingly popular online streaming applications.

Whether online streaming, which is also one of the services offered by Last.FM could offer a viable alternative for the music industry to regain some form of control on their assets remains to be seen. What has become clear that new business models need to be adapted in order for the record companies themselves to continue to be able to survive and to move away from a situation of continued lobbying, legislation and lack of initiative in supporting new business models if the music industry is to become a fairer but also viable business. Apart from the issue of the role the record companies have on the music industry and how we obtain our music, the main aim of my research so to investigate how new media, and most importantly websites such as Last.FM, can alter how we experience, discover and share music through such channels and in the following section I will seek to find what effects new media can have on music discovery and interaction between Last.FM users.

3.2 The New Media effect on music discovery and online interaction

Engine of Discovery

As previously discussed, the record industry is in a state of flux whereby increased digitalisation is leading to more democratised and decentralised means of music distribution and promotion. However in an industry where vast amounts of music is now available online, new engines of discovery can play in an important role in providing music fans and artists alike a means to connect with each other. One of the most important aims of my research is to uncover the main effects that use of Last.FM has on its users and Mat Wall-Smith, Ross Rudesch Harley, and Andrew Murphie in their article entitled ‘Last FM and the Music Multiverse’ (2010) discuss this effect in detail. According to their research, with the fact that music production has become so accessible for many people and the means of distributing it have also been vastly simplified due to online music sharing portals, the sheer amount of music currently available online means that there is a distinct need for portals that can act as an engine of discovery for all kinds of music.

It is these social networks and online communities, such as Last.FM, that are replacing old print media and traditional distribution sources as the means to promote and control the flow of music towards the users. Wall-Smith et al. state that ‘Rather than building a top-down expert system, Last.FM has developed a bottom-up and agile system that opens up unexpected pathways to the discovery of music that listeners may not have found otherwise’ (Wall-Smith, Harley, & Murphie, 2010). Last.FM can thus be at the forefront of online music discovery at a time when there is ever-increasing music production, that this increased production does not necessarily mean that demand for new music will diminish but actually increase the demand.

With such a vast and increasing amount of music being made readily available online, both through legal and illegal channels, we have the opportunity to consume more music but it can be a struggle to find this music. Chris Anderson in his book entitled ‘The Long Tail How Endless Choice is Creating Unlimited Demand. The New Economics of Culture and Commerce‘ discusses how a surplus of supply can actually drive this demand for new music in the modern Internet era. This is in direct contradiction to the pre-internet era in the music industry in which the record companies could effectively manipulate the supply of cultural goods as they had full control over the production, distribution and marketing chain which resulted in a false economy (Anderson, 2007).

The whole idea of The Long Tail economics theory is that in order for money to really be made, especially in the case of music, is to offer music that caters to all tastes and thus also ensure that all kinds of artists, whether well-known or signed to a small Independent label have the opportunity to come into contact with their fans. Now that practically all music created is readily available online, this offers producers and artists with a unique opportunity to realise the potential the platform offers them. Anderson says of the Long Tail's potential for the music industry 'You can find everything out there on the Long Tail. There's the back catalogue, older albums still fondly remembered by long-time fans or rediscovered by new ones. There are live tracks, B-sides, remixes, even (gasp) covers. There are niches by the thousands, genre within genre within genre: Imagine an entire Tower Records devoted to '80s hair bands or ambient dub. There are foreign bands, once priced out of reach in the Import aisle, and obscure bands on even more obscure labels, many of which don't have the distribution clout to get into Tower at all' (Anderson, 2007). Niche markets need to be better explored and made available to the music users and services such as Last.FM can provide just that service.

Wall-Smith et al. also discuss how increased digital distribution, more free from the constraints of record companies control and the attached value chain which they also control, has the potential to create 'a far more decentralized and dynamic – indeed a more effective – economy of music distribution that has far reaching implications for the way we organize, produce, share and interact via data in general' (Wall-Smith, Harley, & Murphie, 2010). According to them, the proliferation of digital distribution has a direct knock on effect on how we have already started interacting and sharing information online and utilising various engines of discovery with the most notable one mentioned being Last.FM.

Whilst it seems clear that the major record companies are not so much in favour of promoting a more decentralised and dynamic music industry as this means their influence will wane, it is clear that it seems to be an inevitable progression in the Internet era. Zhang, in discussing p2p technology, states that "While smaller labels and unknown artists welcome the new technology, the big labels and stars suffer from the transition. The overall effect on social welfare is positive, but it is harmful to the music industry if only a small proportion of P2P users buy albums." (Zhang, 2002). The fact that users who only use p2p technology and do not purchase CD's or legally buy mp3 files will harm the music industry is true, Zhang emphasizes the positive democratic social aspect of online file sharing and labels the older music distribution system as 'inefficient' discussed in Connolly and Krueger's paper Rockonomics (Connolly & Krueger, 2005, p. 61) as users would often have to travel to music stores in order to preview and listen to music when know they have the opportunity to listen and access the music all online and in high quality.

An active community

As mentioned in the previous section, we are experiencing a shift in the manner in which music users are interacting with one another in that new media are largely replacing many of the smaller old media forms of interaction. In a music industry that is ever evolving, it has become apparent that online music communities such as those found on Last.FM play an increasingly important role in the dissemination of information and discovery of (new) music. Bottom-up communities around music have of course been around for decades with fanzines, mailing lists and fan clubs bringing together like-minded fans of a genre, subculture or specific bands or acts. The music users utilise these communities to share their common appreciation and to share information regarding upcoming concerts, new releases, reviews and merchandise. Even since the early 1980's, the first online music communities could be found making use of Usenet groups and mailing lists to connect like minded music fans with one example of being REM fans having a mailing list, however when this became too large by their increased success by the 1990's, the list collectively decided to disband and create a Usenet group called rec.music.rem for the more dedicated fans and ensure the group contained only REM information and used an invitation only mailing list (Baym, 2007).

Nowadays the Internet has become the principal tool to connect fans all around the world. Baym has noted that 'in this culture, fans have increasing influence in shaping the phenomena around which they organise. More than any other commercial sector, popular culture industry relies on online communities to publicise and provide testimonials for their products' (Baym, 2007). She uses the example of many Swedish Indie bands now actively using Last.FM and other social network sites to actively self promote their music and create links to their material either on their websites, their MySpace page or on Spotify. An interesting aspect regarding the notion of community is whether in some cases this transfers to offline (real-life) community building activities. Baym uses the example of a regional website called It's a Trap (IAT) which covers Scandinavian Music and apart from connecting via that website directly, the more active IAT community can be found on Last.FM. This online community has become directly more involved in offline activities with each other, organising events such as 'Sounds of Sweden' in Glasgow, Scotland and 'Tack! Tack! Tack' in London showing that there is indeed potential to transfer online fan community building to real life events (Baym, 2007).

One of the interesting aspects of active online communities is the term community itself. In focusing on Jankowski's work, it can be determined that in the age of new media, the idea of communities remains strong. One of the reasons many people feel that the rise of new media as a part of our every day lives has diminished what we could call a 'typical' community, seems to be the notion of what a modern community actually is. Jankowski discusses the manner in which academia categorise the term community and outlines that research by Hillery in 1955 found ninety four different definitions for the term whilst Abercrombie et al. called the concept 'one of the more elusive and vague in sociology and is by now largely without specific meaning (Jankowski, 2006, p.59).

The word community itself can be found to have varying meanings from merely 'a unified body of individuals', 'an interacting population of various kinds of individuals' or 'a body of persons or nations having a common history or common social, economic, and political interest' (Merriam-Webster, 2011). I feel that although the term remains a cause of confusion today, the use of new media has shown that it can have positive effects for both the physical real life communities that exist and popular online virtual communities as we now know them. Therefore, I have decided to define the virtual online communities in Last.FM as 'a body of individuals having a common interest'.

For an ever increasing percentage of people in the world, taking into account that many in the developing world at this moment still have relatively low internet access, the use of new media acts as a means to access and connect with virtual communities of people that before the age of new media would have been impossible. Probably the most well known general example is Facebook, which enables users to stay in touch with their contacts, share images, discuss and keep up-to-date with each others their lives via one medium regardless of the physical distance. With the addition of fan pages, groups and forums this offers the members of the virtual community the opportunity to discuss and share common interests. Jankowski refers to Stone's definition for virtual communities which clearly define the positive effect which they have as 'Incontrovertibly social spaces in which people still meet face to face, but under new definitions of both 'meet' and 'face'. Virtual communities are passage points for collections of common beliefs and practices that untied people who were physically separated' (Jankowski, 2006, p.62). This definition thus clearly shows that the virtual communities evolving due to new media are relevant and comparable to physical real life communities, such as before the age of new media and in certain cases might even lead to more intensive interaction within the community due to ease of access online.

Di Maggio also discusses the positive effects of online communities by stating that 'participants value such online settings for making it easy (and inexpensive) to communicate across large distances providing opportunities for participation by the homebound, aged or infirm and enabling people with minority interests or lifestyles to find companionship and counsel unavailable in their communities of residence' (DiMaggio, Hargittai, Neuman, & Robinson, 2001, p. 317). Online music communities therefore can transcend physical communities in the sense that the participants in the community can easily interact and discuss common interests not bound by geography, such as music. The only sense in which geography in that sense could hamper the Last.FM music users, is regarding concerts as normally most events, large or small, are to be found nearer the larger metropolises and not in remote areas. In that sense, the transition from online to offline interaction as will be tested is harder to realise for the users living in more remote areas of the country.

However, alternatively there are some academics feel that the increased use of such virtual communities will lead to fragmented physical communities due to the fact that online communities will supersede them and become the more frequently used method for users to interact with each other instead of choosing to interact physically too. However Jankowski when discussing Van Dijk's comments that 'At best, virtual communities may supplement organic communities, but are unable to replace them' (Jankowski, 2006, p.63). Rice and Haythornthwaite too discuss the optimistic and positive nature that should be placed on new media in relation to community focusing on the renewed concept of social bonding and interactivity between users, whether this be one-to-one communication or one-to-many. Rice and Haythornthwaite also dismiss worries that online relations are less important than real life physical relations by quoting Cerulo in stating that 'new media are perhaps better characterised as changing the nature and character of social bonds' (Rice & Haythornthwaite, 2006, p.99).

In the current climate of Internet use, users are thus becoming seemingly more interconnected through various social media and community platforms, however the question can be asked as to if this makes any real changes to the existing relationship between the active user and, in the case of Last.FM, the record industry which remains the main player in the field of music creation and distribution. Whilst the active user has more freedom to interact online as they choose, they make up part of a new more participatory online culture in which 'the interactive audience is not autonomous, still operating alongside powerful media industries' (Jenkins, 2002). Jenkins discusses various interesting points with regards to how new online tools and technologies have altered the manner in which media consumers and producers interact but one of the more relevant trends for the music industry is the trend in which 'horizontally integrated media conglomerates encourage the flow of images, ideas and narratives across multiple media channels and demand more active modes of spectatorship' (Jenkins, 2002). Media conglomerates which normally have ownership over various forms of media such as television, newspapers, websites movies, music and even billboards can thus exercise their influence across various different mediums and also ensure they utilise their powerful position to provide maximum exposure for their media products. Interestingly, one such media conglomerate is the CBS Corporation, an American company with an estimated assets of $26.143 Billion in 2010 and over 25,000 employees (US Securities and Exchange Commission, 2011), which actually know owns Last.FM which they purchased in 2007 for $280 Million as previously discussed in the introduction. This shows that media conglomerates are taking the services as those offered by Last.FM very seriously and see them as making up an important part of their future plans.

It is this trend in which Last.FM could be categorised as being relevant as although it seemingly offers the user the most benefit with regards to obtaining new information, recommendations and increased interactivity, the wealth of information that is generated by the fact that the users listening habits are registered and the feedback given on artists pages can also be extremely helpful to the artists and record companies in better understanding the demands and needs directly from the fans. Two scholars in the field, namely Levy and Baym discuss the potential of such fan networks with Levy stating that 'not only does the cosmopedia (the new knowledge space) make available to the collective intellect all of the pertinent knowledge available to it at a given moment, but it also serves as a site of collective discussion, negotiation and development' (Levy, 1997, p.217). Also, Baym states the impact of large fan groups online by stating that 'a large group of fans can do what even the most committed single fan cannot: accumulate, retain and continually recirculate unprecedented amounts of relevant information' (Baym, 1998, p.115). These two statements once again highlight the manner in which large semi-structured online communities can both personally gain increased knowledge and scope on a favourite artist or musician whilst also in turn creating a well documented database of information for third parties and record companies also.

One final point regarding communities that will be focused on is that of how online users utilise various different platforms and portals for accessing and obtaining information. What is most notable about today's active online music fans is that they do not generally use one specific site or application as their main source of information or interaction with others, but that this happens across various platforms. Users can use various different sites for certain information such as discographies and biographies from one site and concert information from another. Users now have more freedom to be active on various different platforms at the same time, deciding which best fits their information needs from each specific site, and then also possibly choosing to share said information with each community or deciding to simply keep the information to themselves. Levy also refers to two specific terms which are 'shared knowledge' which refers to knowledge that is known by each member of the said online community whilst 'collective intelligence' refers to the knowledge that is actually available to each member of the community. The potential of this collective intelligence in being translated into shared knowledge is dependent on how well the said community engages with the available information, either on one community or across various different communities.

There are also two other specific terms utilised to explain this phenomenon with the first being termed 'networked individualism' which refers to the situation in which individual users of music social networking sites connecting existing loosely bound networks and not constrained by the their geographical location. The other term utilised is 'networked collectivism' which refers to 'loose collectives of associated individuals that bind networks together' (Baym, 2007). It could be argued that users of Last.FM could fall into both categories, depending on how they use the website and this is also yet another interesting theory that I am looking to cover during my research as I feel it is interesting to understand the users real motivations for using the site and how the manner in which they interact, both online and offline, can impact changes in the music industry. In the following section I will focus on the specific situation of young music users in the UK and how recent studies have outlined their use of music online.

3.3 Youth & Music

Apart from simply analysing how users interact online with music through Last.FM, I want to focus specifically of how youth, in my case categorised from ages 16 to 30 years old, interact with each other and with music related content online. For generations, music has been a way for youth to develop their sense of self, sense of identity and even a sense of belonging whether this be to a tight knit community of friends or a larger wider community. It is a means for them to also further distance themselves from their parents in the youngest of this age category and in forming their own sense of culture. Bennett reflects on this noting that 'the development of subsequent genres, such as psychedelia, punk and, more recently, acid house, has continued to drive a wedge between the generations and to mark off youth from the parent culture ever more dramatically' (Bennett, 2000, p.35). By attaching themselves to a certain genre, youths can not only distance themselves from their parents or home life but also become part of a larger community which is based around a certain musical style.

Many youth become so involved and knowledgeable regarding a certain genre or genres that even since the 1960's record companies have been known to use the knowledge of youth in the process of creating music: 'in the wake of the 1960's hippie movement record companies were confused and even alarmed by the strange groups whose music was so profitable (and had to) bring in young outsiders to tell them what would make a hit' (Bennett, 2000, p.41). Even to this day, youth are often utilised to help record companies identify new up and coming trends and music styles in order to remain relevant and up-to-date with latest developments in the world of music and entertainment and now with sites such as Last.FM providing an even easier platform to share information regarding artists and to interact with one another, the influence of youth can surely only become more relevant.

As I plan to focus on the use of Last.FM by youth based in the UK, it is important to understand the context of youth and the UK music industry, especially concerning their music habits. A recent survey conducted by the University of Hertfordshire in co-operation with UK Music, which is an umbrella organisation representing the interests of all actors in the commercial music industry in the UK, highlighted some interesting findings with regards to music consumption of 14 to 24 year olds in the UK. Of the 1808 survey respondents, it became clear that for youth in the UK, their computer has become the main music listening device with 68% saying they listen to music on their computer daily compared to only 15% still using a CD player on a daily basis. Additionally, and probably more ominously for the music industry, is that 61% stated that they download music via illegal p2p networks with 83% of these doing so on a daily or weekly basis. The were several main reasons given by the respondents who choose to download music illegally with the 40% feeling that buying whole albums via the normal channels remained simply too expensive, a further 23% said they did so to download music they could not yet buy and another 22% trying new music before eventually buying. A large portion (85%) of the p2p downloader's did however say that they would be willing to pay for an unlimited limitless mp3 service and 57% said that such a service would stop them downloading illegally via p2p networks. However, with online streaming (on sites such as Spotify) an overwhelming 78% said they would be unwilling to pay a subscription fee and even if they did pay a subscription for the use of online streaming 49% of these respondents said they would still continue to download illegally via p2p networks with the main reason being that many of the respondents still found it important to have an offline copy of their music so they can listen to it at any time and also more importantly, to easily transfer it to their mobile music playing devices such as their mp3 player or smartphones (Bahanovich & Collopy, 2009).

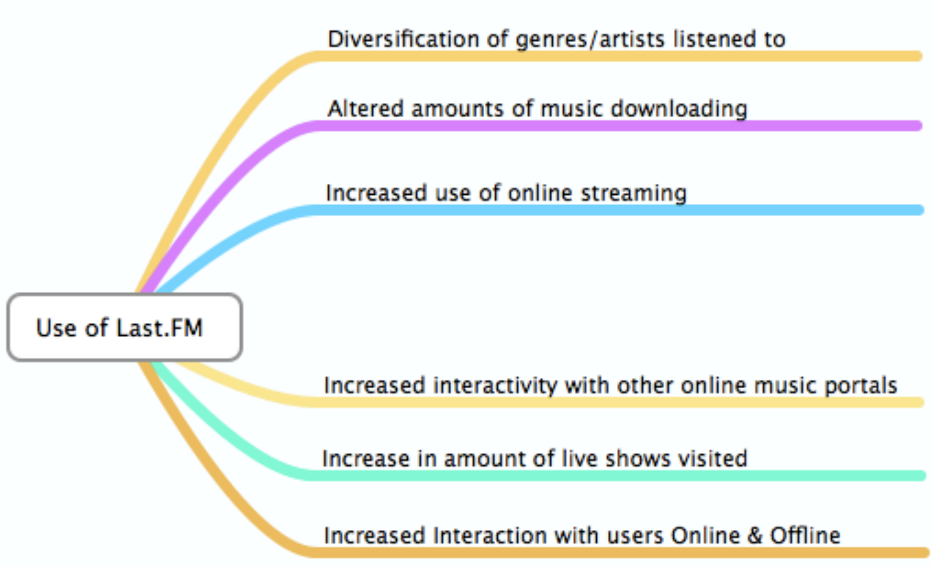
To further highlight the influence and size of the UK music industry market national and internationally, a 2008 report by PRS for Music calculated that the UK industry was worth £3.6 billion which was actually a 4.7% growth from the year before and in total consumers surprisingly spent 3% more on music than the year before. This contradicted what many felt was an industry suffering heavy losses. Whilst total sales of recorded music fell by 6% from 2007, the sale of digital music increased by 50% whilst CD sales fell 10%. Interestingly, concert sales increased by 13% which shows that the demand for seeing live performances is increasing and could also possibly be the factor to balance out decreasing music purchases for the artists and the record companies in the UK (PRS For Music, 2007).

Leading on from the discussion points in this theoretical framework, I have chosen various hypotheses based on how I perceive the use of Last.FM influences the UK users behaviours and using the results of my research into how young UK users use the site, I will eventually assess whether these hypotheses can be verified or debunked in the following research methodology section.

Once the results of my survey have been completed, I will conduct analysis in using this data to test the proposed hypotheses and use this information to answer my main research question and sub-questions.

3.4 Hypotheses

From the effect of the changes in the music industry, the manner in which online communities and online behaviours of users and how UK youth interact with music, I have proposed six different hypotheses in relation to how the UK based Last.FM users behaviours have altered as a result of using Last.FM which will be tested in the process of my research and have been outlined in the figure below.



<u>1. Diversification of genres/artists listened to</u>

Due to the recommendation services provided by Last.FM as a result of the tracks that users have 'scrobbled', this will lead to an increased diversified set of genres and artists being listened to. Additionally, with the fact that users can follow their friends' recently listened tracks and charts, this can also influence people within the friend community to start listening to new artists which they may never have heard of before.

<u>2. Altered means and quantity of music downloading</u>

As users will be most likely discovering and listening to different artists due to Last.FM, this could affect the manner in which users obtain their music. This could mean that instead of using p2p networks or certain online stores, users may start using streaming services or links to certain web shops specifically provided by Last.FM. Also, users may purchase single tracks or a collection of tracks instead of buying, downloading or streaming full albums into their collection.

3. Increased use of online streaming

As stated Last.FM, when possible, provides links for users to listen to each track from each artists via Spotify, which is a popular online streaming service offering a certain amount of free listening hours per month and unlimited access via various subscription services. Last.FM also provides short 30 second previews of most songs and for a small subscription fee can also make use of the site's Radio function which generates music either based on a specific artists, genre or also based on a Last.FM contacts music library.

4. Increased interactivity with other online music portals

This hypotheses also falls under the increased use of online streaming however it also relates to connecting to other music blogs such as The Hype Machine, to which Last.FM provides direct links and also other related online music portals through links on the events page, the comments sections, artists pages and also various YouTube (or other streaming video) channels. This hypothesis highlights how Last.FM can operate as a central reference point both for information, entertainment and connectivity itself but also in connection to other related sites thus acting on to the previously discussed convergence theme.

5. Increased visiting of concerts/live shows

As Last.FM also provides event updates regarding bands which have been listened to and which are taking place in their defined region, this increases the opportunity for users to become aware of artists playing in their area and thus concert visits will also increase, taking into account possible geographical and financial restrictions on the users part.

6. Increased interaction with new users online

As Last.FM is in effect also an online community of listeners, the option to connect with new users that they did not know before using the site, either through shared music tastes as outlined in the 'musical compatibility tool and through various Last.FM groups is common on the site.

These six hypotheses, along with the existing main research and sub questions outlined in the previous chapter, will provide the basis for analysing the results of the planned survey which is to be distributed to the target group and which will be outlined in the following chapter. I believe that analysis into how the young UK users of Last.FM interact with the site can provide a decent basis for finding conclusions and hopefully providing recommendations into how Last.FM can act as an integral part of the new online-based music industry. More specifically, how social music related networks such as Last.FM can work both for the UK users themselves and also the artists in providing quality user created content and also providing fair revenue streams for the artists with less interference from the large record companies.

4. Research Methodology

For the main part of my research I conducted a large-scale online survey which was be a mixture of quantitative and qualitative analysis. The online survey programme SurveyGizmo which was previously used to great success with other surveys, was used to disseminate the survey to the target group.

The target group for the survey were registered users of Last.FM with an active account, living in the UK or holding UK nationality. The decision to focus on once specific country is due to the fact that the respondents have (relatively) the same cultural backgrounds, have access to an uncensored and wide variety of music, are able to access the same websites and online (music) applications and also have the same potential access to live concerts and shows. This provided me with a more accurate representation of a section of the Last.FM users to be analysed for online and offline behaviours. Additionally, I decided to target UK Last.FM users aged between 16-30 years of age as this represents the most active and influential section of music listeners within the country.

In order to have a relatively representative amount of data, I aimed to obtain 100-150 respondents for the survey. I first used my own existing network of Last.FM contacts in both countries and requested that this be disseminated further through Last.FM. By posting a link to my survey using various country based groups and discussion fora through the Last.FM group pages, I aimed to obtain the required amount of respondents. Additionally, I searched for users within the target group by using the search function on the community pages, enabling the option that they must be registered under the UK and be aged between 16-30 years of age. I contacted approximately 800 individual users through this function, sending them each personal messages requesting their cooperation in filling in my survey and explaining its purpose. The survey was sent to the specific target group via various different channels over a period of three weeks during April 2011. Approximately 800 Last.FM users were sent individual personal messages via the Last.FM website, the link to the survey was posted on various different specific UK centric groups such as UK Indie, UK Pop, UK Audioscrobblers and various city specific groups such as UK Manchester, UK London, UK Glasgow and UK Cardiff. Additionally, the link to the survey was posted via my own and extended network on social networking sites such as Facebook and Twitter.

The survey was planned into various different sections in order to make it as clear and understandable for the targeted respondents. These sections will generally be structured so to answer each separate sub question as discussed above so to have a clear line of reasoning and clarity both for the respondents and for myself when analysing the data.

The following sections were covered by the survey: general online music behaviour, individual use of Last.FM, music taste, interactivity online, interactivity offline and links to other online music platforms. The survey was made up of 40 questions, with most of them providing the users to choose one of the multiple choice answer possibilities. Others allowed the user to choose multiple options, and some employed interactive drag and drop likert-like scales in order to grade and categorise their answers in order of importance. The survey took, on average, after testing by myself and an initial target group of 5 people approximately 6-8 minutes to complete as if it was to take any longer could result in respondents losing interest or not taking the survey at all as previous experience has shown the length and complexity of the survey can have negative effects on how many people fully complete the survey.

The data that was accrued was automatically converted into various different file formats such as excel files, CSV (SPSS) files and Survey Gizmo's own analysis tools. The accrued data from Survey Gizmo was exported as a CSV file and imported into SPSS so that further analysis, graphs and tables could be utilised so to be able to use this data effectively and answer the main research question and all subsequent sub questions.

The final question of the survey was asking whether the respondents would be willing to answer certain more in-depth answers to further highlight their answer choices and what exactly their motivation was in answering how they did. In total, ten respondents left their email address and I directly emailed six of these with more in-depth questions regarding their use of Last.FM. At the time of writing my results, I had received replies from two of these 6 respondents and their replies will be incorporated into the results and analysis.

5. Research Results and Analysis

5.1 Survey Results

In this first section, I will start by displaying the results as they were from the survey directly and later in this chapter a more in-depth analysis using the respondents answers will be used against to test the hypotheses from the previous section. In total, 112 respondents completed the online survey via the SurveyGizmo site with 232 abandonments (which refers to people viewing the survey but not completing it). This means that approximately 48% of the target group who took the time to open the link completed the survey. Although the exact reason is unknown, the other remaining hundreds of targets contacted did not decide to open the link, either due to no interest or no time.

Of these 112 respondents, all were registered Last.FM users from the UK with 75% of these being male and 25% being female. The average age of the respondents, which were made up of the age group 16-30 (inclusive), was 22.7 years of age and the two most common ages were 16 years old and 23 years old (11.6%), followed by 25 years old (9.8%) and 18 years old and 24 years old (8.9%). The target group of users was people based in or from certain regions of the UK and by far the most represented region was that of Greater London with 31.8% followed by South East England (14.5%), Scotland (9.1%), North West England (8.2%), Northern Ireland (5.5%) and Wales (5.5%).

With regards to the users music listening behaviour, the first question raised was that of how long the users spend per day listening to music. The results shows that most respondents spend a great share of their day listening to music with 31.3% stating that they do so for 4 or more hours per day, followed by 26.8% doing so for 2-3 hours, 19.6% do so for 3-4 hours, 17% do so for 1-2 hours and a mere 5.4% listening to 1hour or less per day. The relatively high amount of music that is listened to per day is understandable as it can be expected that people who use Last.FM are very interested and active music users.

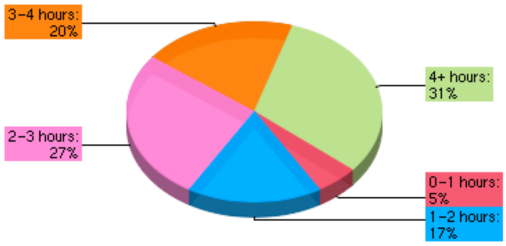


Figure 1: Hours listening to music daily

The respondents were also asked to rank which medium they most frequently used in order to listen to music on a daily basis and listening to music on their computer/laptop was the most used, followed by listening via a portable mp3 player which was nearly as frequently used online streaming. After these main options, mobile phone, radio, CD player and turntable were the other most used mediums for listening to music. The results from my survey are very much in line with the findings from the 2008 UK music survey previously discussed, in that young users have all but abandoned listening to music on CD's and turntables and the vast majority used digital formats on their computer, mp3 player, online streaming and mobile phone. The below results were compiled using SurveyGizmo's rating score is a weighted calculation. Items ranked first are valued higher than the following ranks, the score is the sum of all weighted rank counts. SurveyGizmo were contacted to provide a clearer explanation of how this rating system functions but at the time of writing no clear explanation was provided so it is not possible to include a clearer explanation of their ranking system.

Item	Total Score[1]	Overall Rank
Computer files (using iTunes, WinAmp or comparable application)	809	1
Portable MP3 player (eg. iPod)	552	2
Online streaming (eg. Spotify, Rhaposody, Last.FM Radio or comparable application)	550	3
Mobile Phone	258	4
Radio	230	5
CD Player	127	6
LP Turntable	53	7
Other	25	8

Total Respondents: 112

[1] Score is a weighted calculation. Items ranked first are valued higher than the following ranks, the score is the sum of all weighted rank counts.

Figure 2: Medium used for music listening

5.1.1 Use of Last FM – Individual Use

The main aim of my research was to uncover how Last.FM users in the UK interact on the Last.FM website, both individually and in connection to other users both online and offline. Before connections can be made between the answers provided basic information about how they interacted with the site were asked. When questioned about how often they visit the Last.FM website the majority said that they visit the site multiple times per day (32.1%) whilst the second highest group said they visit the site multiple times per week (29.5%). The site is visited once per day by 17% of the respondents, once per month by 8%, once per week by 7.1%, multiple times per month by 3.6% and multiple times per year by 2.7%. However, just because a user stated they may visit the site only once per day, it could be that that user spends more time per each visit than a user who visits multiple times.

In asking the users how long they spent on the site, the majority stated that they visit the site for up to 15 minutes per time (49.1%) with the other majority visiting the site for 15-30 minutes (33.9%). The smaller percentages of users visited the site for 30-60 minutes (8.9%), 120 minutes and over (4.5%) and 60-120 minutes (3.6%).

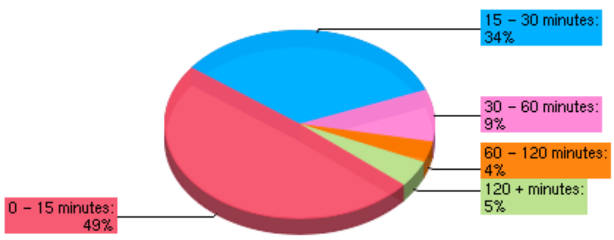


Figure 3: Time spent on each Last.FM visit

The main reason the respondents use the website is for discovering new music and keeping track of their own music charts. In this way, the users can then see what they have been listening to and also make use of the recommendations function on the site in order to then discover new music so it is understandable that these two functions score nearly the same level of importance for the users. The third most important for users is for them to find information about concerts and events followed by keeping track of their friends music charts. Alongside their own charts and recommendations, keeping track of their friends' charts also provided the users with the opportunity to discover new music. The less important reasons for the users using the site were to use Last.FM Radio and Last.FM group pages. The below results were compiled using SurveyGizmo's rating score is a weighted calculation. Items ranked first are valued higher than the following ranks; the score is the sum of all weighted rank counts.

Item	Total Score[1]	Overall Rank
Discovering new music	560	1
Keeping track of your own music charts	555	2
Finding information about concerts and/or events	327	3
Keeping track of your friends music charts	273	4
Using Last.FM Radio	118	5
Using Last.Fm Groups	69	6
Other	35	7

Figure 4: Motivations for visiting Last.FM

5.1.2. Use of Last.FM – Music Taste

The users were asked to outline which genres of music they listened to and also to try and uncover whether they felt there had been a shift in their musical tastes and accompanying listening patterns since using Last.FM. A significant majority felt that their musical tastes had changed with 29.4% stating it had changed somewhat, 19.6% stating it had changed very much with only 22.5% stating it had not changed at all and 28.4% unsure as to whether their musical tastes had changed.

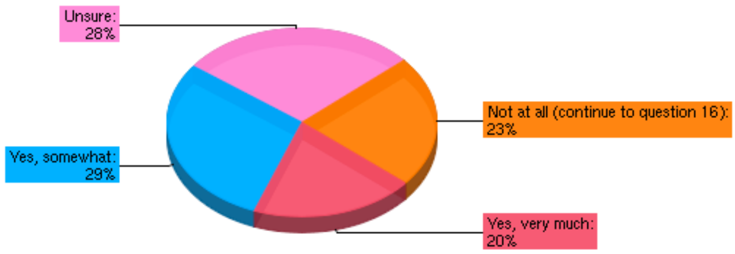


Figure 5: Change in musical taste

Initially, the most popular genres were in order of most popular were Rock, Indie, Metal, Experimental, Hip Hop and Pop. The below results were compiled using SurveyGizmo's rating score is a weighted calculation. Items ranked first are valued higher than the following ranks; the score is the sum of all weighted rank counts.

Item	Total Score[1]	Overall Rank
Rock	1628	1
Indie	1612	2
Metal	850	3
Experimental	762	4
Hip Hop / Rap	757	5
Pop	742	6

Figure 6: Favourite Genres before using Last.FM

With regards to musical genres, the genre which the respondents mostly said they had started listening more since using Last.FM to was Indie, followed by Experimental, Folk, Rock, Hip Hop and Metal. The below results were compiled using SurveyGizmo's rating score is a weighted calculation. Items ranked first are valued higher than the following ranks; the score is the sum of all weighted rank counts.

Item	Total Score[1]	Overall Rank
Indie	893	1
Experimental	565	2
Folk	373	3
Rock	333	4
Hip Hop / Rap	305	5
Metal	281	6
Other	198	7
Drum and Bass	195	8
Jazz	187	9
Techno	181	10
House	149	11
World Music	148	12
Pop	144	13
Soul	102	14
Classical	94	15
Blues	89	16
RnB	89	17
Trance	78	18
Country	75	19
Reggae	63	20
Latin	21	21
Lounge	19	22

Figure 7: New Genres since using Last.FM

For the respondents who stated that their musical tastes had changed, they were questioned as to whether they downloaded or streamed more music from these new genres. The majority stated that they both downloaded and streamed more music from these genres with 41.3%, whilst 33.8% stated they downloaded and 16.3% streamed new music. When downloading or streaming from sites such as Spotify the users were asked how they downloaded/streamed this new music and 69.6% said that they downloaded full albums, 14.7% said that they sometimes downloaded full albums but sometimes also single/collection of tracks, 9.8% said primarily single tracks. This is an interesting result as personally I expected a larger share of the respondents to prefer downloading a collection of tracks instead of full albums as they now had the freedom to do so as they no longer are dependent on CD's and thus have more choice. However this could also reflect the desire of the music fan to experience the album in its entirety and also the desire to 'own' the record.

When questioned if the recommendations provided by Last.FM linked well to their current musical tastes and thus provide the users with more new music to discover an overwhelming percent of 69.6% stated that the recommendations somewhat corresponded well with their current musical tastes and 17.6% stating that this was very much the case. Only 3.9% said that the recommendations don't correspond at all with 8.8% unsure. This shows that the recommendations tool provided by Last.FM based on users charts links well and provides the users with helpful information in order to discover new music.

5.1.3. Use of Last.FM – Interactivity Online

Apart from how Last.FM users interact individually with the site, the more interesting aspect to research is how the use of the site affects interactivity online and also if this then relates to offline, real life relationships. Firstly, users were asked if they actively participated in the editing of the site itself, which is possible for all registered users and 63.7% said that they never updated text, photos or videos on artist's pages even though this is an interactive feature of the site. 27.5% said they very rarely added or edited content, 7.8% said the do so sometimes and only 1% did so very often.

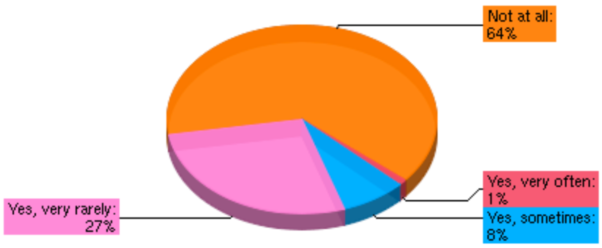


Figure 8: Editing content on Last.FM

When it comes to commenting on artists pages, videos and tracks, UK users proved to be more active in contributing with an equal amount of 31.4% saying they did very rarely, 29.4% said they commented sometimes and 7.8% commenting very often. A further 31.4% stated that they did not comment on content at all.

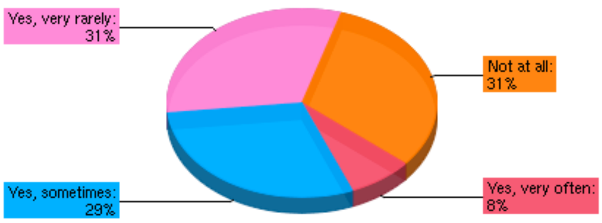


Figure 9: Commenting on content on Last.FM

With regards to interacting online with others, the users were asked whether they used the option to share music with their friends and contacts on Last.FM. Nearly half of the respondents said that they did share music with 26.5% stating they did so sometimes and 21.6% saying they did so very often. Of the remaining respondents

20.6% said they did not share music with their friends online and 31.4% unsure if they had (usually relating to users not remembering if they had, this implying they did so very rarely.

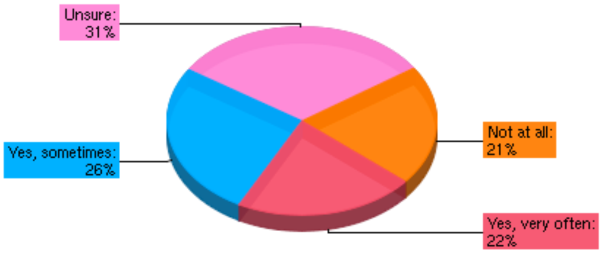


Figure 10: Sharing music with friends on Last.FM

One of the forums for Last.FM users to truly interact with each other is via Last.FM groups which can be set up by any user and have any specific theme relating to music and in line with Last.FM's rules. Most relate to either a certain genre, artist, region, music related activity or (sexual) orientation to name a few examples and the UK users were questioned on their use of these groups. The majority of users said that they visited these group pages with 36.4% visiting these very rarely, 28.3% visiting these sometimes and 15.2% visiting them on a regular basis. A relatively small percentage of 20.2% said that they never visited the group pages.

A great percentage of 84.8% of the respondents was a member of at least one of the groups however the question of how active they were showed that being a member of a group does not necessarily result in increased participation in active discussion. It turned out that 42% of the respondents did not take part in any discussion or activity on the group pages and 32.1% only very rarely taking part in discussion online, 18.5% sometimes taking part in discussion and 7.4% very often taking part in activity on the group pages.

The notion that most people who join these groups do not actively partake in discussion is partially backed up the results as 62.1% of people who joined these groups said they did so out of curiosity. Users were able to give more than one reason for why they use Last.FM Groups and another 57.6% said they joined these groups to meet other music fans, 45.5% to obtain more information regarding a certain artist, 40.9% to obtain more information regarding a certain genre and 7.6% providing other reasons in joining these groups.

Value	Count	Percent %
Obtaining more information regarding an certain artist	30	45.5%
Obtaining more information regarding a certain genre	27	40.9%
Meeting other music fans	38	57.6%
Curiosity	41	62.1%
Other	5	7.6%

Figure 11: Reasons for joining Last.FM Groups

The main discussion subjects on the group pages were new releases (78%), past releases (60%), concerts/events (54%), personal life of the artist (12%), other (12%) and merchandising (6%).

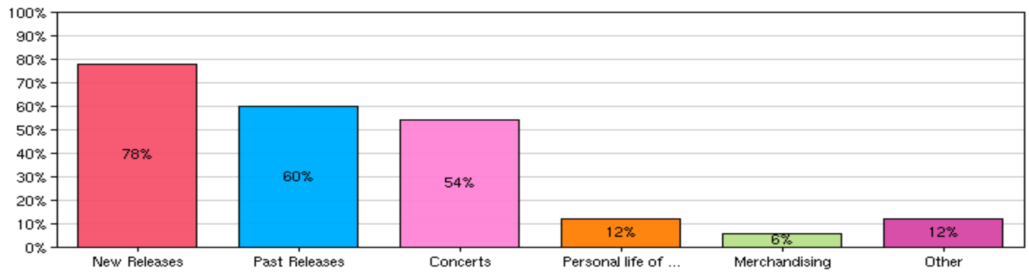


Figure 12: Discussion topics on Last.FM Groups

Finally, with regards to Last.FM groups the users were asked to rate how valuable they found the information provided on the group pages in comparison to other sources of information such as online music magazines and music critics. Exactly half of the respondents felt that the value between the groups and other sources was balanced and that it can be seen as more of an addition to the existing sources of information available so not specifically better or worse, but another part of the various websites and portals for music they use. However 15.8% did find the group pages more valuable and additional 14.5% slightly more valuable hinting that these respondents appreciated the fan generated information on these pages more valuable than the 'professional' sources for information regarding music. A smaller percentage of 11.8% found the information to be slightly less valuable and a further 2.6% found it significantly less valuable with 5.3% unsure of the value of these group pages.

5.1.4 Use of Last.FM – Interactivity Offline

Aside from how users interact with each other online, I aimed to find out how this translated into offline real life relations and interactions both with music and with friends connected to music in various ways. The first point raised was how many concerts or music events they visit and 26.5% stated they visit a concert once per month, 21.4% once per 3 months, 17.3% multiple times per month, 13.3% once per year, 12.2% once per 6 months and 9.2% never go to concerts at all.

The respondents who did not visit concerts so much were asked why this was the case and the main factors influencing the fact they did not visit many concerts were geographical restrictions (66.7%) in that they lived too far from the venues which were hosting the concerts they wished to attend and also financial restrictions (62.3%) whilst 14.5% said this was due to no interest in visiting concerts. Users were also asked if they visited concerts as a result of the events updates on Last.FM and the majority did with 38.8% saying they used it sometimes, 25.5% using it rarely and 7.1% using the tool very often. Almost a third of the respondents did not use this function at all (28.6%).

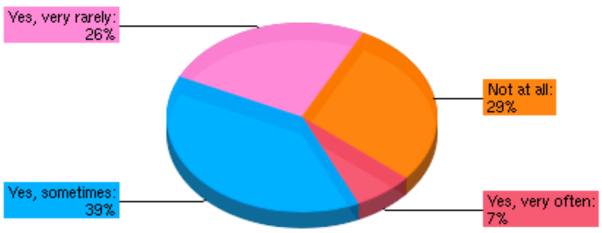


Figure 13: Visit concerts due to Last.FM Events page

When visiting concerts, the users were asked if they actually went to concerts with friends and contacts on Last.FM however a majority said that they did not (67.3%), a smaller percentage saying they did very rarely (17.3%), others meeting at concerts sometimes (12.2%) and only 3.1% very regularly going to concerts with Last.FM friends.

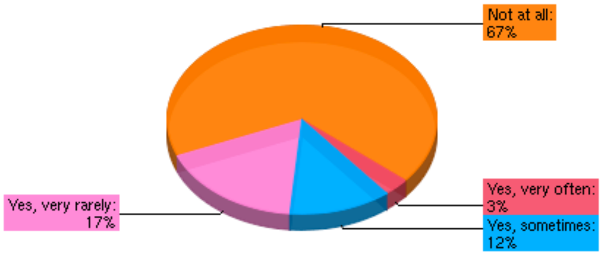


Figure 14: Meeting Last.FM friends at concerts

Apart from visiting concerts, Last.FM is also a forum to bring together music fans to discuss music and interact with each other however the question is how often to the users make contact with other people outside their existing network of friends. The users were asked to outline whether they had become ‘friends’ with someone on the site solely through online contact via Last.FM and nearly half of the respondents said they had with 46.9%. However when looking into if this online friendship ever translated into meeting in real life it became clear that many kept the relationship purely online with 74.5% stating that they had never met each other in real life, 16.3% saying they had met a newly made contact very rarely, 5.1% very often and 4.1% sometimes meeting new contacts in real life.

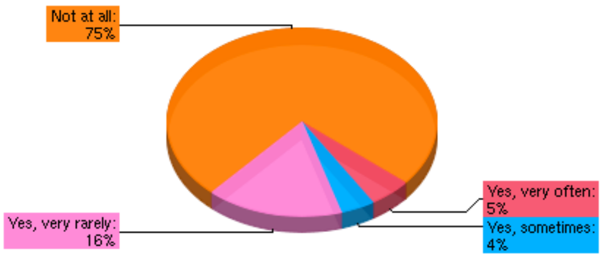


Figure 15: Meeting new contacts in real life

5.1.5 Use of Last.FM – Links to other online music platforms

Apart from using Last.FM, is it understandable that music fans also use other platforms to gain information and entertainment surrounding music however the question is which platforms they use, how they connect to them and how does this correspond in relation to their use of Last.FM. The users were asked whether they connected to other platforms through Last.FM directly as the site offers direct links to various other sites such as Spotify, Hype Machine, iTunes, 7 Digital and various music blogs and 65.3% said that they do connect to other services through Last.FM. The most popular service which they directly connect through to is YouTube with 91.2% followed by Spotify with 57.4%, Music blogs with 38.2%, Flickr with 32.4% and iTunes with 26.5%.

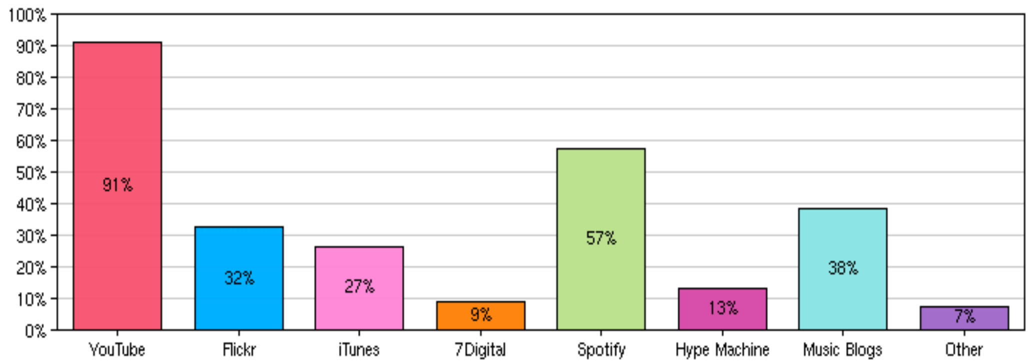


Figure 16: Portals visited through Last.FM

Apart from redirecting through Last.FM, users were asked if they used any other online portals apart from Last.FM in general and 73.5% said they did. In this category, the online streaming application Spotify was by far the most popular with 76.4% of these respondents using the service followed by the other well-known online streaming web based application Grooveshark with 20.8%, iTunes Radio with 18.1% and 8tracks with 11.1%. This again highlights the increasing popularity of online streaming as a means to listen to music and shows that the potential of this medium to become a new means of music distribution online and a fair way to combat online piracy.

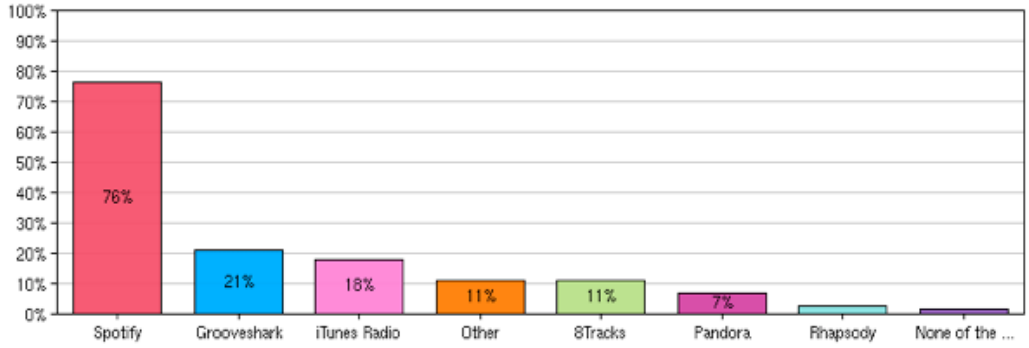


Figure 17: Other portals visited

5.1.6 Use of Last.FM – Final Thoughts

Finally, the users were asked if they considered Last.FM to be their main source of information regarding music and artists in general and the majority agreed this to be the case with 20.4% stating that it most definitely was their first point of reference, 35.7% stating it at being somewhat their main point of reference. A further 19.4% stated that Last.FM was a balanced point of reference in that it was used alongside other sources of information with 20.4% stating Last.FM was not really their main point of reference and 4.1% stating at not at all being their main reference point. Users were also asked if they would be willing to pay for Last.FM membership to access the site and a majority of 46.3% said they would not and a further 32.6% unsure whether they would. Only 21.1% would be willing to pay for the service with 66.7% of these willing to pay GBP 1-2 per month, 31.1% willing to pay GBP 2-5 per month and 2.2% willing to pay GBP 5-9 per month.

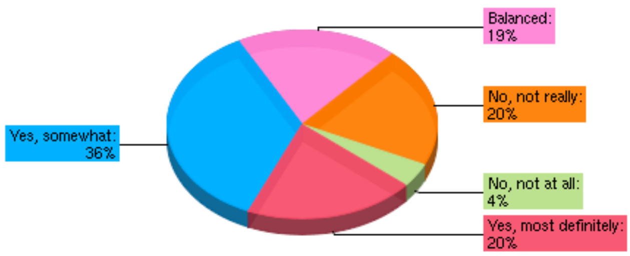


Figure 18: Last.FM as main point of reference for music

The respondents who stated that Last.FM was not definitely their main point of reference gave various explanations as to why this was the case. Many respondents stated that they used Wikipedia to obtain information regarding artists due to the fact that is 'works very fast', is simply 'better', they found it 'to be more accurate', 'reliable', because of 'much better content and site design-easier layout, accessibility and such' and that it was useful to just go directly to Wikipedia as 'the information provided on Last.FM is taken from there, but the original site (Wikipedia) is much more complete'. Other users stated that they simply used Google as their starting point for finding information about artists because 'it finds everything' and also more often than not will lead to the Wikipedia page of an artist anyway. Other sites that respondents mentioned they used as their main point of reference were Sputnikmusic as it is 'much better for discographies', Rateyourmusic.com, Musicbrainz, Discogs, Facebook artists pages, Spotify, BBC Music and artists own web pages.

However there was a significant number of respondents who do use Last.FM as their main point of reference and they gave varying indications of why this was the case. These users appreciated the fact that Last.FM is ‘constantly updated’, provides ‘direct links and updated information’, that it is ‘good for bio’s’, it has ‘the largest database’, that it is ‘convenient as it has loads of information in one place’. Additionally these users said that ‘there’s plenty of information on the artists page and additionally there are often opinions in the comments area’, the fact that it is ‘easily accessible, mostly unbiased, subjective and accurate descriptions of band bios and music style’, that Last.FM ‘is better for ‘live data like events, listeners and stats’ and finally that ‘Last.FM is my main point of reference for obtaining information about artists as the community approach gives it much broader selection of opinions’.

It is this final point that is raised that many feel is the added value that a site such as Last.FM provides as it is essentially site created, supplemented and edited directly by fans and the existing online communities it creates. In the following section, I will look into how various aspects of people’s use of the site, their geographical location, their age and interest affect how they interact individually on the site and within the online Last.FM online community aspect by testing these results against the earlier proposed 6 hypotheses on Last.FM use by UK youth.

5.2 Hypothesis Analysis

In the following analysis of the survey results, I will review the earlier six hypotheses which were created and discuss whether these hypotheses, alongside the theory earlier presented can be verified, debunked or remain inconclusive. I will also conduct various different significance tests by utilising SPSS in order to further complement the initial survey findings in the previous section to come to my conclusions regarding the validity of these hypotheses.

5.2.1 Hypothesis 1: Diversification of genres/artists listened to

Due to the fact that Last.FM provides users the opportunity to share new music with each other as friends, as members of a certain Group Page or with other users in general alongside its well known and praised artists recommendations tool, my hypothesis was that users would therefore experience a change in the genres and artists they listened to since using Last.FM.

The initial results show that that 49% of the respondents felt that their musical tastes had changed since using Last.FM (19.6% very much and 29.4% somewhat) with a further 28.4% undecided if this was the case. Therefore, with nearly half of the respondents claiming that Last.FM has influenced a change and diversification in the artists and genres they listen to, this hypothesis can be partially backed up. However we can wonder why exactly the users listening behaviours are changing and therefore I have sought to find reasons as to why this is the case.

The first variables that were tested against each other were the change in taste against how effective they felt the recommendation tool is. By conducting a test of significance in SPSS using a crosstabs, a Cramers V value of 0.516 is obtained which means that there is a very strong relationship between these two variables. It is thus clear that users who felt that the recommendation tool on Last.FM was accurate to their music tastes resulted in a change in the diversity of music and genres they listened to since using Last.FM.

Symmetric Measures

		Value	Approx. Sig.
Nominal by Nominal	Phi	1.031	.000
	Cramer's V	.516	.000
N of Valid Cases		112	

Figure 19: Significance test between change in taste & effectiveness of recommendations

Additionally, I conducted a significance test between change in taste and users that introduce new music to friends on Last.FM and found that with a Cramers V value of 0.548 that there was a very strong relationship meaning that people who introduce new music to friends on Last.FM were more likely to also listen to a more diverse selection of genres and artists themselves since using Last.FM.

Symmetric Measures

		Value	Approx. Sig.
Nominal by Nominal	Phi	1.096	.000
	Cramer's V	.548	.000
N of Valid Cases		112	

Figure 20: Significance test between change in taste & introducing new music to friends

Finally, a significance test was conducted measuring change in taste against how often users visited the site and with a Cramers V value of 0.329 it can be concluded that there is a strong relationship between the two variables meaning that the more often users visited the site, the more likely they were to experience a diversification in the music and genres they listen to.

Symmetric Measures

		Value	Approx. Sig.
Nominal by Nominal	Phi	.657	.002
	Cramer's V	.329	.002
N of Valid Cases		112	

Figure 21: Significance test between change in taste and amount of site visits

We can therefore conclude that as nearly half of the respondents implied they experienced a diversification in the genres and/or artists they listen to since using Last.FM, some of the most influential factors in bringing about this change were the effectiveness of the recommendation tool, the fact that they themselves shared new music with friend and contacts on Last.FM and also by the frequency which they spent on the website.

5.2.2 Hypothesis 2. Altered amounts of music downloading

As previously discussed in the theory section of this thesis, the music industry is becoming increasingly digitalised and the downloading of music online continues to increase whilst physical CD sales continues to decline. The users in this survey were asked whether they downloaded music online and 95.1% stated that they did. When asked in what manner they downloaded music, as in contrast to CD's users can decide to download per track individually and thus have more freedom which music they actually purchase, the majority of users stated that they still downloaded music in the form of full albums with 69.6% claiming to do so. A further 9.8% said they normally download single tracks and 14.7% said it was a combination of both (full albums and single tracks) depending on which download it was.

Of the 49% users that said they musical tastes had changed since using Last.FM, 33.8% said they downloaded music from these genres, 16.3% said they streamed music from these new genres and 41.3% a combination of the two. We can therefore conclude that as a result of using Last.FM for a certain section of the users their music download habits have been altered however this hypothesis remains mostly inconclusive.

In order to find factors as to why certain users that stated they primarily download new music various tests of significance were conducted. The first test of significance conducted was between users a change in music taste and increased downloading and with a Cramers V value of 0.518 this shows that there is a strong relationship between the two variables. This means that the more likely the user was to state that their music tastes had changed, the more likely they were to have downloaded music from these new genres.

Symmetric Measures

		Value	Approx. Sig.
Nominal by Nominal	Phi	1.036	.000
	Cramer's V	.518	.000
N of Valid Cases		112	

Figure 22: Significance test between change in taste & increased downloading

The second test of significance that I decided to use was between the willingness of the user to pay for the use of Last.FM and if they downloaded music from these new genres. This could prove to be interesting as users who mostly download (primarily illegally however this was not asked) may also prove to be unwilling to pay for a normally free service. The significance test provided a Cramers V value of 0.281 indicating a moderate relationship between the two. This however does not directly back up the claim that the more people were willing to download the more likely they would be to pay or not pay for Last.FM as the results were relatively balanced.

Symmetric Measures

		Value	Approx. Sig.
Nominal by Nominal	Phi	.486	.033
	Cramer's V	.281	.033
N of Valid Cases		112	

Figure 23: Significance test between willingness to pay Last.FM subscription & downloading new music

5.2.3 Hypothesis 3. Increased use of online streaming

Aside from altered amounts of music downloads, I predicted that the use of Last.FM would also result in an increase in online music streaming as many within the industry have discussed the importance of the new medium as a means to combat piracy whilst still offering the users the ability to listen to music online at a fair, low price (in many cases currently still free albeit with certain restrictions and the exposure to advertising to cover costs). The results showed that online streaming was the third most popular medium for listening to music, after listening to music through downloaded computer files and with nearly the same rating as listening via a portable mp3 player. This shows that in a relatively short space of time, online streaming has become a viable popular means for music fans to access and listen to music and that through Last.FM many users have started to use online streaming as their means of accessing musing thus qualifying this hypothesis as valid.

However the question is what role has using Last.FM had on this change. The site itself offers links on nearly all tracks to listen to music files via online streaming through the well-known online streaming service Spotify, and thus provides the service with a large potential base of users to use online streaming through its service. Users can of course also listen to streaming music via Last.FM radio however the amount of music they can listen to is relatively limited and in order to users to gain unlimited access they must pay a subscription fee of GBP 3 per month.

When users were questioned regarding linking to other online music portals directly through Last.FM, 65.3% said they did and of this user base, 57.4% said they used Spotify - second only to YouTube in the ratings. This shows that a fairly large portion of the respondents now streamed music more as a result of Last.FM. The users were also asked separately which other portals they used in general, regardless of the use of Last.FM and most of the respondents stated using online streaming portals such as Spotify (76%), Grooveshark (21%), iTunes Radio (18%) and 8Tracks (11%) showing how often the users of Last.FM use online streaming to listen to (new) music.

I looked at various variables to find out which other factors influenced this increased use of online streaming sites such as Spotify and the first one was testing the significance of the connection between users that said that their music tastes had changed and the increased of use of online streaming. The test of significance gave a Cramers V value of 0.518 indicating that there was a strong connection between the two variables meaning that users whose tastes in music had changed to a certain extent since using Last.FM were also likely to have streamed more music from these new genres.

Symmetric Measures

		Value	Approx. Sig.
Nominal by Nominal	Phi	1.036	.000
	Cramer's V	.518	.000
N of Valid Cases		112	

Figure 24: Significance test between changing music taste & increased online streaming

Additionally, a significance test was used to discover whether users who found the recommendations provided by Last.FM to be accurate also used online streaming more and the Cramers V value of 0.354 shows that there is a strong relationship between the two variables meaning that users who found the recommendation tool useful were more likely to use online streaming to listen to music from these new genres.

Symmetric Measures		Value	Approx. Sig.
Nominal by Nominal	Phi	.708	.038
	Cramer's V	.354	.038
N of Valid Cases		85	

Figure 25: Significance test between usefulness of recommendations & increased online streaming

It can therefore be concluded that there is a significant amount of Last.FM users that make use of online streaming, especially due to links to streaming sites provided within Last.FM. Also, some important factors influencing the increased use of online streaming are users that feel that their musical tastes have changed since using Last.FM and also are of the opinion that the recommendations tool in Last.FM is accurate in providing links to music that fits their musical taste.

5.2.4 Hypothesis 4 - Increased interactivity with other online music portals

In the theory section, the issue of convergence was touched upon which highlights the behaviour of music fans nowadays to not only obtain their information from one sole source but to utilise various different online sources to obtain their information. Whilst 56.1% of the respondents stated that Last.FM was their main point of reference for information regarding music and artists, it is clear that a majority use various different sites for accessing information about music with 73.5% stating they use other online music portals whilst 65.3% stating they do so directly through links on Last.FM also. Most of the portals that are visited are online streaming applications and sites such as Spotify (76.4%), Grooveshark (20.8%) and iTunes Radio (18.1%) but users expressed the fact that they often use Google and Wikipedia as starting points for finding further information regarding music. However on the basis that many users link to online portals directly through Last.FM, this means that we can assume that the hypothesis that Last.FM increases interactivity with other online music portals to be valid.

As users who visit more than one website for information regarding music normally represent more active and knowledgeable internet users, I decided to test this against certain other variables of their Last.FM use to back up the above hypothesis. Firstly, a significance test was conducted testing the use of other online music portals against the amount of time that users spend each visit to Last.FM and with a Cramers V value of 0.271 it can be concluded that there is a moderate relationship between the two variables implying albeit not completely convincingly, that the longer a user spends time Last.FM the higher there is a certain likelihood of them visiting other online portals.

Symmetric Measures

		Value	Approx. Sig.
Nominal by Nominal	Phi	.383	.036
	Cramer's V	.271	.036
N of Valid Cases		112	

Figure 26: Significance these between time spent on Last.FM & visiting other online portals

Additionally, a test of significance was conducted between users who visited Last.FM groups and those who visited other online portals and the Cramers V value of 0.693 indicated that there was a very strong relationship between the two indicating that the more regularly a user visited the Last.FM group pages, the more likely they were to visit other online music portals apart from Last.FM.

Symmetric Measures

		Value	Approx. Sig.
Nominal by Nominal	Phi	.980	.000
	Cramer's V	.693	.000
N of Valid Cases		112	

Figure 27: Significance test between visiting Last.FM Groups & visiting other online music portals

Lastly, a test of significance was carried out between users who actively participate on Last.FM by commenting on videos, photos and tracks and visiting other online music portals and with a Cramers V value of 0.593, this indicates that there is a very strong relationship between the two variables. This means that the more active the Last.FM user is on the site, the more likely they are to also visit and use other online music portals.

Symmetric Measures

		Value	Approx. Sig.
Nominal by Nominal	Phi	.838	.000
	Cramer's V	.593	.000
N of Valid Cases		112	

Figure 28: Significance test between activity on Last.FM & visiting other online music portals

It can therefore be concluded that the use of Last.FM leads to increased interactivity with other online music portals especially for users who spend more time on Last.FM than others, users who more frequently visit the Last.FM group pages and those who actively comment on various topics on Last.FM. This therefore also backs up the claim that convergence exists for Last.FM users, especially for the more active user.

5.2.5 Hypothesis 5 - Increased visiting of concerts/live shows

As Last.FM provides its users extensive concert and event information in their region in relation to their music taste, it was my assumption that this tool plus the extensive existing database of information provided on Last.FM would result in users visiting more concerts as a result. It turns out that a vast majority of the respondents (71.4%) stated that they visited concerts as a direct result of information provided on Last.FM albeit with varying frequency (7.1% very often, 38.8% sometimes and 25.5% very rarely). However this shows that in varying frequency, the tool provided by Last.FM results in users visiting more concerts as a result and thus the hypothesis can be proven to be valid.

I looked at certain connections between online actions such actively commenting on artists' pages, videos and tracks and partaking in group discussions and being an active offline (real-life) music fan. Firstly, a test of significance between actively commenting and visiting concerts was conducted and with a Cramers V value of 0.464 this shows that there is a strong relationship between the two meaning that the more active a users is online in commenting on various content on Last.FM, the more likely they are to visit concerts.

Symmetric Measures

		Value	Approx. Sig.
Nominal by Nominal	Phi	.929	.000
	Cramer's V	.464	.000
N of Valid Cases		112	

Figure 29: Significance test between actively commenting on content & visiting concerts

Additionally, I conducted a significance test between people who actively partake in discussion on Last.FM group pages and visiting concerts and found that with a Cramers V value of 0.340 that there is a strong relationship between the two meaning that active Groups users are more likely to visit concerts.

Symmetric Measures

		Value	Approx. Sig.
Nominal by Nominal	Phi	.680	.001
	Cramer's V	.340	.001
N of Valid Cases		112	

Figure 30: Significance test between active Groups use & visiting concerts

Aside from analysing what connects active users to actively visiting concerts, it is interesting to understand the reason why certain users visit more concerts than others. The users were also asked to clarify what possible factors resulted in them not being able to attend as many concerts as they would have liked and 69 respondents stated that they would like to visit more concerts but the main issues were geographical restrictions (66.7%) and financial restrictions (62.3%) as issues such as age, employment status and living far from where most concerts are performed (normally in the more populated cities) can have an effect on the possibility of them visiting concerts. If we look at the table below and the connected Cramers V significance test which gives a value of 0.429, we can conclude that there is a strong relationship between the age of the respondents and how often they can visit concerts, mainly the younger respondents do not have the finances to visit concerts as much as the somewhat older respondents.

Whatisyourage_A * Approximatelyhowoftendoyouvisitmusicconcertsperformances_A Crosstabulation

Count

		Approximatelyhowoftendoyouvisitmusicconcertsperformances_A							Total
			Multiple times per month	Not at all	Once per 3 months	Once per 6 months	Once per month	Once per year	
Whatisyourage_A	16	0	1	1	1	4	1	5	13
	17	2	0	0	0	1	1	0	4
	18	1	1	5	0	0	3	0	10
	19	0	0	1	1	2	1	0	5
	20	0	0	0	0	0	0	1	1
	21	4	1	0	2	0	1	0	8
	22	2	1	0	1	0	3	1	8
	23	1	3	0	5	2	1	1	13
	24	1	3	0	3	0	2	1	10
	25	0	2	0	2	1	5	1	11
	26	1	2	0	2	0	2	0	7
	27	1	0	0	3	0	0	0	4
	28	1	1	1	0	1	2	1	7
	29	0	2	1	1	1	2	0	7
	30	0	0	0	0	0	2	2	4
Total		14	17	9	21	12	26	13	112

Symmetric Measures

		Value	Approx. Sig.
Nominal by Nominal	Phi	1.050	.003
	Cramer's V	.429	.003
N of Valid Cases		112	

Figure 31: Significance test between respondent age & visiting concerts

Additionally, where the respondents live also has an impact on their capability to visit concerts as we can see in the below table and Cramers V value of 0.349 that there is a strong relationship between the two variables. Users who come from the Greater London area which as an international cultural hub with many concerts each week clearly have the more active concert visitors due to this.

Count

		Approximatelyhowoftendoyouvisitmusicconcertsperformances_B							Total
			Multiple times per month	Not at all	Once per 3 months	Once per 6 months	Once per month	Once per year	
WhichregionoftheUKareyoufrom_B		2	0	0	0	0	0	0	2
	East England	1	1	0	1	0	1	1	5
	East Midlands	0	0	0	0	1	1	2	4
	Greater London	4	8	1	7	2	10	3	35
	North East England	0	0	1	1	1	2	0	5
	North West England	1	1	2	1	1	2	1	9
	Northern Ireland	0	0	1	3	0	1	1	6
	Scotland	2	4	0	1	0	2	1	10
	South East England	3	1	0	4	4	3	1	16
	South West England	0	1	1	0	0	2	1	5
	Wales	1	1	1	2	1	0	0	6
	West Midlands	0	0	0	1	2	1	0	4
	Yorkshire and The Humber	0	0	2	0	0	1	2	5
Total		14	17	9	21	12	26	13	112

Symmetric Measures

		Value	Approx. Sig.
Nominal by Nominal	Phi	.855	.199
	Cramer's V	.349	.199
N of Valid Cases		112	

Figure 32: Significance test between respondent home region & visiting concerts

Therefore we can conclude that whilst a majority of the respondents said they used the Events pages on Last.FM to inform themselves about concerts and as a result visited these concerts, issues such as geographical location and the age of the respondents will always have an effect on the frequency of concerts they can visit.

5.2.6 Hypothesis 6 - Increased interaction with users online

The final hypothesis I proposed was that use of Last.FM would result in users connecting with other users online more due to the interactive nature of the site and the community aspect of the site allowing for increased online interaction. I decided to test this in various ways by asking users if they ever used the Last.FM group pages. The results showed that 79.8% of the respondents visited the Last.FM group pages in varying frequency (15.2% regularly, 28.3% sometimes and 36.4% very rarely) and 84.8% of these respondents were actually a member of at least one of these groups. From the users who were members a mere 58% said they actively ever took part in discussion or left comments, whilst the rest simply used it to obtain information and not actively engage or contribute to the pages showing that becoming member of a group pages itself does not directly constitute active engagement with other users as 62% stated their main motivation for joining these groups was out of curiosity.

Another sign of gauging how much the users on Last.FM interact with each other is by asking them if they ever became friends/contacts with someone solely through the site and a surprisingly large amount stated that they had with 46.9% stating they had done so. Although I accrued no data on how users interact with strangers and new contacts on other social community based websites such as Facebook, it is imaginable that people would not as readily accept friend requests from strangers. This highlights the difference in the nature of the website as it is primarily concerned with fellow music lovers sharing information about music and not sharing as much personal information as you would on a normal social networking site such as Facebook. Additionally, using the musical compatibility tool on Last.FM, users can see if their musical tastes are very similar which for the user also provides another means to discover new music.

However when the users were asked if they had ever met any of these new contacts that they made via Last.FM, 74.5% stated that they had never met them showing that the majority of the relationships remain online and do not often result in these new contacts meeting in ‘offline’. Additionally 67.3% of the UK users stated that they do not meet any of their contacts at concerts or events.

In order to gauge which factors also influence how active a person is on Last.FM I decided to test this against other behaviours of the users. Firstly, I conducted a test of significance between how often each user visits Last.FM and if they actively took part in discussions or activity on Last.FM groups pages and with a Cramers V value of 0.273, this shows that there is a moderate relationship between the two variables showing that it is likely the more someone visits Last.FM, the more likely they are to actively contribute to discussion on the Group pages.

Symmetric Measures

		Value	Approx. Sig.
Nominal by Nominal	Phi	.546	.097
	Cramer's V	.273	.097
N of Valid Cases		112	

Figure 33: Significance test between frequency of visits & active group participation

Secondly, I conducted a test of significance between the fact that users comment on content and if they actively contribute to discussion on the group pages and with a Cramers V value of 0.430 this shows that there is a strong relationship meaning the more actively a user comments on content, the more likely they are to engage in discussion on the group pages.

Symmetric Measures

		Value	Approx. Sig.
Nominal by Nominal	Phi	.860	.000
	Cramer's V	.430	.000
N of Valid Cases		112	

Figure 34: Significance test between commenting on content & active group participation

Thirdly, a test of significance was conducted between the fact that users edit and upload content and if they actively contribute to discussion on the group pages and with a Cramers V value of 0.403 this shows that here too there is a strong relationship meaning the more active a user is in uploading and editing content, the more likely they are to engage in discussion on the group pages and interact with other users.

Symmetric Measures

		Value	Approx. Sig.
Nominal by Nominal	Phi	.806	.000
	Cramer's V	.403	.000
N of Valid Cases		112	

Figure 35: Significance test between content editing & active group participation

Lastly, I wanted to see if users that frequently visit concerts also related to users that were active in group discussion pages so I conducted another significance test between the two variables and obtained a Cramers V value of 0.340 clarifying that there is a strong relationship between the two variables. This shows that users who more frequently visit concerts are more likely to be active in discussion and participation to Last.FM groups.

Symmetric Measures

		Value	Approx. Sig.
Nominal by Nominal	Phi	.680	.001
	Cramer's V	.340	.001
N of Valid Cases		112	

Figure 36: Significance test between frequency of concert visits & active group participation

5.3 Key findings

In the previous chapters I have outlined the aims of my research, discussed relevant theory relating to the chosen subject matter and now using the results from the UK Youth Last.FM User survey and the six tested hypotheses, I am now able to answer my main research question which was ‘To what extent does the use of Last.FM influence UK users music behaviour?’ In order to answer this question, I looked at various aspects of their online behaviour and also came up with various sub questions which will allow me to answer the main research question.

The first sub question was ‘To what extent do user’s online music listening behaviours change since the use of Last.FM?’. The users were specifically asked if they felt that their music listening habits had altered as a result of the recommendation services and wealth of information that is offered on the site, whether they listened to different genres as a result of using Last.FM and also which mediums they then subsequently used more to listen to this new music. As discussed in the theoretical framework, the concept of the Long Tail proposed by Chris Anderson (2007) outlines the potential of the Internet to provide a new kind of economics. Especially in the music industry, with the vast amounts of music available online, there is the potential for the market to be discovered and for users to use online platforms such as Last.FM to discover music they may before never had come into contact with, thus also broadening the range of music that can be marketed, distributed and eventually sold or streamed online. An overwhelming percentage of the UK users surveyed felt that the recommendation services provided by Last.FM did indeed fit their current musical tastes with 87.2% feeling this was the case. Leading on from this nearly half (49%) of the UK users felt that their musical tastes had changed as a result of using Last.FM with another 28.4% unsure if this was the case.

These results show that the use of Last.FM does to a certain extent change the music listening behaviours for the UK users however it is not possible to state that this as completely true due to the fact that only half of the surveyed users clearly stated this was the case. However, when discussing the effect of Last.FM as a means to attain a more decentralised and dynamic means of sharing, distributing and means of selling music it is quite clear that the effect of Last.FM on this new form of online distribution could prove to be telling. The fact that relatively any artist can be present on the site and with the correct tagging and categorisation by the users themselves, who are the main editors and content creators on the site, highlight the potential fan power may have in introducing new artists to users and changing their listening behaviours.

The second sub question that I proposed to answer was “What are the main motivations for using Last.FM and which functions are used most frequently?’ as I felt it would be interesting to understand and find out what the UK users perceive as the most important reason for using Last.FM. Especially with the services Last.FM provides and to understand in what manner they interact via the site, in terms of editing content and being active content creators and also in terms of interacting with other users. From the survey results, it was clear that the most important reason the UK users used Last.FM was to discover new music closely followed by users keeping track of their own charts and finding information about concerts and events. As previously discussed, the important role that Last.FM can play in the online music industry is to open up users to a varying amount of new music and with the opportunity to connect to music users around the world, see their playlists, connect with users with the same music compatibility, receive weekly recommendations based on their listening history and discuss music on one of the thousands of music groups shows the potential that the site provides to its users.

Aside from being mainly used as an engine of discovery, the website also acts as a community for users who actively engage in editing and contributing to artist pages and general site content. Sites such as Last.FM actively promote this activity by its users and this is clearly reflected in the results which show that 68.6% of the users to some extent commented on various artists’ pages. However when it came to being active content editors only 36.3% said that they ever did so in any capacity showing that the majority of users are passive in terms of actively contributing to the information available on the site.

Additionally in terms of actively partaking in discussion with other members within the community, we can look to the results regarding users’ use of the Last.FM group pages where most discussion between users takes place. Whilst 79.8% of the users said that they did visit Last.FM groups in varying frequency, only 58% said they ever took part in discussion and 32% of this group said they did so very rarely. We therefore see that although there is interest in viewing the groups, the actual base of users actively discussing and connecting with other users through the community aspect of the site was fairly low. Therefore, the challenge remains to see whether bottom-up user-created communities can continue to strongly influence the new online music culture that is being created and what Baym referred to in discussing the potential that the popular culture industries could have in benefitting from the publicity and promotions of cultural products by users themselves.

The third sub question is 'To what extent has the interactivity with other users of Last.FM transferred into the offline sphere?' I found this question especially interesting due to the previously discussed nature of communities themselves. When speaking of online communities, I chose to define this as 'a body of individuals having a common interest'. In the theoretical section of this thesis, it was discussed how the definition of 'meet' and 'face' have now become redefined in the era of increasing online communities. However even though these online communities continue to flourish, I wanted to see to what extent these online communities either supplement or lead to an increase or decrease of real life social interaction in the 'offline sphere'. For the percentage of users surveyed who were members of the Last.FM group pages (84.8%), more than half (57.6%) stated that one of the main reasons they joined these groups was to meet other music fans.

Nearly half of the users (46.9%) stated that they had become Last.FM friends with someone who they never knew before using the site however when questioned as to whether they ever met friends from Last.FM in real life, only 25.5% said that they ever had done so. Additionally, when questioned whether users ever went to see concerts or shows with friends from Last.FM only 32.7% said they ever did. These results show that for the majority the relationship between friends on Last.FM mainly remained on the online sphere and to a certain extent shows that in many ways, these new online communities sometimes supersede the old real life communities, simply due to the simplicity of being able to share information, engage in discussion and interact over distance online.

The fourth sub question is 'Apart from Last.FM, which other online music sites or applications do you use and how does this if at all, coincide with your use of Last.FM?'. One thing that becomes apparent when using the internet is that we use various different sources to obtain information, whether it be news, shopping, travel or job sites we try to use the full potential of the wealth of information available online to keep ourselves well informed. It is exactly the same situation for music users who can use various discussion sites, recommendation services, streaming sites / applications and streaming video sites to access information and entertainment regarding music. On sites such as Last.FM where the content can and is actively updated by its own users, this provides the users within Last.FM the opportunity to take advantage of this ‘collective intelligence’ to broaden their knowledge with regards to music. It is with this knowledge that users can prove a strong link in disseminating new relevant information and refers closely to what Baym’s statement that ‘ a large group of fans can do what even the most committed single fan cannot: accumulate, retain and continually recirculate unprecedented amounts of relevant information’ (Baym, 2007).

The surveyed users also made it clear that they used various different sites to access information 65.3% saying they connect to other services directly through links provided on Last.FM with Youtube (91.2%), Spotify (57.4%), Music Blogs (38.2%) and Flickr (32.4%) being the most utilised through the site directly. Also, 73.5% of the users stated that they use other online music portals in general with Spotify being again one of the most used, followed by Grooveshark (20.8%) and iTunes Radio (18.1%). These results are especially interesting as they show that the 3 most used other online music portals are all online streaming sites/applications. It has become apparent during the research that many users, at least within the Last.FM UK user community have taken to online streaming and use these applications frequently.

6. Conclusions

The aim of this thesis was to uncover the role that online music portals, and in this case specifically Last.FM, can play in altering the young UK users online and offline actions concerning music use. The results have shown that in varying levels, the use of Last.FM has an effect on how people interact with music and other music users as a result of the platform they are able to use and actively create.

Firstly, the results show that a significant amount of young UK Last.FM users experienced a change in the amount and variety of music that they listened to, that they used concert information available to visit an increased amount of concerts and therefore back up the earlier claims by Wall-Smith et al. about the potential that the website provides in acting as an engine of discovery and putting music users in touch with music that they otherwise would most probably not have discovered.

The results also reflect that active online communities breed more well-informed music fans readily willing to update and share information regarding artists and events not only on Last.FM but across various online platforms. The added value of such a website shows that when music users are given the freedom to actively contribute and engage on such online music platforms that there can be significant knock on effects both for the users online and offline music behaviours but also potentially for the music industry at large. However, Last.FM does not function alone in contributing to this new online music industry but operates alongside various other websites and applications as this provides the user with a varied and selectively specialised set of information and access streams which then in turn can be shared with other users. It is exactly this sharing which results in a new knowledge space which Levy dubbed the ‘cosmopedia’ and emphasises the potential that such sites have in becoming not only points of information but a place for ‘collective discussion, negotiation and development’ (Levy, 1997, p. 217).

The most important change is the manner in which the users themselves changed they way on which they interact and access music. In the last decade especially, music users have become accustomed to accessing music and information regarding music online via the Internet. Many users are also known to download music via illegal p2p file sharing applications and thus are not used to paying for most of the music they listen to. In my research, I did not ask the target group whether they ever used these p2p file sharing sites due to concerns over whether users would be willing to share this information but in hindsight including this (optional) question would have proven to give a clearer insight into the download habits of the users and thus would be advisable for any future research into the field. Whilst existing research into illegal file sharing by UK youth showed that this activity was extremely popular, it would have proven to be very interesting to compare these results with my own. Even most users who use p2p file sharing applications realise that if everyone is to download music illegally, the industry would simply collapse if no viable alternative revenue stream is found and that the production of music as we know it would be not sustainable.

However users now have more choice, both in how they access music and what types of music they can access. Probably most importantly of all when discussing potential new business models for the music industry, users also have more choice in how much money they pay for music as they demand more choice regarding the purchase of single tracks or full albums and where they download the music from. Most devoted music users want to support their favourite artists however there is the feeling that they are not willing to pay the extortionate prices they were forced to during the past century and when record companies were the actors making the most profit out of the monopolistic control they had over the music industry. Users demand fairer prices for the music they access and also want artists to receive a larger portion of the money instead of the record companies. This is also an area of research that in hindsight I would like to have researched more as knowing how users feel about the record companies could also help in determining future business models for the industry and is advisable for future research.

Therefore, in trying to determine the best methods in which to find a fair and user-friendly music distribution method, it seems that online streaming is proving to be a strong model on which to build. The only issue is ensuring that enough music users eventually will be willing to pay a subscription to these services as although they provide some limited access to files (with a maximum number of songs per month and advertisements interrupting the streams), in order for the distribution model to be a success more paying subscribers are needed in order to gain enough revenue for the artists and the record companies. Additionally, licensing laws sometimes prove to be complex especially in the United States where the licensing laws are less streamlined than in Europe.

It is with such a new form of digital distribution that Last.FM could therefore clearly play an important role when looking that the site's position within the economy of the online music industry. The above results have shown that a relatively large percentage of the users have experienced a change in the way in which they listen to music and that there is a diversification of artists they discover and listen to due to the recommendation services provided by the site and their fellow users. Additionally, the users have made it clear that the priority of their use of the site is to actively discover new music and if the Long Tail economic model proposed by Anderson (Anderson, 2007) is to be taken advantage of, sites such as Last.FM offer the potential for niche markets in the music industry to be exploited and receive increased attention from the many million users of the website. Also, we can see that Last.FM also functions well as a burgeoning online community between users that can work as a tool to obtain more information about artists and potentially also new artists thus contributing to the aspect as the site as an engine of discovery.

Lastly, and probably most importantly with regards to the potential influence of Last.FM within the new online based music industry, is the use of other applications by users and how they combine information across various different channels. No matter how much users value Last.FM as a site itself, online music users use various online sites and portals to obtain information and access music. This is an understandable and logical notion that is applicable to any kind of website however due to the fact that the site's users actively discuss online and are able to give links to various other websites such as Flickr, YouTube and various music blogs this shows that the potential for a 'cosmopedia' (Levy, 1997) for music is very real and that Last.FM can act as a binding factor in that new online space.

Especially due to the fact that the site offers direct links to listen to music on Spotify could prove to be telling. After Last.FM had to introduce a monthly subscription fee for users outside the US, UK and Germany wanting to make use of their Radio function, the use of the site as a streaming application was no longer really applicable to many global users. Alternatively, now Spotify has proven to be popular with the UK users of Last.FM with it being the most used other online application. With a vast and ever increasing music catalogue, high quality streaming mobile application and support by the four major record companies, who even jointly own nearly a quarter of the company, prove that Spotify could be the main application to use in the future for online music streaming services. For Last.FM to maintain its position as an important music hub, links to Spotify should be maintained and if possible strengthened with possible integration of Last.FM and Spotify's services regarding information regarding concerts, biographies, discographies and possibly links to artist-related Last.FM groups.

I believe that the results from this research can be utilised to analyse trends amongst youth, in this case in the UK, to better understand the shifting patterns in online and offline music behaviour. However even more interesting would be to conduct in depth discussions with a cross section of the target group and to discuss potential new modes of accessing music and to uncover whether they feel that online streaming is a viable and fair business model to be promoted. The results from more specified research into how youth perceive these new potential business models could provide both websites such as Last.FM, applications such as Spotify and the record companies themselves with a more concrete idea to both meet the users demands whilst also still ensuring fair remuneration for artists and musicians alike.

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