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Independent music discovery, retrieval, and promotion
via folksonomies and social networking sites

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Abstract

This study investigates whether folksonomies and social networking sites are useful tools when searching for music from independent record labels. It uses questionnaires, and interviews to collect the users' views and awareness of these tools for discovery. It gathers the data generated and relates it back to the existing scholarly literature within the field of folksonomies and social networking sites.

This study also investigates from an independent record label's perspective, the usefulness of social networking sites and recommendation systems as tools for promotion. Finally, Chris Andersen's "Long Tail" theory and digital distribution are examined as they relate to independent record labels and artists.

Results showed an overall unawareness of the newer folksonomic approach towards music discovery, with respondents generally using social networking sites for music discovery. Respondents who were aware of music folksonomies as tools for information retrieval tended to shy away from it again staying with the more established social networking approach towards music discovery. When the users did use and contribute to the folksonomy, most respondents were found to tag for personal retrieval purposes rather than attempting to aid the retrieval purposes of the population of site users as a whole.

Results from 4 record labels showed a unanimous agreement that social networking sites are having a major impact on the way independent music is being discovered and is a future area which needs to be examined more thoroughly. Digital distribution was also found to have a major impact on independent record labels allowing them to be discovered in areas outside of the record shop, however also creating new promotional dilemmas as digital distribution continues to develop.

Due to the overall low response rate to questionnaires and a lack of awareness of many of the new tools for information retrieval investigated in this research, further research is required as these tools continue to develop. Digital distribution is continuing to make inroads in the purchased music market; with physical cd sales falling drastically and digital sales increasing, continued examination of digital distribution and its effects on the music industry is suggested.

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Chapter 1 : Introduction

1.1 Overview

Discovering and locating independent music has traditionally been a difficult practice. Independent music is characterised by being outside of the mainstream and the large financially backed major labels. Independent music has for the most part, been unable to gain commercial radio airplay, national distribution allowing them to be carried in the larger chain stores, and absent from the larger music magazines. These factors have required fans of independent music to take non-traditional actions to discover it; utilising non-commercial magazines or fanzines, independent record stores which cater to their needs, word-of-mouth recommendations, frequent smaller concerts, and non-commercial or university radio stations.

These challenges for discovery have been greatly alleviated through the internet and digital distribution. The internet has allowed for the global reach of fanzines, independent record stores and non-commercial radio stations. Fans of independent music can now locate reviews of new or their favourite independent artists by visiting online fanzines with flash animation, embedded streaming of songs or song samples and interviews. These fanzines more often than not provide links either to the artist or label themselves or to an online store where they can purchase the album. Gone are the days of mail order; mailing postal money orders to the record label, indicating your choice and providing alternatives in case the record is not in stock. Fans can now visit the labels website, and know if the record is out of stock, and purchase directly through the site either a physical or digital download of the album. Blogs dedicated to a particular artist or genre are available for fans to join discussions, read current news and frequently follow links to download entire albums illegally. Many non-commercial radio sites now offer streaming radio allowing the fan from Liverpool to tune into a station in Seattle and discover new artists in the Seattle scene.

While access to these once obscure music resources have been made available via the internet the problem again has come back to discovery. New websites, blogs, and fanzines are being launched almost daily and the fans are now dealing with an abundance of access to discovery. Much of this information continues to go un-organised; there is simply too much information to be classified by information professionals alone, author created metadata and user-generated metadata is now being used to help alleviate this problem of abundance (Mathes 2004, in Speller 2006 p. 7).

Websites such as LastFm have developed databases, harnessing this user generated metadata and allowing other members to search on the terms other users and themselves have created. These databases it is believed will provide better results for fans searching because the descriptors used speak the same language as the fans. This approach to information organisation and consequently information retrieval could prove highly beneficial to the users. No longer will they have to wade through the all too deep “pop” and “rock” genres as search terms. Users can now use search terms such as “twee pop” and be led to other artists that reflect this genre of music.

Numerous authors (Jennings, Radar, Shirky, Wash, etc.) have begun to look at user-generated metadata and the folksonomies which they create, as well as social networking as tools for information discovery and retrieval. This study hopes to add to this body of research by focusing strictly on the area of independent music discovery and retrieval via these websites and the record label's utilisation of them as well.

The research problem is to discover if social tagging and folksonomies within the area of independent music aid in the information retrieval and discovery of it. To accomplish this it will be investigated whether, and how social tagging and social networking sites related to music are aiding in its retrieval and discovery. The project examines whether folksonomies facilitate or hinder independent music discovery and retrieval, and finally the ways in which independent record labels are utilising social networking sites for promotion are investigated. The methods include using a paper based questionnaire passed out at live concerts asking participants their preference for music discovery; interviewing authors, professionals and academics within the field of information retrieval their views on the abilities of folksonomies as a tool for music discovery; interviewing independent record label executives on their approaches to promotion on social networking sites;

and participating and joining social networking sites and groups which focus on music discovery.

1.2 Aims and objectives

1.2.1 Aim

To investigate the operation of music social tagging ,social networking sites and recommendation systems in relation to independent music information discovery and retrieval and music promotion by independent record labels.

1.2.2 Objectives

1. To undertake a literature review of the scholarly literature regarding folksonomies music recommendation systems and social networking sites.
2. To understand the music retrieval and discovery abilities of social networking sites, folksonomies and music recommendation systems.
3. To understand from an independent record label and fan perspective the usefulness of social networking sites for music retrieval, discovery and promotion

1.3 Scope and definitions

1.3.1 Scope

The scope of this research is limited to the time, location, and resources available, meaning that the size of the population will be too small to generalise results for a wider population. Further limitations include the geographical location of concert attendees (Kansas City, Missouri) and age (generally over 21 given the law of bar admittance in the United States). However the results should give an indication of the use of folksonomies, social networking sites and music recommendation systems as tools for music discovery, and their use for music promotion by record labels.

This research only looks at the discovery and promotion of independent music via these services and does not investigate the larger record label's output. Furthermore it does not look into the artist's approach towards social networking sites or their concerns for illegally downloaded copies of their work. Generating user's satisfaction statistics based on retrieval and discovery results is beyond the scope of this dissertation.

1.3.2 Definitions

Independent music

Independent music is generally defined as music which is released on record labels outside of the “Big Four” record labels, Universal, Sony, EMI, and Warner. Independent music is known for their autonomous, do-it-yourself approach to recording, publishing and live performing (Wikipedia). This research will focus on the subset of independent music in the form of “Indie-rock” which itself is an extremely wide genre, including, indie-pop, punk, post-punk, shoegaze, etc. For the purpose of this research to be defined as indie-rock the artists must be rock n' roll based, on

a non major label, and have little or no commercial airplay. This lack of commercial exposure makes it a prime example to investigate the discovery of information through non-traditional information retrieval means (folksonomies).

Folksonomies

Folksonomies are the result of the aggregation of user-generated metadata or tags about a given web resource. Websites which support tagging allow the users to pick their own keywords to describe the resource to facilitate retrieval at a later date. These tags are made public and provide other users with the ability to search for items using tags. The term is generally credited to Thomas Van Der Wall the term folksonomy literally means "people's classification management"(Wikipedia). Van Der Wall distinguishes between what he calls broad and narrow folksonomies. Broad folksonomies are defined as “many people tagging the same object and every person can tag the object with their own tags in their own vocabulary” (Van Der Wall, 21 February 2005) Narrow folksonomies are defined as “done by one or a few people providing tags that the person uses to get back to that information. The tags, unlike in the broad folksonomy, are singular in nature (only one tag with the term is used as compared to 13 people in the broad folksonomy using the same tag) (Van Der Wall, 21 February 2005). For the purpose of this research broad folksonomies will only be investigated.

Recommendation systems

A recommendation system uses information filtering techniques to introduce the user with suggestions based on their profiles. Based on either explicit or implicit data supplied by the user the system learns more about the user. Explicit data gathering can come from direct ranking of the items on a sliding scale, asking users to rank a collection of items or asking users to create a list of items they like (wish lists). Implicit data gathering can come in the form of tracking a user's buying, renting or listening habits, analysing the user's viewing times, or analysing the user's social network and discovering similar likes and dislikes (Wikipedia).

Chapter 2 : Literature Review

2.1 Introduction

The purpose of this review is to examine contemporary researcher's work regarding user generated taxonomies or folksonomies in relation to information retrieval, organisation and discovery of music. Given the relative newness of music folksonomies and music social networking sites, much of the literature available is outside the traditional scholarly realm of journal publications and books. Due to these limitations much of the literature for this review is from weblogs, pre-print publications, interviews, and theses. This is not to say that traditional problems associated with information retrieval, organisation, and discovery do not apply to music folksonomies. On the contrary, recall versus precision, subject indexing and serendipity are some of the traditional problems which apply to folksonomies. Therefore publications dealing with these problems have also been reviewed for this research.

Much of the literature surrounding folksonomies and social tagging examines the theories and definitions of them in general. When a particular service based on folksonomies is examined the concentration has been on the image or web-based bookmarking services available, Flickr (Hidderly & Rafferty) and del.icio.us (Radar & Wash, Porter etc.) respectively. A comparatively small number of studies have been undertaken in regards to folksonomies as they relate to music retrieval / discovery. The lack of a body of knowledge regarding folksonomies and music justifies the need for further research in this field. Folksonomies represent a new and exciting field for the information science professional and folksonomies regarding music represent a subset of this field.

2.2 Independent music discovery before the Internet to digital distribution

Independent music can loosely be defined as music released on record labels outside of the "Big Four" record labels (Universal, Sony, Warner and EMI). According to Nielsen's Soundscan Statistics (statistics gathered from the number of times a barcode is scanned from a record), the Big Four accounted for 81.87% of the U.S. Market in 2005, Independent labels accounted for the remaining 18.17%. (http://en.wikipedia.org/wiki/Big_4_record_labels#_note-1) By this very definition and the statistics, it is clear that locating and discovering independent music is a difficult task. Not being part of the Big Four, leaves independent music and labels fighting for coveted shelf space in larger chain stores (i.e. HMV, Virgin, Wal-Mart, Bestbuy) with the almost guaranteed sellers. Furthermore many of the independent labels are unable to afford or even obtain the national distribution necessary to appear on the weekly list of new releases the larger chains receive when making their purchases. Digital distribution has changed much of this, the larger chain stores find themselves scrambling to keep up with the convenience of the digital stores and breadth of their inventory. The digital shelf has removed the necessity of justifying the ½ inch of space a cd takes up on an actual shelf. The server space an album from an obscure artist on an independent label is minuscule and the rationale to carry the album is removed. Given these conditions of the online music sales market, Apple's iTunes digital store has recently moved to the third largest music retailer in the United States. (Digital Music News 25 June 07) Furthermore the second leading site for digital music purchases is Emusic a service dedicated to serving independent music. (<http://mashable.com/2007/07/30/att-emusic-deal/>) Barriers to entry into the larger (albeit digital) stores have been reduced. Digital distribution services such as tunecore offer distribution to the major online retailers and larger royalty rates (<http://www.tunecore.com/>)

Prior to the internet and digital distribution independent music discovery relied on numerous however minimal cues. "Mom and pop" stores, word-of-mouth recommendations, non-traditional publications "fanzines" or attending a live concert, were common ways for independent music to be discovered. Some fans of independent music even relied on album cover art to pique their interest

in an independent artist with varied results. (Jennings 2007, p.2) The internet and digital distribution has changed this immensely. Mom and pop stores and independent labels now have their own websites or can sell their wares on Amazon if not directly. "In this day and age, it's rare that a retailer carries the full range of our releases, so thank God for Amazon.com," Andy Kotowicz, vice president of sales and marketing at Sub Pop Records (Digital Music News 18 April 07). Word-of-mouth recommendations can now come via social networking sites or personalised online radio stations (i.e. Launchcast, Lastfm, Pandora). Music reference sites such as allmusic.com allow fans to research their favourite artists, track their discography, read a biography, view the band's influences and discover the genres they are associated with.

The above examples are exposing and exploiting what Chris Anderson refers to in his book of the same name "The Long Tail." The Long Tail examines the sales to the right of the traditional power law distribution where the curve is less steep. The High part of a power law distribution represents the best-sellers in the music industry, the left part represents the niche markets of lower sellers in the market (independent music). The internet and digital distribution allows consumers access to these lower sellers providing them with a greater chance for music discovery. The internet and digital distribution allows for what David Jennings (2007) refers to as 3 of the main components for music discovery in the digital age; Trying out Links and Community (TLC). Users can now read an online review of an artist, follow the link at the end of the article, try out the music via the artist's or record label's website, and if they'd like participate in a community of users who share a common interest in their newly found artist. Social networking sites such as LastFm who's main focus is music discovery are available for consumers to discover, discuss, and learn about music in the Long Tail. LastFm has gone one step further and allow their users to classify the music themselves, creating a folksonomy and a user-centred approach to retrieval.

A folksonomy is a user generated uncontrolled vocabulary used to describe items which is then searchable by all members of the system for retrieval. Folksonomies have develop as a consequence of the large amount of material appearing daily on the Web. Folksonomies harness what James Surowiecki refers to as "The Wisdom of crowds" and others refer to as giving "power to the people," (Quintarelli) The belief is that multiple people with diverse voices and opinions, and their collective knowledge are better than one voice and opinion. Folksonomies remove the set number of terms which are available to describe an item and allow the users to choose as many and as specific terms as they would like. However author Peter Morville (2005) views this ability of folksonomies as creating too many access points in terms of retrieval; "When it comes to findability, their inability to handle equivalence, hierarchy, and other semantic relationships causes them to fail miserably at any significant scale. If forced to choose between the old and new, I'll take the ancient tree of knowledge over the transient leaves of popularity. " (p.139)

2.3 Folksonomies as a tool for Information retrieval

A folksonomy is a user-generated taxonomy used to categorize and retrieve web content such as Web pages, photographs and Web links, using open-ended labels called tags. The folksonomic tagging is intended to make a body of information increasingly easy to search, discover, and navigate over time. A well-developed folksonomy is ideally accessible as a shared vocabulary that is both originated by, and familiar to, its primary users. (wikipedia)

Folksonomies are emerging in an effort to classify much of the vast amount of web based material, both textual and non textual being generated daily on the internet. The two Most commonly cited examples are del.icio.us (Radar & Wash) and Flickr (Hidderly & Rafferty), however music folksonomies are beginning to develop as websites such as Lastfm continue to grow. At such sites, users are allowed to "tag" an item to describe its "aboutness" with as many or as few keywords as they wish. Folksonomies emerge as a result of the aggregation of these tags. In contrast to the top down hierarchical organisation traditionally created by information professionals, folksonomies are non-hierarchical, with no parent child relationship. Furthermore because the descriptors are free form and numerous, the tags it is argued by Shirky, are better able to reveal a

user's view of a semantic relationship between the object and descriptors and offer many more points to access the object(s). Mathes (2005) argues that one of the greatest strengths of folksonomies is the direct reflection of the vocabulary of the users. "In an information retrieval system there are at least two, and possibly many more vocabularies present." (Buckland, 1999 in Mathes 2005) Including the user of the system, the designer of the system, the author of the material and the creators of the classification scheme (Mathes 2005). Folksonomies connect the eventual users of the information with the process of metadata creation facilitating their own retrieval at a later date.

Many of the proponents of folksonomies (Hammond, et. al., 2005; Kroski, 2005; Mathes 2005; Merholz, 2004; Shirky, 2005) see them as much more responsive to the users and changing terminologies than a hierarchical taxonomy with a controlled vocabulary. Folksonomies and their uncontrolled vocabulary can be added to and updated whenever the user sees fit. With the number of web resources growing exponentially on a daily basis, "this flexibility allows swift responses to changes in terminology and to world events."(Kroski 7 December 2005) In contrast controlled vocabularies and taxonomies are slow to respond, at times requiring an information professional to "force a fit" of an item into the pre-existing set of preferred terms instead of being able to create a new preferred term as folksonomies are able to. Kroski continues, "things change; countries change names, computer technology expands, and sometimes groups of people change the way they refer to themselves, i.e. Blacks, Negroes, Afro-American, African Americans. And in the world of the Web, things change fast."

This adaptability of folksonomies, the ability to add more and more descriptors is not without its opponents. The sheer number of descriptors it is argued, sacrifices precision for recall. "Unfortunately, it is precisely this diversity that decreases search precision." (Radar & Wash) Radar & Wash continue their argument saying, "When a given tag is applied to bookmarks in an inconsistent manner by many users, more variability exists in the content returned when a user searches with that tag. The desired bookmark may be returned, but there would be too much other "noise" in the results for it to be noticed." This noise is a consequence of what Radar & Wash refer to as tagging for social or selfish reasons. They argue that some users strive for tag convergence, recognizing the social aspect of the system as a tool for information retrieval and actively choose and select "commonly used tags for this item" whilst others tag for themselves only ignoring the suggestions of the system. The social tagging versus selfish tagging issue presents itself as a major roadblock towards information retrieval, and questions the usefulness of folksonomies in general. As these folksonomies continue to grow authors Guy & Tonkin, have put forth the idea of "tidying up tags" to encourage tag convergence and prevent Google type results while searching.

The presence of synonyms and homonyms compounds the issue of noise in searching a folksonomy. Kroski (2005) notes that many sites which support the creation of folksonomies, have the tendency to not make allowance for the identification of synonyms. This leads to a break up of the collections and reduces recall.

Speller in her February 2007 article for Library Student Journal examines the attempts of del.icio.us and Library Thing to overcome this lack of tag convergence and aid in retrieval, "(del.icio.us) by automatically finding 'common tags', i.e. those often used in combination with the search term, and suggesting the user searches for these tags too. Library Thing takes this a step further and allows users to select synonymous tags from the list of related terms." (p.3)

The existence of homonyms (same word different meaning) adds to the noise in the system as well. Controlled vocabularies with their thesauri will tell the user when looking for apple to use apple when searching for the fruit and Macintosh when searching for the computer company. Without this tool a folksonomy will lead the user searching for the computer company to resources regarding the fruit as well and decrease the precision of the search.

The dilemma of precision versus recall is common for the information retrieval professional. Is casting a wide net the best strategy, attempting to find numerous documents mentioning

folksonomies (recall), or is casting a single line, looking for specific articles on the desired subject music folksonomies a better strategy (precision)? Sites such as del.icio.us and Lastfm still in the infancy of their development of a folksonomy, and lack of overall tag convergence, at this time generally support the recall side of information retrieval. Shirky argues “that in folksonomies there are no such things as synonyms, because users employ tags for specific reasons. Therefore every different user-selected word actually has a unique meaning (e.g., cinema and movies)” (Guy & Tonkin (2006). Shirky's view supports what Joshua Porter is arguing in his March 2005 post “Controlled vocabularies cut off the “Long Tail.”

(http://bokardo.com/archives/controlled_vocabularies_long_tail/)

The Long Tail is a theory put forth by Chris Anderson, which examines the many niches outside of the relatively few number of niches at the head of the tail. “The Long Tail paradigm is about the discovery of information, not just the finding of it. The distinction I’m making here between discovery and finding is that users who discover information didn’t need to know it was there to begin with” (Porter “Controlled vocabularies cut off the long tail” March 9 2005). The discovery of music by exploiting the Long Tail may be the strongest selling point of the benefits of folksonomies of music. New genres for music appear regularly from “micro-house” to “cuddlcore” and folksonomies with their adaptability, can better account for this rapidly changing vocabulary more quickly than a controlled vocabulary. The terms used to describe music are highly subjective; embracing an uncontrolled vocabulary can better account for the numerous personal views of what the music is.

2.4 Social Networking sites, music Folksonomies and recommendation systems

As shown above folksonomies create multiple access points which controlled vocabularies do not. Folksonomies listen to every user who wishes to tag an item and adds their perception of what the item is about. Controlled vocabularies by definition place limits on the use of vocabulary within a given system, thereby reducing the number of entry points for the user of the system. The creation of multiple access points by the many different voices present in the folksonomy develops a long tail of information discovery. Music social networking sites which develop folksonomies (i.e. Lastfm) provide access to a variety of niches which consumers have heretofore had difficulties locating and discovering. The user can now navigate their way down the Long tail exploiting the diverse language used in the folksonomy which can provide a fertile ground for serendipitous music discovery. Rice (1998, p. 139) "Stated very generally, the potential for serendipity should be directly related to the number of different access points or potential ways of retrieving from a given system."

Searching for music before the web was generally done in music stores and magazines using minimal cues (Jennings 2007). The discovery of new music for the “average fan”, and serendipitous discovery was generally, limited to what was in the store, on the radio, references in magazine articles to artist's influences or similarities with other artists. Generally pre-web music discovery of “something different” was performed by what Emap Advertising defined in their Project Phoenix report as the “Savants” of music (Emap 2003, 2005). For the savants of music, their main identity is around music and music discovery, this population frequently attend live music, listen to small, non-commercial radio stations, and take great pride in discovery of new artists and sharing their discoveries with friends. (Jennings 2007, p. 19) Serendipitous music discovery happened for them because they were willing to search outside the traditional realms, knew lesser known bands, read non-commercial fanzines and as a consequence became exposed to greater niches of music than traditional media provided. Bawden (1986,) has defined three types of serendipitous browsing, the savants can be seen to fit into all three. "Purposive" browsing, the deliberate seeking for new information in a defined (albeit broad) subject area; "capricious"

browsing, random examination of material without a definite goal; and "exploratory" or "semi-purposive" browsing, in search quite literally of inspiration" Bawden (1986, p.211). The Internet, social networking sites, and folksonomies have opened up the discovery of music and provided the average fan with the ability to embrace their inner savant.

Social networking sites such as Myspace, Facebook, and Bebo provide users with the ability to make new connections and friends outside of the physical realm. A user of a site creates a profile displaying their interests, and can then follow links from their interests to other users with similar interests. This linked nature can help music discovery greatly, if user A clicks on their link from an artist of their interest and finds user B who has some of the same tastes but also new ones, user A can then try out this new artist either from user B's homepage or the system in general. This system is what David Jennings in his book "Net, Blogs, and Rock n Roll" has dubbed TLC; Trying out, Links, and Community(p.10). By using one artist as a thread the user can now be taken to multiple similar artists further down the Long Tail and increase their chances for new discoveries.

However discoveries via Myspace and general social networking sites can involve a great deal of active time for the user, searching and clicking on links, leading to other pages and pulling the discovery towards them. This dedicated behaviour is reminiscent of Savants only in the digital realm. For automatically generated or pushed discoveries, that still incorporate Jennings' TLC formula, the user can log on to sites such as LastFm and their music folksonomy. LastFm is an online streaming radio recommendation and social networking site which allows the user to stay put and brings the music to them. Based on the user's preferences and searches for artists or tags, the service recommends artists and tracks they may like. Based on a user's listening habits and music collection LastFm generates a list of "neighbours" or friend recommendations, the entire social make-up of LastFm is around music likes and dislikes.

LastFm is a recommendation system based on explicit and implicit data input from its users. LastFm generates their recommendations on other users of the system, it is a social recommendation system. The explicit data is obtained when the user request similar artists or "items that have been tagged with" and the user indicates the "love" or "tag" for a track recommended. The implicit data is gathered through analysing the user's listening habits, analysing their listening to other user's stations, and their social networks created on the site. The tags created by the users generates the folksonomy which creates similarities between artists, genres and other user defined musical attributes providing access points for users and paving the way for the recommendations from the system. LastFm's folksonomy is able to adapt to the sudden availability and discovery of more of the artists that make up the The Long Tail. When user A discovers and listens to an artist towards the right side of the tail, that artist is then incorporated into user A's listening profile, and the user enters the artist into the system. The way LastFm is able to do this is by providing an optional plugin from their website. When the user downloads the plugin they are then able to have the plugin playing in the background while they listen to their music on their preferred media player. This option increases LastFm's data immensely, no longer is the data only generated when the user is at the website actively using the system. Lastfm can now perform its work in the background, adding to the user's profile and therefore can be used as a basis for recommendations. This ability allows LastFm's folksonomy to be much more responsive to the users listening habits. This is where the powerfulness of a music folksonomy can come into play. With a myriad of descriptors (tags) on any one particular artist or song, the average user, searching on say "alternative" and the savant searching on the more obscure tag "twee pop" can be lead down the Long Tail towards (possibly the same) discovery. David Weinberger in his book "Everything is Miscellaneous" likens folksonomies to trees where the same subjects (leaves) can hang on many different branches.

"it's to our advantage to hang information from as many branches as possible. If you get a new Casio digital camera to sell...you'll want to list it under as many categories as you can think of, including, cameras, travel gear, Casio products, graduation gifts, new items, sale items, and perhaps even sports equipment. Hanging a leaf on multiple branches makes it more findable." (p. 103-4)

Seen in this light, the more detailed a dedicated subject folksonomy is (i.e. music), the greater the possibilities are for discovery and retrieval of facets within that particular subject.

Pandora is a music recommendation system as well; however it does not employ a folksonomy but a controlled vocabulary of just under 400 attributes. Music experts analyse each track against their template or controlled vocabulary of terms and designate which qualities it possesses and the track is then available to be recommended. Pandora's recommendations are based on their "Music Genome Project." By entering in a particular artist or song a user is then given a personalised streaming radio station based on the artist's or song's musical "genes." The user is then able to share their station with other members of the system for a more social approach.

The Music Genome endeavours to:

capture the essence of music at the most fundamental level...assembling literally hundreds of musical attributes or "genes"...Taken together these genes capture the unique and magical musical identity of a song - everything from melody, harmony and rhythm, to instrumentation...It's not about what a band looks like, or what genre they supposedly belong to, or about who buys their records - it's about what each individual song sounds like.

As with most expert led systems, the cataloguing of each item takes time, some 20-30 minutes (Pandora.com), and a considerable amount of money. However, the user should be pointed to more similar items than if the vocabulary was uncontrolled as in a folksonomy. Basing their recommendations from professionals on the unbiased musical properties of the song or artists the users are led to more quality results in theory. Peterson distinguishes the benefits of having a professional cataloguer as opposed to just the user cataloguing the item; "The cataloguer is naming the work and distinguishing it from other works, yet is also grouping the work with similar entities." (Peterson) Because there is a set number of descriptors which the item can be catalogued, this will reduce the noise associated with the search and increase precision unlike, as Radar and Wash have argued, when searching within the uncontrolled vocabulary of folksonomies.

It seems clear that music folksonomies and recommendation systems open up many doors to the discovery of new music. By taking into account the subjective terms and numerous genres used to describe music, a folksonomy of music can better represent individual users' voice and the music in the Long Tail. Furthermore music recommendation sites which incorporate a folksonomy such as LastFm can guide the user down the Long Tail utilising the language of other users as basis for its recommendations. Problems arise when searching these systems however, the lack of tag convergence can produce a large amount of recall, misspellings, compound words; bonafidepartystarter, and selfish tags; "paul's wedding."

Recommendation systems such as Pandora which use an extensive controlled vocabulary (much more than the standard genre separation in physical stores), have the ability to lead the users down the Long Tail based on an expert's opinion of what a particular song is made up of. This controlled vocabulary eliminates the misspellings, compound words and selfish tags which can be produced in a folksonomy. Problems arise when searching these systems because as with other controlled vocabulary based systems, they are slower to respond than folksonomies and can cost a great deal of money. A potential compromise between the two systems could be developed, allowing users to access a folksonomy generated recommendation system or taxonomic generated system, both of which pull from the same data, allowing the user to stay on the same site. A collaborative system could also be developed, starting with a taxonomy and allowing the users to add their own tags to the system that would work in concert with the taxonomy and provide the users with the ability to disagree with the expert led system yet still have taxonomic shell.

Chapter 3 : Methodology

3.1 Introduction

After completing the literature review it was noted that a main theme and debate around folksonomies is their usefulness as a tool for information retrieval (Guy & Tonkin, Rader & Wash, Petersen, etc.). Folksonomies are a relatively new concept in the field of information science, and their usefulness for categorisation, classification and retrieval is still largely untested. Folksonomies and social networking sites relating to music are an even newer development, and their usefulness for music discovery and retrieval is an area worthy of examination. Due to the newness of music folksonomies and music social networking sites, there is not very much literature dealing specifically with them. Therefore the literature review dealing with folksonomies in general, was used as a tool to investigate the similarities which exist in both general folksonomies and specific folksonomies dealing with music.

The research question of the usefulness of folksonomies and social networking sites for music discovery includes both a quantitative and qualitative aspect. The knowledge of the existence of a folksonomy for music retrieval and music only search functions of social networking sites represents the quantitative aspect. The quality of the results achieved and the user's tagging practices represents the qualitative aspect. To this end questionnaires focusing on the users were designed to elicit both qualitative and quantitative results. Speller's research included focus groups allowing users to classify music developing a folksonomy (Speller 2006). The aim of this research is to discover user's knowledge of folksonomies themselves, and their experiences. To this end, a lack of knowledge of the existence of folksonomies of music was determined to be a quality result highlighting the newness of the field of folksonomies of music as a tool for discovery. Social networking sites such as Myspace as a tool for music discovery have been around longer and are more popular and do not provide a folksonomy to search. Myspace requires users to have an existing knowledge of a particular artist, or discovery before the search, after making this discovery the users are then able to listen to the artist.

A third aspect of the research question of the usefulness of folksonomies and social networking sites as a tool for music discovery examines independent record labels approaches to marketing, promoting and managing in this emerging field. Chris Anderson in his book "The Long Tail," examines how the current trend of digitisation, online shopping, and the internet in general have increased the availability and opportunities for discovery of items outside of the mega-hits items that consumers have purchased in the past. The theory of "The Long Tail" was a major driver for this research, independent music has always existed in the "Long Tail," and social networking sites and music folksonomies should make this once long tail item more visible.

3.2 Sampling and participants

Due to the small nature of this project, it was determined to be impractical to attempt to gather a sample group that could be representative of the population as a whole. To this end the results of this project cannot be used to make generalisations as a whole. (Robson, 2002 in Speller 2006, p. 21). Participants of this project are self-selecting, they have chosen to answer the questionnaires or respond to online postings to groups or emails on social networking sites. However as Speller (p.21) noted in her dissertation, "this actually contributes to making the sample more realistic," social networking sites when used for discovery of music require active participants, and it is this population who are most likely to respond to online postings.

Participants were acquired from four main groups: concert attendees in the greater Kansas City Missouri area, the online population and users of social networking sites, independent record label employees, and finally friends and relatives of the researcher. The first group was approached by the researcher inside the concert venue itself, or outside while in a queue. The

second group was contacted via a post on the researcher's profile page on LastFm, Facebook, and Myspace, individual emails to online "neighbours" of the researcher and posting to online groups relating to music discovery and groups centred around particular artists. The third group was through an email to the record label's website, and the fourth group was contacted either in person or via email. Efforts were made to include different genders, ages, and nationalities, with the caveat that most of the concert attendees were over 21 (the legal drinking age in The United States). In total, 37 volunteers participated in the questionnaires (18 from group one, 5 from group two, 4 from group three, and 10 from group four).

3.3 Questionnaires

3.3.1 Questionnaires for concert attendees

Over the period of 22 May 2007 – 14 August, a total of 20 concerts were attended by the researcher and a questionnaire was handed out to attendees at local concerts in both Lawrence, Kansas and Kansas City, Missouri. Questionnaires were handed out by approaching attendees and asking for their participation, an informed consent was signed upon completion of the questionnaire. Furthermore distribution of the questionnaire was limited to the time in-between artists to prevent disturbance to the attendees.

The questions asked of the respondents were:

1. What is your main source for discovering new music?
 1. Internet
 2. Weekly entertainment papers or Magazines (i.e. The Pitch, Entertainment Weekly, Rolling Stone, etc.)
 3. Radio
 4. Friends
 5. Other : _____

2. Have you ever used the following internet sites for music discovery? (circle all that apply)
 1. Pandora.com
 2. Lastfm
 3. Pitchfork.com
 4. Myspace.com
 5. Allmusic.com

The second question was designed as such to eliminate those respondents who do not match up with the research question, i.e. If they use a resource other than the internet as their main source for music discovery.

3. If you have used any of the above sites, please list your preference for music discovery.
 1. Pandora.com _____
 2. Lastfm _____
 3. Pitchfork.com _____
 4. Myspace.com _____

5. Allmusic.com _____

The third question was designed to gauge the respondent's awareness of Lastfm's folksonomic approach towards music discovery; Pandora's expert led approach, as well as the more traditional social networking approach towards music discovery.

4. Why did you rate the service above #1?

5. Why did you rate the service above #6?

6. Briefly explain some of the advantages of discovering music online.

7. Briefly explain some of the dis-advantages of discovering music online.

8. Gender : Male Female

9. Age _____

3.3.2 Modified questionnaires for concert attendees

After the responses of the initial questionnaires, it was determined that answering qualitative questions while attending a concert was to disruptive to the respondents experience at the concert. Subsequent questionnaires had the qualitative questions removed. In these questionnaires respondents were given the option to provide their email address to answer qualitative questions at their leisure.

1. Care to answer a few more questions? Please leave me your email address. **Absolutely no spam will be sent!!!**

On July 18th the social networking site Myspace had a “secret show” in Kansas City. For the purpose of this event the questionnaire was further modified to concentrate more on myspace as a tool for music discovery. Modifications included asking respondents their frequency of visiting myspace, and their frequency of using the music search function on the site. Specific Myspace questions were the following

1. How often do you use myspace for music discovery?

2. How often do you use the specific music search function on Myspace?

3.3.3 Questionnaire for LastFm users

LastFm

LastFm is the most popular of the music folksonomies currently and as such the questionnaire developed for LastFm was tailored to reflect this. The questions asked directly related to searching and discovery of new music using the tags which make up the folksonomy. Participants were asked whether their main tool for discovering music via LastFm was using tags or searching for artists. By asking this question it was hoped that both the frequency and effectiveness of the folksonomy could be illuminated. A key feature offered by LastFm is this ability of searching for similar rather than specific artists and the tags associated with them and distinguishes LastFm from other social networking sites. Myspace for example requires the user to already know of a specific artist to retrieve music from that artist and that artist only. Other questions included asking which artist(s) respondents have been exposed to via LastFm, and their general usage of the more traditional social networking facilities provided (neighbours, messaging, etc.) for music discovery. Again, this question was developed in hopes of discovering the preferences of users in using the unfamiliar folksonomic approach of retrieval provided by LastFm. The first option for searching on LastFm is by artists, do users also choose the second option to search by tags? LastFm also provides a calendar of upcoming events in the user's specified location. A question was asked if the users frequently use this feature and their experiences with the feature.

3.3.4 Questionnaires for independent record labels

The questionnaire designed for independent record labels was constructed to gauge the impact that social networking sites, music recommendation sites and digital distribution is having on their industry. A total of 25 independent record labels were emailed questionnaires, with the caveat of being an independent record label as to not be associated with any of the "Big Four" record labels. Respondents were asked, the advantages / disadvantages of digital distribution for independents, whether they actively promote via social networking sites, and if their catalogue is available on the two major recommendation sites LastFm and Pandora and the independent digital distribution service Emusic as well as iTunes. The questionnaires were as follows:

1. Does your label have its own myspace site or do your artists only have their own pages?

This question was asked to determine whether or not the independent record label recognises the increasing importance of social networking sites for music discovery.

2. Is your catalogue available on Lastfm, Itunes, Emusic, or Pandora?

This question was asked to see what digital outlets the label's music is available on

3. What do you feel are some of the major advantages of digital distribution for independent labels?

This question was asked to determine the label's view on Chris Anderson's "Long Tail" theory.

4. What do you feel are some of the major dis-advantages of digital distribution for independent labels?

This question was asked to determine what fallacies the label's saw in the "Long Tail" theory.

5. Do you actively use social networking sites as a means of promotion? If so, how?

This question was asked to determine if the record labels are taking advantage of the new area for promotion which according to the Olswang study greatly influences musical tastes.

6. What do you feel are some of the major advantages of using social networking sites for promotion?

This question was asked to determine if they are using social networking sites for promotion what are the benefits they are receiving.

7. What do you feel are the major dis-advantages with social networking sites for promotion of your bands?

This question was asked to determine the downside from promotion on social networking sites they have incurred.

8. In your opinion do you feel that digital distribution has made it easier or harder, to have your bands discovered? Has there been a significant change?

This question was asked to determine overall how the digital shelf is helping the average independent record label.

3.4 Interviews

In April of 2007 two interviews were undertaken by the researcher. A face to face interview with author David Jennings and a telephone interview with the CEO of Pandora, Tim Westergren. Five standard questions were asked to both of the interviewees, the main question of this research, the 3 objectives and finally the interviewee's thoughts on the future of the industry. A third interview with Martin Stiksel co-founder of LastFm by smallworldpodcast.com was downloaded from the internet via www.podcastpickle.com. This interview focused on all of the researcher's aims and objectives as well as business information relating to LastFm.

3.4.1 David Jennings

David Jennings is the author of the upcoming book "Net, Blogs, and Rock n' Roll" the interview took place in London on 3 April 2007. In his book Mr. Jennings explores the new era of music discovery in a time of abundance. "The Net has made it possible to track down almost anything...There is also an immeasurably richer and more complex network of routes – from blogs

to reference sites to online entertainment stores – that can lead us to new material and enable us to try it out on-demand.” (Jennings p.2)

The format for the interview was unstructured and as outlined above included five scripted questions relating to the aims and objectives of the research. An unstructured format was selected to allow for the core research questions to be addressed and a dialogue to develop between the researcher and the interviewee. It was believed that creating a dialogue would uncover areas to research overlooked by the researcher prior to the interview. Furthermore, the dialogue would allow the interviewee to extrapolate more fully on his answers and develop a relationship between him and the researcher (Bryman p. 142).

This discovering of other researchers in the field of folksonomies was precisely the case when Mr. Jennings was asked, “What do you feel are some of the main advantages of folksonomies for music discovery and retrieval?”

“Well my main use of tags, I believe that's what you are referring to, is through LastFm, I find them helpful when I really want to dig deep into discovery. I don't know if you have read Paul Lemere's blog, but he has written a great deal about the more academic side and technologies associated with them.”

A shortcoming of this interview was the location in which it took place. The location was a coffee shop in London, which was quite crowded and noisy. The noise and crowd provided opportunities for distraction, and the recording of the interview to be a bit difficult to hear in sections. Had a less populated area been chosen the recording would have turned out better however, the visual and audio cues did facilitate the interview at times. Music was playing in the background, customers were using the wireless internet provided, and these cues were used at points in the interview when searching for examples of music discovery and user approaches towards it.

“Say I'm in this café and I enjoy the song playing, which is Yaz, what the internet and sites like LastFm and Pandora have given us is the ability to find similar artists much more quickly even while I'm at a café with my laptop and a wireless connection.”

3.4.2 Tim Westergren

Tim Westergren is the CEO of the music recommendation service Pandora.com. An unstructured telephone interview was conducted on April 9th of 2007. The aims and objectives questions were asked of Mr. Westergren, however other more specific questions relating to Pandora were also asked. Pandora unlike LastFm is a music recommendation system which does not permit tagging. Pandora uses a controlled vocabulary of just under 400 attributes to classify each song which goes into the system. The classification of each song is undertaken by musicologists which work for the company. “By using the template, the experts are able to get at the very core of the song's make-up, we feel this provides a better quality of results than social classification. The number of attributes allows the classifier to get beyond the standard genre of rock or pop to better describe the essence of the song and it's relationship and similarities with other like songs.” (interview response)

Although as Bryman points out (p. 111) that benefits of telephone interviews are that they are quicker and less expensive, the brevity of the interview was also one of this research's downfalls. Constant awareness of the time factor (it was an international long distance call, placed by Mr. Westergren) I was less comfortable with asking many of the questions asked to David Jennings, for fear of the charges placed on the interviewee. Furthermore the impersonal nature of a telephone interview made it much more difficult for me to build up a rapport. These shortcomings

could have most likely been overcome had a schedule been given to Mr. Westergren regarding the time desired to conduct the interview, this would have provided me with assurance that he was committed to the interview length and allowed me to not worry about being an inconvenience to him.

3.4.3 Martin Stiksel

An email correspondence was conducted with Martin in March of 2007. An appointment was made for an interview the first week of April. Due to business obligations Mr. Stiksel was unable to keep the appointment. A search on the internet located an interview with Mr. Stiksel conducted by Small World Podcast in October 2006, it was this interview that was used for the purpose of this research. In the interview Mr. Stiksel is asked the five scripted questions regarding this research as well as many more questions overlooked by the researcher. A key answer provided by Mr. Stiksel when asked about discovery through LastFm's social networking and folksonomy.

“Prior to LastFm, we had these guardians of tastes, the journalists telling us what new music was available for discovery. I would say that our 12 million users have much more collective knowledge of what other types of music is really available than a handful of journalists with limited space to dedicate to the subject.”

The limitations of discovery through the LastFm folksonomy were addressed when the interviewer related his personal experience of searching for opera and inevitably retrieving a heavy metal artist after listening to some opera selections. Mr. Stiksel addressed these limitations admitting that tag inconsistencies do exist, and some users tag heavy metal as opera for comical reasons, however he also speculated that some may apply the opera tag because they may feel that within certain heavy metal songs there exists some operatic qualities. This is the nature of social classification without strict quality controls some tags will slip through the system, but in the end LastFm, “welcomes and believes in the fan's perspective of what a song's make-up is.”

Relying on an interview undertaken by a third party not connected to my research presented many limitations. Had the interview been undertaken by the researcher, questions would have been asked regarding aspects of the site not addressed by the Small World Podcast interviewer. Particularly follow up questions regarding searching using the folksonomy, the number of terms which make up the folksonomy, possibilities of future improvements to it (i.e. collaborative and quality control), and the history of the folksonomy itself. Questions regarding the social event calendar, neighbours, and messaging could have provided rich data results prior to my questionnaires delivered to users of LastFm and aided in the design of the questionnaires.

3.5 Evaluation of Research Methods

The most significant problem with this methodology is the response rate of individuals who use folksonomies for music discovery and retrieval. Unfortunately given the scope of this research it was not possible to increase the response rate of users of the LastFM folksonomy, the questionnaires were self-selecting and as such drew from the overall population of users within LastFm. A more targeted blog post to users of the folksonomy was made when LastFm on August 24th in a blog post entitled “Thank you taggers” released the most active taggers on the system along with the most active tagging employees. However, as with self-selecting surveys few of the respondents chose to participate. Data was able to be collected through browsing responses to the post which answered the questions of “Why do you tag?” and “What are some of your favourite tags?” Obtaining more participants from the researcher's post asking for participation in the research would have created a much more specific population in regards to this research and provided a clearer picture to the usefulness of folksonomies for music discovery and retrieval.

One improvement which would have proved useful would have been to develop focus groups of concert attendees, introduce them to the LastFm folksonomy, and other areas of this research which they were unaware of (i.e. Pandora,), and then allow them to use them for discovery over a period of time. The respondents could then answer the questionnaire again, this time with full awareness and experience with the resources discussed in the questionnaire. Researchers carrying out this study and methodology could have much richer data if this is implemented in their study.

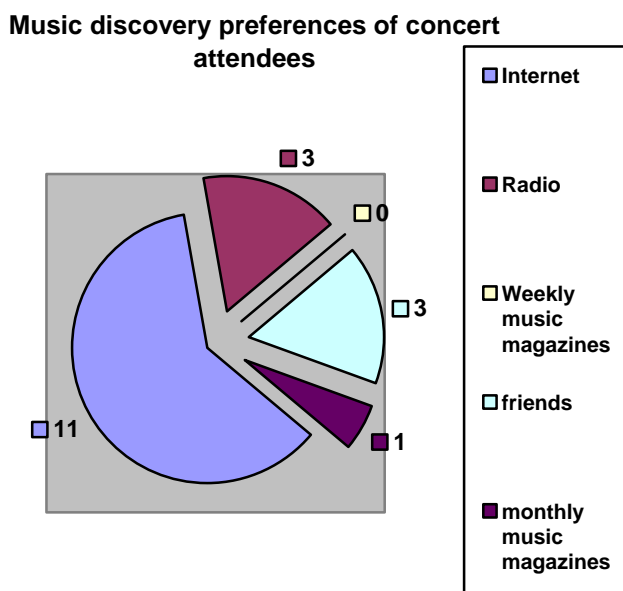
Chapter 4: Results

4.1 Introduction

This chapter provides the results of the methods used for data collection as outlined in the methodology chapter. As discussed in the methodology chapter, various techniques were used to obtain results relevant to the research question of the usefulness of folksonomies and social networking sites as tools for music discovery and retrieval. Questionnaires were handed out at concerts, posted on social networking sites, and interviews were conducted with 3 individuals within the field of music discovery and music recommendation search engines. Finally questionnaires were emailed to independent record labels asking them their use of social networking sites such as Myspace and Lastfm as a means of promotion for their artists.

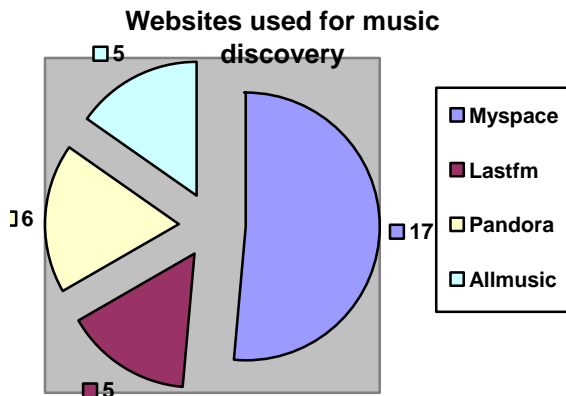
4.2 Questionnaires for concert attendees

From the period of 24 May 2007 until 14 August 2007 questionnaires were handed out at concerts within the greater Kansas City, Missouri area including Lawrence Kansas. During this time 18 questionnaires were completed. 11 reported as using the internet as their prime source for discovering new music (see figure 1).



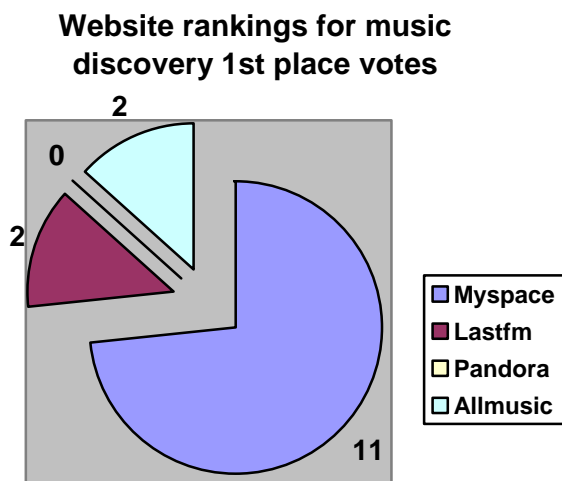
(fig. 1 Prime source for music discovery)

17 of the 18 respondents indicated that they have used Myspace as a tool for music discovery. This clearly represents the popularity of using Myspace, an older more established social networking site as a tool for music discovery. Sites better representing the aims of this research (Lastfm, Pandora, Allmusic) were much less represented achieving responses of 5, 6, and 5 respectively (see figure 2)



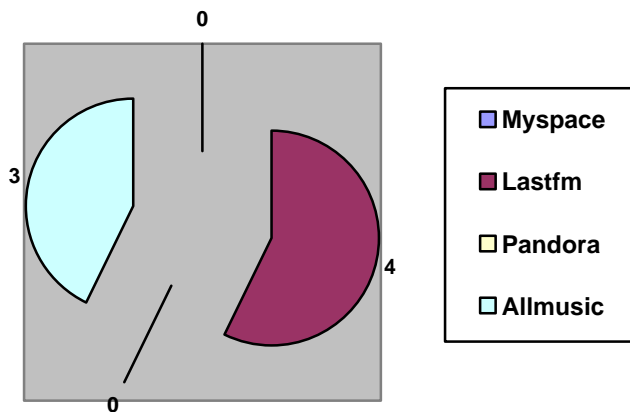
(fig. 2 Websites used for music discovery)

When asked to rank the sites according to their preference 11 of the 18 listed Myspace as their favourite. Lastfm received 2 first place votes and 4 second place votes. Allmusic received 2 first place votes and 3 second place votes. Pandora received one second place vote and was the only service to receive third place votes (2). Again this data suggests that the respondents are more likely to use the more established Myspace, than the newer websites such as Lastfm and Pandora as a tool for music discovery. Allmusic is older than Myspace, but has not had major marketing campaigns aimed at attracting users as Myspace has, so although it is older it is still relatively unknown with the respondents of the questionnaires (see figures 3 and 4).



(fig. 3 Website rankings for music discovery 1st place)

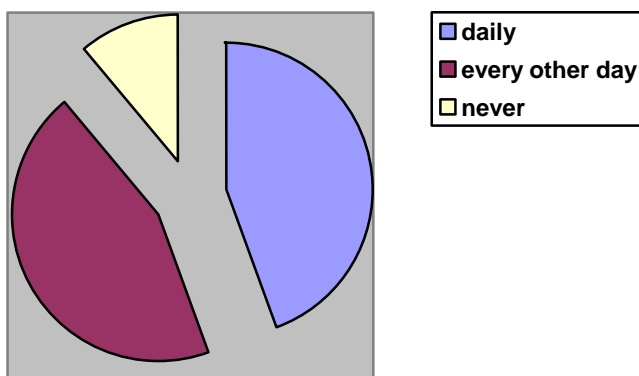
Website rankings for music discovery 2nd place votes



(fig. 4 Website rankings for music discovery 2nd place votes)

The initial questionnaires asked more qualitative questions asking respondents to explain why they had rated the above items they way they had. However only one respondent chose to answer this section, and it was decided by the researcher that asking respondents to elaborate on their answers while at a concert was too time consuming. Questionnaires were then designed removing the qualitative questions and provided a space for respondents to leave their email address to be contacted with these questions. Unfortunately none of the respondents wished to provide their email address for follow up questions.

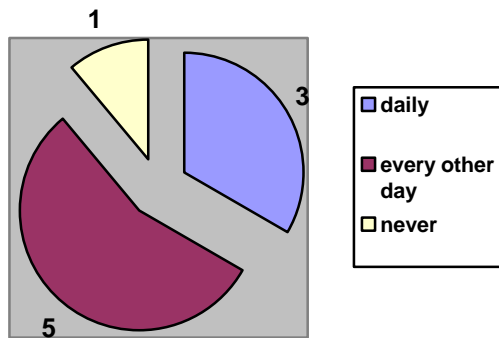
The Myspace questionnaire focused on attendees at the Myspace “secret show” held in Kansas City on 18th July 2007. Of the 9 respondents, 4 indicated they used Myspace daily for music discovery, 4 indicated they used Myspace every other day and one respondent never used Myspace for music discovery (see figure 5)



(fig. 5 Myspace music discovery usage)

Of the Myspace respondents 3 indicated they used the Music search function daily, 5 every other day and 1 never. (see figure 6)

Myspace music search tool usage



(fig. 6 Myspace music search tool usage)

This lack of knowledge of the existence of the websites more in line with the second part of the research question's focus proved to be a major drawback in obtaining information regarding the usefulness of folksonomies as a tool for music discovery. This preference for using Myspace as their tool for music discovery supports the recent Entertainment Media Research study (2007) which interviewed more than 1,700 people in the UK and found that 39% of the respondents classified Myspace as their most important tool for music discovery, whereas 2 and 3% classified Pandora and Lastfm as their most important tool for music discovery. (Entertainment Media Research 2007) The overwhelming popularity of Myspace for music discovery by respondents represented a stumbling block in comparing the newer folksonomic supported discovery provided by Lastfm and the expert-led discovery supported by Pandora with Myspace's social networking approach towards music discovery.

4.3 Questionnaires for users of Lastfm

To account for the lack of information obtained through the general questionnaires regarding the usefulness of folksonomies for music discovery and retrieval, questionnaires were designed for users of Lastfm, the leading site for music folksonomies. The belief was that approaching a more controlled population of users (members of a site in which a folksonomy is created and searchable) would produce more valuable information pertinent to the second part of the research question. Volunteers were invited to participate in the research via a post on the researcher's individual Lastfm blog, the general Lastfm blog, and messages to online neighbours of the researcher (individuals who share artists in common with the researcher's listening habits). A total of five volunteers were acquired through these means, a small number admittedly however, the responses gathered were more pertinent to the second part of the research question regarding the usefulness of folksonomies as a tool for music discovery. In August of 2007 Lastfm made public their top 10 taggers of the site, all 10 were asked to participate and 2 of the 10 participated.

Returning to Radar and Wash's question of "Social vs. Selfish" tagging respondents were asked: Do you mainly tag for yourself or to help others discover music through your tags? All 5 of the respondents answered that they mainly tag for themselves, and their own discovery ends. However, user JessiCoplin answered in the following way.

I mainly tag for myself. I actually keep on my computer a list of all of my tags that I update as I am tagging. It's great because if I ever need to know what year an album came out, I just have to type in the album name and if I've tagged it, I've tagged what year it came out. So it's really handy for me, especially since I manage a radio station and DJ on it as well. But I also like to think I'm making LastFM's radio stations more accurate.

Although this user admits to tagging for personal reasons, the care and effort she puts into her tagging inadvertently can help the general users of Lastfm with their discovery and the accuracy of the information they receive while using the site.

User Spacefish responded by saying:

I mainly tag for myself -- I like to listen to my own tag radio stations -- but I always try to use tags that will be meaningful or interesting to other people.

Again, the user admits to personal reasons for tagging; however uses meaningful tags, i.e. avoiding tags such “dj set at Chris's wedding.” Spacefish's top 10 frequently used tags reflect this, they are as follows:

1. rock ---3,360
2. electronic ---2,771
3. classic rock--- 2,580
4. pra--- 1,892
5. 90s---1,676
6. 00s---1,021
7. 70s---882
8. collected--- 768
9. confusion---693
10. love---682

Of these top ten tags, 3 tags stand out to the researcher pra, collected, and confusion as possibly being too specific to likely used for discovery

The next question asked respondents how they use Lastfm for discovery, searching by tags or artists. All respondents indicated they use Lastfm's social networking aspects as their main tool for discovery. User Katinlista responded:

I don't really search by tags. Generally, I see what friends/neighbors are listening to, and what their friends are listening to. If something looks intriguing, or if a bunch of people whose taste I respect are listening to it, I'll usually check it out. Also, I'll sometimes look up individual artists I know I like on last.fm and see what the site considers to be similar. If it's a band I don't know, I'll look into them.

This response correlates nicely with the data gathered with the questionnaires for concert attendees, that generally users are unfamiliar with the new folksonomic approach to searching provided by Lastfm and therefore do not use it as much and continue to use the more familiar social networking approach towards discovery; viewing friends and neighbours listening habits for discovery. User Wextigers reflects this in his response:

I usually discover artists by clicking on my neighbors & browsing through their music categories. i sometimes look at the similar artists, but i usually know the similar artists so i've stopped doing that. i don't search by tags b/c i'm still a bit new to them.

In all the response rate to the researcher's blog postings made on Lastfm were low, the responses generated did however uncover a better picture on the use of folksonomies for music discovery. The responses indicated trepidation with the use of tags for music discovery. Folksonomies are a new and developing way to search for information, and as such few respondents use tags for discovery. Instead respondents were found to use the more familiar social networking approach towards discovery. Respondents were in general more comfortable using their “neighbours” (those users with similar listening habits) for discovery. This approach is quite

similar to the approach many users of Myspace use for discovery. The use of similar artists for discovery was not favoured as well, instead of using the two types of discovery offered from the music recommendation system provided by Lastfm, respondents still chose to listen to their neighbour's radio.

When respondents did indicate their use of tagging, they indicated they mostly tag for themselves. This lends support to Radar & Wash's argument of selfish tagging which can inhibit discovery within folksonomies. Specifically user Spacefish said "I mainly tag for myself -- I like to listen to my own tag radio stations."

4.4 Interviews

Personal interviews were undertaken with 2 individuals involved with music discovery via social networking sites and recommendation engines. Tim Westergren founder of the music recommendation service Pandora was interviewed on 9 April 2007. David Jennings, author of the book "Net, Blogs, and Rock 'n' Roll" was interviewed on 3 April 2007. After unsuccessful attempts were made for a personal interview with Martin Stiksel a co-founder of Lastfm an online interview with him was located via the Smallworld Podcast website. The founders and author were interviewed to uncover their vision, hopes and beliefs for social networking sites, folksonomies and music recommendation services as tools for music discovery. Unlike the users and non-users of the services these interviews it was believed would offer more of a theoretical or long-term goal of these services as tools for music discovery.

An overriding belief of all the interviewees was their belief that tagging or music recommendation services (Pandora) can require more active listening by the user, and by being more active within the systems better results can be achieved.

"One of the beauties of our service is that the user can sort of tune in or out depending on their mood. If the user wishes to achieve an extremely customized station and listens actively they can continually tweak the recommendations voting on each track, and increasing the knowledge of the system about the user." Tim Westergren (Pandora).

"I personally see these systems' (tagging, and recommendation systems) ultimate goal as increasing participation by the user. If they really get into the potential strength these systems could have about their listening tastes, by actively voting for a song, tagging an artist or song, the system can build more data about them and achieve some remarkable results. I know personally Lastfm gains more data about me and my tastes than Amazon has gathered in the 4-5 years I've been purchasing from them. How many books or dvd's can you read or watch in a day? Whereas, I can listen to say 50 tracks of music per day and thereby increase Lastfm's knowledge about me." (David Jennings)

Lastfm is also able to gather data about the user as they listen "passively" to music on their computer without being on the Lastfm website.

"When the user downloads a little piece of software called Audioscrobbler, and listens to their own collection of music on their favourite program, say iTunes, the Scrobbler tracks their listening habits and then when they log back into the system at a later date, the system can offer even better recommendations because it has continually been gathering data every time they listen to music on their computer." (Martin Stiksel)

Martin Stiksel and David Jennings were asked their views on the "Social vs. Selfish" tagging concept from Radar & Wash, Mr. Jennings directly since it was an interview conducted by the researcher and Mr. Stiksel indirectly since he was interviewed by someone else. Mr. Jennings believed that most of the tagging which he comes across and that he performs is for personal reasons.

"I see a great deal of the "seenlive" tag, or "dj set at so and so's party" tag. This is fine I believe, from a discovery standpoint it does make it a bit of an idiosyncratic and unlikely that many other users will

search on these tags, but who knows, maybe when you get to know a user via the system, you will trust their seenlive tag, or maybe someone will just search on the seenlive tag out of curiosity. It definitely opens up more possibilities for unique discoveries than I have when I go to the record shop. I've had good luck with the autumnal tag, which is interesting, because I first came across this tag while at allmusic.com. I agreed with the artists they had associated with the descriptor, so out of curiosity I searched on the tag at Lastfm, and was surprised to find that many artists are classified the same way at Lastfm."

Martin Stiksel had the following to say about tags in his interview.

"The beauty about tags is that I can make them for myself so I can locate or I can make them more general for others to discover. And since a user can place multiple tags on an artist or song they can achieve relatively easily. They can tag a song or artist as say morning-tea-music for themselves and then also more general tags, say indie or trip-hop for others."

The interviewer then had the following dialogue with Mr. Stiksel.

Interviewer : I have had a lot of success with tags however, almost every time I search by the tag opera, I will get 4 or 5 opera pieces and then inevitably I will get a heavy metal song! What's up with that

Martin Stiksel : Well, sure this will happen when you are not overseeing each and every tag that is placed in the system. So it may be someone playing a joke or on the other hand it may be that certain users feel that particular pieces of heavy metal music possess certain operatic qualities.

Pandora is a personal music recommendation system with no input from the users themselves. Pandora employees classify the music which makes up their genome, which in theory allows Pandora to side-step the "Social vs. Selfish" debate, all classification is done with the users in mind, to achieve maximum similar discoveries, no personal classifications are created. Pandora employees classify according to the musical attributes each artist or song possesses, emotional tags such as "seenlive" or "morning-jump-start" do not make up the genome.

"One of the advantages Pandora has over Lastfm is our expert assigned classifications. All of our music in the genome is carefully analysed. We are in essence, like the handful of people within Lastfm who tag with discovery for others in mind."

Whichever tool is used for music retrieval and discovery, a folksonomy, an expert created music recommendation system or a social networking site, independent record labels and artists now have unprecedented opportunities of having their music discovered. All of these systems are exposing the "Long Tail" of music; those artists and genres that live outside of the hits that dominate the charts. An independent artist or record label can now create a Myspace page, submit their work to Lastfm, iTunes and Pandora and have the same opportunity for discovery as those artists from the Big Four record labels. Chris Anderson's Long Tail examines how record labels no longer have to fight for limited shelf space in a store now; the digital shelf can accommodate all. Because of this ability for discovery, an investigation into the record label's approach with these new tools was deemed necessary to provide a more complete picture of discovery and promotion in the era of the "Long Tail."

4.5 Record label questionnaires

Twenty-five independent record labels were contacted and provided with questionnaires. The twenty-five record labels were chosen at the researcher's discretion, selection criteria included but was not limited to; length of years of existence, familiarity with the artists on the record label,

and their presence within social networking sites and recommendation systems. Of the twenty-five record labels contacted, 4 completed the questionnaires, Drag City Records, Fat Cat Records, Narnack Records, and Polyvinyl Records.

All responding labels recognised the increased importance of having their artists and themselves available on social networking sites. Historically independent labels, lacking the money or resources major labels have to attract the general public or commercial radio stations, independent record labels have relied heavily on word of mouth recommendations. Social networking sites provide the labels with a global reach and word of mouth recommendations in this area have the ability to spread much more quickly. Updates regarding a new release of a limited edition 45, an upcoming tour of an artist on the label, and an addition to the merchandise section of the label's website are now announced world wide via social networking sites where fans and casual observers alike can be kept up to date daily.

Question: Does your label have its own Myspace or facebook site or do your artists only have their own pages

Answer: "We have our own labels pages on pretty much all major social networking sites. Our artists all have their own Myspace page as well." (Seth Hubbard, Polyvinyl Records)

"Myspace." (Rian Murphy, Drag City Records)

"We have a Myspace site.....Don't use Facebook...not sure that where we are at.....Not sure if our artists use it..?? Maybe...they definitely use Myspace. (Justin, Fat Cat Records)

"We Have a Myspace site, pretty much have to nowadays, most of our artists do to, our individual record label website has really stopped getting hits since Myspace has become such a player." (Shahin Ewalt, Narnack Records.)

Question: What do you feel are some of the major advantages of using social networking sites for promotion?

Answer: "The major advantage is that social networking sites put you in direct contact with the fans. People are friends with us on networking sites because they like the label and our artists. At that point it isn't selling them on why they should like us, it is more preaching to the choir." (Seth Hubbard, Polyvinyl Records)

"As it has ever been, word-of-mouth is one of the most compelling ways to be discovered or examined, the very definition of "street cred" and this is a latter-day analogue. Spreading the word through another channel = valuable." (Rian Murphy Drag City Records)

"?" (Justin, Fat Cat Records)

"Well, it seems easier to get the word out about new releases on them, if someone becomes a friend, then they get our announcements, we no longer only have to use our label's website and hope they visit." (Shahin Ewalt, Narnack Records)

Concerns with social networking sites as tools for promotion centred around the possibilities of numerous updates being perceived as spam or disposable information, and giving the impression to their fans that their independent record label is nothing more than an aspiring major label and saturating the market with their product.

Question: What do you feel are some of the major disadvantages of using social networking sites for promotion?

Answer:

“The only downside to social networking sites is all the spam. Specifically with music we get blasted by every band that has their own Myspace page about if we want to sign them. Sites like Myspace have flooded the world with bands.” (Seth Hubbard, Polyvinyl Records)

“We're of the estimate that email can easily be ignored; it sometimes has the effect of junk mail. A relentless flow of news updates on a social networking site could conceivably be regarded as highly disposable information.” (Rian Murphy, Drag City Records)

“?” (Justin, Fat Cat Records)

“As an independent we are in a delicate situation, are fans are sceptical, we have all of these new avenues to promote our artists, but if our fans see us flooding the market; loads of advertisements on indie websites, features on download sites like itunes, and numerous announcements on Myspace, they might begin to wonder just how independent from the hit making machines we are. It's one of the paradoxes of the (independent) industry, the fans love their small time bands and labels but God forbid they make any money cause more often than not that's perceived as selling out. (Shahin Ewalt, Narnack Records)

The record labels were then asked if their catalogue is available on the major digital retailers and recommendation systems.

Question: Is your catalogue available on Lastfm, Itunes, Emusic, or Pandora?

Answer: “iTunes and Emusic have been huge outlets for our artists. All of our catalog is available up there. Selections of our catalog are available on Last.fm and Pandora. Hopefully we will be able to get our entire catalog up on both of those soon.” (Seth Hubbard, Polyvinyl Records)

“iTunes, we are currently withdrawing our catalog from Emusic. Emusic pricing policies have lowered the per song download rate to where it doesn't help us financially, really ” (Rian Murphy, Drag City Records)

“just getting active on Last FM...yep..our catalogue is up there now.” (Justin, Fat Cat Records)

“We are on all four, Itunes is the biggie a must, Emusic for an independent is also a must. One of our employees just told me about Pandora and Lastfm and I said sure, get our stuff up there the more exposure the better, you know.” (Shahin Ewalt, Narnack Records)

Digital distribution was the other focus of the questionnaires distributed to the record labels. Questions were asked regarding the major advantages and disadvantages of digital distribution, in hopes of uncovering their thoughts on Chris Anderson's Long Tail theory. With sites such Itunes and Emusic (which almost exclusively focuses on independent record labels); small record labels are now able to have their wares on the digital shelf, not only a select few which stores owners are willing to dedicate physical shelf space to. Has this ability increased their sales? Or have larger online stores such as Itunes; which caters to both major and independent label releases, merely repeated the previous retail experience, with independents struggling to get noticed lacking the money to pay for prominent product placement? The digital shelf is vast and the Tail is long, however how / are the ends of the tail being exposed in these larger stores?

Question: What do you feel are some of the major advantages of digital distribution for independent labels?

Answer: “It is a huge source of revenue for the label at this point. Around 25% of our sales are digital nowadays. It is very beneficial for the label and our roster because there is no overhead with a digital release.” (Seth Hubbard, Polyvinyl Records)

“They're pretty good about paying and it's definitely a part of the industry on the grow. It gives us another venue to be seen and heard in and that's valuable on a promotional level as much as it is on a competitive level, a profit level etc.” (Rian Murphy, Drag City Records)

“The one major advantage is not to have to use a distributor that takes a fat cut and does nothing to promote your music. We will be selling MP3 from our site, goes online in October(2007), that is the way forward for us, deal direct, cut out itunes etc. and hook up with like minded mp3 outlets, Boomkat etc.”(Justin, Fat Cat Records)

“Its pretty easy to get your stuff up there, and they are good about paying, couldn't tell you our exact increase in digital sales but it is definitely on the rise.” Shahin Ewalt, Narnack Records)

Question: What do you feel are some of the major dis-advantages of digital distribution for independent labels? Has made it easier or harder, to have your bands discovered?

Answer:

“Having to deal with sites like Itunes that care very little about exposing new and exciting talent, drab super store that most artist and labels get lost in. It (digital distribution) hasn't really even helped with getting our artists / label more exposure; still have to fight your way through the normal layers of (expletive), the company's with the most money control what is consumed by the general public” (Justin, Fat Cat Records)

“Maybe getting feature on sites like iTunes is harder for indies when they are going up against huge major label artists, but beyond that I can't really think of any negatives. Digital distribution has definitely made it easier to have our bands discovered. Also, illegal downloading has helped get the word out about our artists despite the fact that it might hurt sales early on.” (Seth Hubbard, Polyvinyl Records)

“The growth of DD is causing uncertainty and insecurity in the hard-product marketplace which is leading distributors and chain stores to react in volatile ways - reducing inventory limiting product space based on the upper percentile of sales numbers, asking for discounts from suppliers simply to cover their overhead (in other words, not passing those discounts on to the customer), losing faith in the age-old business of selling records (and since 1981, CDs). This is the state of the marketplace as digital has impacted it – the problem of "stealing music" (made so much easier by ripping/burning of mp3s etc) seems almost trivial compared to these issues.” (Rian Murphy, Drag City Records)

“As always, getting people to notice your stuff is out there, the major (physical) retailers are scaling back space designated for music, so we go on the digital shelf, but now how do we get noticed?” (Shahin Ewalt, Narnack Records)

Overall, despite the low response rate to all of the questionnaires distributed, the answers provided were beneficial to the research. The general questionnaires passed out at concerts in the greater Kansas City area, reflected a lack of knowledge of social networking sites outside of Myspace. Respondents had either not heard of or did not use the folksonomic approach towards music discovery provided by Lastfm, or the music recommendation service Pandora.

Questionnaires distributed to users of Lastfm reflected a hesitancy towards using the folksonomy for searching, relying instead on the social networking aspects of the site (friends / neighbours on the site). The users who did contribute to the folksonomy were found to submit tags generally for their own personal use, some however, did tag to assist other users when searching. These tendencies fit nicely with Radar and Wash's article investigating social vs. selfish tagging practices. If many users are reluctant to use the folksonomy for searching and those who contribute towards it's development are tagging for their own purposes can the folksonomy created ever be useful for music discovery?

The interviews with professionals and theorists in the fields of folksonomies and music recommendation systems provided insights to the hopes and beliefs of theses systems in the future. Both music folksonomies and music recommendation systems are in the business of music

discovery, and the interviews explained how each of these systems can best provide this to their users. Both systems by virtue of being involved in providing music discovery are also in the business of exposing the Long Tail of music. “If I use these systems, over time they can really provide me with some gems, but that is just it, it takes time, you can't sit down and in 10 minutes be exposed to 5 new artists that fit your taste or what you are necessarily after, these systems need your information and listening habits to work best for you.” (David Jennings)

Record label respondents of the questionnaires provided insights in to just how well these systems and digital distribution are doing for discovery of their artists. Half of the respondents felt both were helping in discovery of their artists, the other half felt it was more of a repeat of the previous model; the independents are still being lost amongst the larger labels, no longer fighting for shelf space as before, now they are fighting for exposure on the shelf. “they (digital distribution, recommendation systems and social networking sites) are providing us with the ability to be discovered and save some money on overhead in the process, but getting people to notice that we are out there is just as hard if not harder than it was in the past.” (Shahin Ewalt, Narnack Records)

Chapter 5 : Conclusions

5.1 Summary of aims and objectives

Examining the literature within the field of music folksonomies, folksonomies in general and social networking sites, this research has sought to uncover the usefulness of folksonomies, music recommendation systems and social networking sites as tools for music discovery for fans and promotion for independent record labels. Through a series of questionnaires and interviews with concert attendees, theorists, Co-founders / founders of music recommendation systems and independent record label executives it was believed the data generated would provide a general view of the current usefulness of music folksonomies, social networking sites, digital distribution and the theoretical hope for them in the future.

The knowledge of the existence of sites which provide music folksonomies and music recommendations in relation to the knowledge of social networking sites which provide opportunities for music discovery was examined through passing out questionnaires to concert attendees. Tagging practices were explored examining Radar & Wash's article "Tagging with del.icio.us: Social or Selfish?" to discover whether or not most users of music folksonomies tag for themselves using personal tags, or tag for the other users as well. Finally, the effects of digital distribution for independent record labels was examined using Chris Anderson's book "The Long Tail" which asserts that in digital shelf age, smaller, lesser known genres / artists stand a better chance of being discovered and ultimately purchased than they would on the physical shelf.

5.2 Results of the research project

The number of responses to the questionnaires for concert attendees and Lastfm users was low, however providing questionnaires to a varied population of users and not one particular population, different tagging practices and degrees of knowledge of folksonomies and music recommendation sites was uncovered. In general the concert attendees were more familiar with and used more frequently, social networking sites such as Myspace and Facebook for their music discovery. This finding supports the recent Entertainment Media Research and Olswang study (2007) of the UK which found that 39% of the respondents classified Myspace as their most important tool for music discovery, 2 and 3% classified Pandora and Lastfm as their most important tool for music discovery.

Lastfm users who responded to the questionnaires were found to favour the social networking aspects of the site as opposed to the folksonomy. Instead of searching by tags which make up the folksonomy or even tagging an artist or song, most respondents choose to listen to their neighbour's / friends radio stations for music discovery. Of the respondents who actively tag and contribute to the folksonomy all said they mainly tag for personal reasons; for their own future retrieval of music they discover. Several respondents did however note that they do tag for social reasons, adding to pre-existing or creating tags more likely to be searched on than the more personal tags (i.e. seenlive). "I've contributed to the lesser known yet streamable artists tag and have discovered some new music through it, but no one artist stands out in my mind." (Lastfm user Spacefish)

All of the record label representatives who chose to answer the questionnaire recognised the increasing importance that digital distribution is having on the independent and recording industry as a whole. Digital distribution is lowering overhead costs and barriers to entry which proved difficult for independent record labels to succeed previously. Polyvinyl Records reported that 25% of their sales are digital now, and the savings this provides the label can be used in other avenues such as promotion and merchandising. Promotion or creating awareness of their artists is a major obstacle which all labels reported. The barriers to entry have been lowered with digital distribution and the "Long Tail" is able to be located, drawing the customer's attention towards their product amidst all the other music which is available now, is a chief concern. The representative from Fat Cat Records saw the creation of the digital superstore iTunes as repeating the previous business

model of larger chain stores where the major labels dominated. Having the capital to have product placement and advertisements on such sites is difficult for independent labels, and without it they face continued obscurity. It is this reason that labels such as Fat Cat and Narnack Records expressed a desire to work with smaller digital stores such as Boomkat.com which actively seek to expose and promote independent artists.

5.3 Further research

Folksonomies, social networking sites and digital distribution in the area of music are emerging areas for research and larger and more extensive research is needed in these fields. The recent purchases of Lastfm by CBS and Myspace by Rupert Murdoch's Fox Corporation reflects the perceived profitability and rising importance of social networking sites and sites where folksonomies are being developed.

The results of this research show there is a need to increase awareness of websites which support and develop folksonomies as well as encouraging present users of the sites to participate in the development and utilisation of the folksonomy. A greater number of participants would be required carry out further research into the usefulness of folksonomies for music discovery. Having several focus groups of individuals; groups which actively tag, groups which do not, and groups which are unaware of folksonomies could result in a better understanding of their usefulness and areas for improvement.

To track the effects social networking sites, digital distribution and music folksonomies are having on independent record labels future studies may wish to follow the clickstream from these sites to purchases of the items. Lastfm and Pandora offer a "buy from Amazon" link within most selections, locating purchases made using these links would provide valuable data. Furthermore, sales figures from services such as Snocap, which allows users to purchase music directly from an artist's / label's Myspace page, would provide similar valuable data. The Olswang / Entertainment Media Research study (2007) asked respondents if they had purchased music after discovering it on Myspace and 13% said the site has had "massive" or "big" impact on the way they purchase music. As social networking sites continue to grow in popularity, with music dominating many of them, this number stands a great possibility of rising. Obtaining actual sales numbers would produce a more concrete number while removing some of the biases personal responses may contain. However providing services which allow purchases from social networking sites is a major challenge for independent record labels, as Snocap's agreement with Myspace has bared little fruit (Digital Music News 14 Feb 2008). Again in the Olswang / Entertainment Media Research study (2007) 46% of respondents "agreed with the statement, I wish it was easier to purchase music that I find on these sites."

Both the existing folksonomy in Lastfm and user's familiarity with using a folksonomy for retrieval and discovery are in their infancy. Since the nature of folksonomies is that they develop over time as users add to them, one can hope that as time passes the folksonomy will develop as a viable tool and users will be comfortable with using it.

5.4 Lessons learned

This research has provided me with many valuable lessons. Firstly was that the over reliance of questionnaires led to a low response rate. The postings made on my Lastfm blog and direct contact with members of the site went largely unanswered. I was anticipating a much greater response especially when Lastfm itself released the list of their top tagging members. Although members did reply, their answers were for the most part brief (one individual no longer uses the site) and follow up questions to their responses went unanswered. The reliance on questionnaires for the social networking sites Facebook and Mog provided zero responses which was discouraging. Mog is dedicated towards music discovery and Facebook is making headway towards music

discovery (allowing users to embed their Lastfm playlists into their profiles, etc.) and receiving zero responses from these sites required the use of Lastfm data only.

The interviews themselves were quite beneficial for this research. Providing me with the opportunities for dialogue with the interviewees and to incorporate questions on the spot based on their responses to my scripted questions. This I believe provided richer data, answering questions and pointing me towards directions for my research which I had overlooked in my scripted questions. The interviewees were quite responsive to my questions, and would ask for clarification of my questions if they did not understand them. This clarification was something the questionnaire respondents did not ask for and hence the data suffered.

If I had the opportunity to undertake this research again I would like to incorporate focus groups of concert attendees using the Lastfm folksonomy, and record their thoughts and experiences with using it. As the folksonomy within Lastfm develops and hopefully more users become comfortable using it as a search tool I would like to receive their thoughts on the abilities and weakness with using it as a search tool. I would also like to incorporate more interviews of researchers in the field. Music discovery via social networking sites and folksonomies is a rapidly increasing field of study with major changes taking place daily, I believe that if this research is undertaken again in 2 years the outcome could be drastically different.

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Appendix A: Questionnaire for Concert Attendees

2. What is your main source for discovering new music?
 1. Internet
 2. Weekly entertainment papers or Magazines (i.e. The Pitch, Entertainment Weekly, Rolling Stone, etc.)
 3. Radio
 4. Friends
 5. Other : _____

2. Have you ever used the following internet sites for music discovery? (circle all that apply)
 1. Pandora.com
 2. Lastfm
 3. Pitchfork.com
 4. Myspace.com
 5. Allmusic.com

3. If you have used any of the above sites, please list your preference for music discovery.
 1. Pandora.com _____
 2. Lastfm _____
 3. Pitchfork.com _____
 4. Myspace.com _____
 5. Allmusic.com _____

4. Why did you rate the service above #1?

5. Why did you rate the service above #6?

6. Briefly explain some of the advantages of discovering music online.

7. Briefly explain some of the disadvantages of discovering music online.

8. Gender : Male Female

9. Age _____

Appendix B: Modified Questionnaire for Concert Attendees

Myspace "Secret Show" 18th July 2007

1. What is your main source for discovering new music?
 1. Internet
 2. Weekly entertainment papers or Magazines (i.e. The Pitch, Entertainment Weekly, Rolling Stone, etc.)
 3. Radio
 4. Friends
 5. Other : _____

2. Have you ever used the following internet sites for music discovery? (circle all that apply)
 1. Pandora.com
 2. Lastfm
 3. Pitchfork.com
 4. Myspace.com
 5. Allmusic.com

3. If you have used any of the above sites, please list your preference for music discovery.
 1. Pandora.com _____
 2. Lastfm _____
 3. Pitchfork.com _____
 4. Myspace.com _____
 5. Allmusic.com _____

4. How often do you use Myspace for music discovery?

5. How often do you use the music search function on Myspace?

6. Gender : Male Female

7. Age _____

8. Care to answer a few more questions? Please leave me your email address. **Absolutely no spam will be sent!!!**

Appendix C : LastFm Questionnaire

1. How do you MOSTLY use lastfm for discovery? Do you search by tags or artists and get similar artists?
2. Do you tag many artists / songs?
3. Do you mainly tag for yourself or to help others locate new music?
4. Can you name a specific artist who this site has introduced you to that you are particularly fond of now?
5. Have you had good luck with the social aspect of the site for discovery (i.e. neighbours alert you of new artists which you end up liking)?
6. Have you had any luck with the events link (i.e. attended shows which Lastfm alerted you to)?

Appendix D : Interview Transcripts David Jennings

To discover Mr. Jennings' view on the “Social vs. Selfish” argument the following questions were asked.

Interviewer: There is currently an article entitled “Tagging with del.icio.us: Social or Selfish? , “ in which the authors discussing tagging within systems like del.icio.us and Lastfm and the troubles with searching when individual users tag for their own purposes rather than the population of users as a whole. What have been some of your experiences with this? Do you mainly tag for yourself on Lastfm or others?

David Jennings: Well that's an interesting point, I haven't read the article. I would say I'm about 70-30% tagging for myself and others. Sometimes I just want to say, tag for a dj set I will be doing at a party other times I will add to the tags already created. Searching by such specific tags can make for difficulties when trying to retrieve music however and most likely other users won't even think of them to search on.

Interviewer: Yes, I think it is interesting it can be a good and bad way to search, I know I like to do exhaustive searches so sometimes I will search on the “seenlive” tag to see what comes up. I found out about you and your research by following a user's tag on del.icio.us of “toread.” I saw the types of research this individual was doing and it seemed to match up with the type of research I was doing so I trusted them and followed their tags.

David Jennings: “I see a great deal of the “seenlive” tag, or “dj set at so and so's party” tag. This is fine I believe, from discovery standpoint it does make it a bit to idiosyncratic and unlikely that many other users will search on these tags, but who knows, maybe when you get to know a user via the system, you will trust their seenlive tag, or maybe someone will just search on the seenlive tag out of curiosity like yourself. It definitely opens up more possibilities for unique discoveries than I have when I go to the record shop. I've had good luck with the autumnal tag, which is interesting, because I first came across this tag while at allmusic.com. I agreed with the artists they had associated with the descriptor, so out of curiosity I searched on the tag at Lastfm, and was surprised to find that many artists are classified the same way at Lastfm.”

To discover Mr. Jennings take on the ideal folksonomy / recommendation service and their future, the following question was asked.

Interviewer: What do you feel are the ideals of systems such as Pandora and Lastfm? What do you feel are their beliefs for the future?

David Jennings: Well, obviously I cannot speak for them however, I personally see these system's (tagging, and recommendation systems) ultimate goal as increasing participation by the user. If they really get into the potential strength these systems could have about their listening tastes, by actively voting for a song, tagging an artist or song, the system can build more data about them and achieve some remarkable results. I know personally Lastfm gains more data about me and my tastes than Amazon has gathered in the 4-5 years I've been purchasing from them. How many books or dvd's can you read or watch in a day? Whereas, I can listen to say 50 tracks of music per day and thereby increase Lastfm's knowledge about me.

Appendix E : Interview Transcripts Tim Westergren

To understand Mr. Westergren's hopes for his product the following question was asked.

Interviewer: What is your ultimate goal for Pandora? What do you hope to bring the users of your service?

Tim Westergren: Well we hope to provide the user with quality recommendations for music they might otherwise not hear. We also hope to engage the listener or allow them to sit back and let us do the work for them. One of the beauties of our service is that the user can sort of tune in or out depending on their mood. If the user wishes to achieve a extremely customized station and listens actively they can continually tweak the recommendations voting on each track, and increasing the knowledge of the system about the user.

Since Pandora takes such a different approach towards music discovery; expert led classification as opposed to the social classification of Lastfm, the following question was asked to discover why he chose to set up Pandora the way he did. Consequently he also touches on the “Social vs. Selfish” debate.

Interviewer: Lastfm takes a much different approach towards the same music recommendation service that you offer. What do you feel are some of the benefits to your approach as opposed to Lastfm's?

Tim Westergren: One of the advantages Pandora has over Lastfm is our expert assigned classifications. All of our music in the genome is carefully analysed. We are in essence, like the handful of people within Lastfm who tag with discovery for others in mind. That being said we are now allowing users to share their stations with others so we are incorporating more of the social aspect.

Appendix F : Questionnaire for Record Labels

1. Does your label have its own Myspace or Facebook site or do your artists only have their own pages?
2. Is your catalogue available on Lastfm, Itunes, Emusic, or Pandora?
3. What do you feel are some of the major advantages of digital distribution for independent labels?
4. What do you feel are some of the major disadvantages of digital distribution for independent labels?
5. Do you actively use social networking sites as a means of promotion? If so, how?
6. What do you feel are some of the major advantages of using social networking sites for promotion?
7. What do you feel are the major disadvantages with social networking sites for promotion of your bands?
8. In your opinion do you feel that digital distribution has made it easier or harder, to have your bands discovered? Has there been a significant change?

