User entrepreneurship in companies’ communities
- rules of open platform usage in the music streaming industry

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Juho Kokkola
kokkola.juho@gmail.com
Abstract

This thesis investigates user entrepreneurship in companies’ communities in the music streaming industry. Specifically, the rules of open platform usage are defined by conducting a qualitative multi-case study of four different companies. The purpose of the research is to show how music streaming companies’ open platforms support entrepreneurship among user-developers. A significant amount of different applications have been created, but user-developers’ possibilities to commercialize are very limited. A new notion, “community user entrepreneur”, is suggested as a contribution to the theoretical framework.

Keywords: user, innovation, user innovation, user entrepreneurship, user-driven innovation, open platform, community, user-developer, music streaming
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1. Introduction

“Users are wonderful things to have, and not just because they demonstrate that you’re serving a need, that you’ve done something right. Properly cultivated, they can become co-developers.” (Raymond, 1999)

Many innovations across different industries have originally been created by users. These users are individuals, anything from hobbyists to professionals, who develop something from scratch or modify an existing product to meet their own specific needs. Some user innovators take it even further by commercializing their creations, thus becoming user entrepreneurs.

Established companies have noticed this phenomenon and started to actively involve their customers (i.e. users) in their innovation processes. Firms such as Lego or Threadless (a custom T-shirt company) have managed to create an “innovation community” of users which actively participates in their new product development processes by constantly submitting design ideas and feedback.

A new trend in this context is emerging. Companies not only “use” their customers but actually encourage user innovation, and more interestingly, user entrepreneurship among their product or service users. As companies more openly are giving access to their assets (such as application programming interfaces, i.e. APIs), new kinds of user communities emerge: communities in which users commercialize their creations that are using the “parent” company’s intellectual property.

In this research I focus on the nature of the relationship between a company opening up toward its community and user entrepreneurs responding to that act within the music streaming industry. More specifically, my investigation focuses on the rules related to open platform usage, as the actual monetizing possibilities for a user-developer are unclear. I conduct a qualitative multi-case study of the phenomenon by investigating four central companies in the industry: SoundCloud, 8tracks, Spotify and Soundrop.
Firms are opening up their assets for external use, creating communities to nurture user innovation, even user entrepreneurship, and actively encouraging users to take action. This phenomenon goes beyond both the traditional user entrepreneurship process and the user involvement in a company’s innovation activities.

1.1. Objectives

This study aims to reveal, on a general level, the rules of open platform usage when users innovate based on a company’s existing assets in the music streaming industry.

*Research question:* What are the rules platform-provider companies set for user entrepreneurs in the music streaming industry?

*Proposition:* For non-commercial purposes these assets are freely available. For commercial use, these assets are available, but their exploitation requires agreements on license fees, royalties or similar - settled on a case-by-case basis.
2. Literature review

2.1. User innovation

For long, users have been recognized as a crucial source of innovation. Users, both firms and individual consumers, innovate because they aim to benefit by using what they create. (von Hippel, 1988) Users are essential to innovation processes as they are more and more able to develop themselves what they want, instead of depending on producers. This trend towards “democratizing innovation” (von Hippel, 2005) is significantly enhanced by the accessibility and widespread use of information and communication technologies (ICT). According to empirical studies, users are doing a lot of product modification and development in various fields. (von Hippel, 2005)

The most innovative users, or so called “lead users” (von Hippel, 1986), are ahead of the majority of the population with respect to potential market trends. Consequently, many of the products these lead users have developed for their own use appeal to a wider group of users. Indeed, many lead user innovations are considered as commercially attractive and have actually been brought to market by manufacturers. (von Hippel, 2005)

Von Hippel (1988) showed the significance of user innovation in scientific instrument industry with a sample of four major instruments. These instruments, used for data collection and analysis, were all originally developed by users. In later stages of their development, 82% of the major and 70% of the minor improvements were done by users. (von Hippel, 1988) Another good example comes from the field of windsurfing where early lead users developed straps keeping feet attached to the board while in the air. That invention became popular and changed the way high-performance windsurfing is perceived today. (Shah, 2000)

What makes user innovation unique as a concept is the underlying personal need. Whether it is related to one’s hobby or profession, it is the future personal benefit that drives the new product development process. Manufacturers, in contrast, innovate because they aim to benefit from selling the creation to others (von Hippel, 1988).
2.2. User communities

Usually there are two ways to describe a user community. One is the network formed by the users of a specific product or service available in the market. This kind of community can also be called a “brand community” (Muniz, O’guinn, 2001) emphasizing the users’ loyalty to a specific marque or brand. These users (or consumers) co-create value together with the producing company through different activities (Schau et al., 2009). These activities vary from need identification, idea generation and concept modifications to prototype development and product testing. Community members also take on different roles varying from final inspectors to co-creators. (Nambisan, 2002)

Another way to see a user community is the network formed by the users of a specific product or service not related to a specific producer or brand. Users within the same field of interest involve in organized cooperation providing structures and tools for interacting and distribution of inventions (von Hippel, 2005). Users customize and modify existing products or build completely new solutions to meet their personal needs. By leveraging the relationships within the community, users benefit from increased speed and effectiveness of development, testing and diffusion of their idea (von Hippel, 2005). Franke and Shah (2003) found evidence that the frequency with which users assisted one another with developing future innovations was high in four different sporting communities. They also found that the community members who were helping and giving feedback to others were also much more likely to be innovators themselves.

A relevant example of a user community is also the developers of open source software (OSS). Open source as a term refers to the type of license under which the content is made available. In sharp contrast to traditional commercial software, open source software’s source code is freely accessible to all. With decent programming skills and appropriate motivations anyone can use and modify any OSS. In practice OSS development projects are built by online communities consisting of software developers who voluntarily co-operate to create software they need. (von Hippel, von Krogh, 2003) The participating developers are under continuous peer-reviews and parallel iterating which leads to rapid advancement in product development. The open source alternative is able to draw upon a worldwide pool of experts which creates a resource-based competitive advantage.
These projects are becoming a phenomenon with big social and economic significance as thousands of projects, each involving developers from few to several thousands, exist. Consequently, the number of OSS users range from few to many millions. Examples of the famous OSS having significant amount of users are Linux operating system and Apache server software. (von Hippel, von Krogh, 2003)

2.3. User-driven innovation

User-driven innovation could be considered as a synonym to user innovation. However, user-driven innovation also means the process of firms involving users and capitalizing on their knowledge, i.e. an innovation strategy of a company aiming to understand users’ true needs. (Christiansson et al., 2008; Wise, Høgenhaven, 2008) Von Hippel (1977) described already more than 30 years ago the process of user inventions becoming innovations through the help of manufacturing companies. In the fields of semiconductor and electronic subassembly manufacture, 67% of the important process equipment innovations were originally developed by users. In aim to manufacture these inventions commercially, 46% of them was transferred by multiple user-manufacturer interactions, 21% was purchased directly from the user and 8% was commercialized by the user (this is a significant finding in the field of user entrepreneurship which will be discussed in the next sub-chapter). 25% of the inventions were apparently not transferred but reinvented by manufacturers. Thus, manufacturing companies had a crucial role in making these original inventions become innovations. (von Hippel, 1977) The comparison “invention vs. innovation” is essential since the notions are distinct. From economic perspective, only innovation matters since “as long as they are not carried into practice, inventions are economically irrelevant” (Schumpeter, 1934).

The significance of user innovation has not been neglected by companies in the recent history either. Instead, its importance seems to be constantly rising. Companies are increasingly engaging their customers (or users) to their innovation processes. In practice companies activate their users by creating and managing innovation communities (West, Lakhani, 2008), i.e. refining their brand communities. Brand community members are considered as a desirable resource for adding value to the entire innovation process and for contributing to various innovation-related activities (Nambisan, 2002). As consumers are becoming a source of product
innovations and it is getting much easier for them to build what they want, companies need to organize their innovation systems accordingly. Their new product development processes have to be able to adapt and iterate on the prototypes users have developed. (von Hippel et al., 2011)

Not many consumers attempt to protect their inventions; they are usually made freely available. 33% of UK, 18% of US and 11% of Japan-based consumer (or user) innovators actively share knowledge with peers and/or companies. Even though most of these inventions do not spread within other users or producers, a significant number do. As a result, companies making consumer products or services have a “front end” of potential innovations freely available. (von Hippel et al., 2011)

The user-driven innovation paradigm consists of three phases: at first, users find ways to create what they want, second, peers have the chance to validate (and adopt) the initial prototype and third, in case the adoption level is high enough, producing companies refine the invention and start the commercialization process. (Baldwin et al., 2006) User-driven innovation is an intriguing option for a company since in-house prototyping and initial market testing is usually expensive. (von Hippel et al., 2011)

LEGO is a good example of a company engaging its user community into new product development. Users can submit a design and LEGO calculates pieces needed, creates instructions and ships the final package. Rather than keeping people exchanging and developing ideas outside, LEGO inspires its users and brings them into its world. (Tidd, Bessant, 2009)

It is very important for a company to understand what users want in exchange for their contributions. They may want support for their communities, free product samples or exclusive access to some specific assets. User innovators behind a producer’s commercial product should also be credited accordingly. (von Hippel et al., 2011) A good way for companies to start with customer co-creation is to announce global contests within product or service development (Weber, 2011). Threadless, an online t-shirt company, is extremely user (and contest)-driven. Its community of designers, artists and general consumers designs and rates prints. The most successful designs are put into production. User designers get monetary compensation in case their work is produced, but the reason to participate,
according to them, is simply the satisfaction of seeing own work worn by people. The community’s size is over 700,000, and growing. (Tidd, Bessant, 2009)

Managing these communities has many touching points with open source community management. There may be a small distance between a firm and its community in case a self-organized group of users doesn’t want to be strongly influenced by the company (O’Mahony, 2003). Companies may fail in creating innovation communities due to minimal user interest or in case the community’s innovation inputs represent low quality (Dahlander, Magnusson, 2005). On the other hand, firms may ignore the community’s needs which may push the users to commercialize (West, Lakhani, 2008), thus, to become user entrepreneurs.

“Open design” is a term to describe open source development for tangible goods (Raasch et al., 2009) Local Motors represents open source co-creation in the car manufacturing industry. The basic idea is to let anyone design anything, varying from a car’s exterior design to the details (such as headlights or muffler tips). The company has managed to attain thousands of designers in an open community that constantly keeps on growing. (Jana, 2009; Testa, 2011; Local Motors, 2013). To transfer users’ tacit knowledge of accurate use-contexts to the new product development process, a number of organizations have actively built relationships with their users, similar to open source communities, and found it beneficial. (Svensson, Bengtsson, 2010)

2.4. User entrepreneurship

In case user innovators recognize the potential of their invention through preliminary testing, they might decide to take it to the market themselves without giving or selling rights to an existing manufacturing company. “User entrepreneurship is defined as the commercialization of a new product and/or service by an individual or a group of individuals who are also innovative users of that product and/or service.” (Shah, Tripsas, 2007)

Entrepreneurship, conventionally defined, is a process where opportunity recognition precedes prototype development (Venkataraman, 1999; Shane, Venkataraman, 2000). In user entrepreneurship, however, the process is reversed:
users start by developing prototypes and, during the use and testing of them, recognize a potential for commercialization (Shah, Tripsas, 2007).

Before becoming user entrepreneurs, user innovators are usually part of user communities (described earlier). These communities provide potential adopters’ opinions, knowledge on common problems and interesting applications related to the innovator’s product or service. (Shah. Tripsas, 2007) Sometimes users freely share their prototypes within a community in order to get feedback from these “beta testers”. (Franke, Shah, 2003) Ironically, free sharing of an idea can lead to significant improvements and peer-to-peer diffusion, which ends up making the idea commercially attractive. The process of becoming user entrepreneur is often accidental since users are initially interested in finding solutions to their own problems instead of validating these ideas for growth or profit (Shah, Tripsas, 2007).

Shah et al. (2012) identify three types of user entrepreneurs: professional, end-user and hybrid. End-user entrepreneurs innovate for personal use, professional-user entrepreneurs for professional use and hybrid end-/professional-user entrepreneurs for a combination of personal and professional use. User entrepreneurship is likely to occur in industries where product or service use provides enjoyment, users have low opportunity costs, demand varies a lot and markets are emergent, unstable and have many niche segments (Shah, Tripsas, 2007).

A number of recent studies have revealed the frequency of user entrepreneurship in various industries. Physicians often commercialize their novel devices: 51% of the medical device startups that received venture capital investments between 1978 and 2007 were founded by practicing physicians (Winston, Shah, 2013). 84% of the firms founded between 1980 and 2007 in juvenile products industry were founded by users (Shah, Tripsas, 2007). The atomic force microscopy industry’s early companies were all founded by users (Mody, 2006). Users may also play a key role in radical changes within industries. In the fields of windsurfing, skateboarding and snowboarding, 43% of key innovations were originally developed and commercialized by users (Shah, 2005). Two out of three major technological revolutions in the typesetter industry were started by user entrepreneurs (Tripsas, 2008). 10,7% of all startups and 46,6% of innovative startups (with a novel product or service), founded in 2004 and surviving at least for five years, are founded by users in the United States (Shah et al., 2012).
According to earlier research, users rarely commercialize their inventions but allow manufacturer companies to take over their products. Moreover, users’ economic benefits, other than the actual product usage, are considered limited. (von Hippel, 1988; von Hippel et al., 2011) However, as shown above, strong evidence of users commercializing exists, making user entrepreneurship a significant phenomenon (Shah, Tripsas, 2007).

### 2.5. Open innovation

Before opening up toward their external networks (such as users, industry peers or other firms) companies used to be closed innovators. Closed innovation is a paradigm where companies innovate only internally. All R&D is done in-house and the most talented people are considered to work at the company. New findings and ideas are quickly pushed to the market to ensure potential competitive advantage and all intellectual property is carefully protected. This way of innovating worked well still in the 1980’s but the paradigm has changed. Open innovation paradigm suggests that opening up companies’ boundaries will result in better innovation outcomes. (Chesbrough, 2003)

The notion of open innovation was introduced in 2003 by Henry Chesbrough. The concept’s principle is strong cooperation with external partners in order to keep up a company’s competitiveness. New knowledge and new ideas should be able to move freely both into the company from outside, and from the company to the network surrounding it. If some talented people are not hired by a company, it doesn’t mean they could not be at its disposal. Moreover, not all R&D a company benefits from has to be done internally. (Chesbrough, 2003)

Useful knowledge is scattered around the globe while the mobility of skilled workforce, the presence of venture capital and the significance of university education and research are rising. The continuous development of ICTs makes knowledge transfer faster and easier. These trends encourage companies to tap into open innovation activities. (Chesbrough, 2003)
2.6. Summing up

Companies are opening up, especially toward their users. Moreover, a general user has a number of possibilities to tap into different resources in aim to create new solutions to meet her unique needs. Thus, users have a crucial role in the value creation process within business networks.

The trends show individuals not only innovate for themselves but also commercialize their inventions and become user entrepreneurs. Established companies respond to that act by giving users a possibility to use and modify their assets through licensing, purchasing or, in some cases, free of charge. First companies felt negative about letting external parties to use their assets, not to mention the users’ willingness to commercialize creations based on those assets. But lately, as open and user innovation paradigms suggest, companies have started to let people tweak their products and test them in new contexts since it has potential to create significant value within the whole business ecosystem, thus, benefit all actors.

Users as entrepreneurs is a research field still remaining understudied. Especially, users focusing on creating new solutions in digital product domain requires additional research as the process’s characteristics differ from those of physical goods. (Shah, Tripsas, 2007)

The Internet and especially open source communities have increased interest in innovation research for user collectives as innovators (van Oost et al., 2008). User communities are seen as dyadic partners in open innovation (von Hippel 2005). User communities’ contributions can complement a company’s own R&D activities, extend the life of a product and/or reveal market niches that are not yet targeted. Companies may incorporate these contributions in their core products or allow users (or some third parties) to distribute or sell them. (Shah, 2005)

In many cases, user entrepreneurs develop new concepts based of existing products (Haefliger et al., 2010; von Hippel, 2005). If a company offers a service that users can modify and build upon, many will use this opportunity (Franke and von Hippel 2003). This phenomenon is encouraged by “a new willingness among companies to allow third parties to slice and dice their data” (Leckart, 2012). The innovation
literature hasn’t (yet) given many insights into the commercial usage of shared assets in the user entrepreneurship process (Haefliger et al., 2010). Thus, describing the rules of open platform usage in the music streaming industry is highly relevant regarding the field of user entrepreneurship research.
3. Methodological choices

For this thesis I choose the qualitative research methodology. Qualitative approach is useful for investigating phenomena in their natural environments (Gephardt, 2004). Moreover, it allows the researcher to use different methodological tools for data collection (Patton, 2002). Qualitative research studies often present the investigated phenomena in a case format. A case can be e.g. a class of events or a specific scientifically interesting phenomenon. (Svensson, 2010)

This work focuses on music streaming companies that open up their platforms for external use. The unit of analysis is the relationship between a platform-provider and a user entrepreneur. I conduct a multi-case study of the phenomenon by interviewing five respondents from four companies (SoundCloud, 8tracks, Spotify and Soundrop) as well as two participants of a Music Hack Day event. Interviews conducted are semi-structured.

To have a sample representing well the industry, I choose two smaller companies (8tracks, Soundrop), two bigger companies (Spotify, SoundCloud) and two individual entrepreneurs involved in the Music Hack Day event organized by the major players in the industry. Furthermore, all of the sample companies serve slightly different user needs. From the smaller companies I interview the CEOs and from the bigger ones I talk to persons directly involved with the open platform. Soundrop is a special company in the sample, as it is simultaneously both a platform-provider and a platform-user.

A multi-case study is indeed a valid research strategy for this thesis, as the phenomenon studied is beyond the researcher’s control (an experiment is not possible) and the study itself is contemporary. Moreover, this case study focuses on one phenomenon, describes it thoroughly, increases the reader’s knowledge heuristically, provides deeper understanding of the phenomenon and tests as well as generates theories. (Svensson, 2010) Furthermore, Merriam (1994) finds case studies particularistic, descriptive, heuristic and inductive, which matches the characteristics of this study.

This research could be considered as reliable. Interview structures are attached in the appendices (8.2.-8.4.) and the author possesses written summaries as well as
audio recordings of the interviews. Moreover, none of the interviewees wanted to stay anonymous.

Major limitations of this study are related to the sample size. E.g. Grooveshark, Last.fm, Pandora or Google weren’t interviewed although each of them play a central role in the industry. More companies should be investigated in aim to draw more coherent conclusions about the phenomenon.
4. Empirical review

4.1. Sample companies

**Spotify**
Spotify offers a software application that allows instant listening to music of users’ choice. It was launched in 2008 and has engaged over 24 million users so far. It offers over 20 million songs from major and independent labels and is available in 28 countries globally. Spotify opened its platform for external developers in 2011 (Pompa, personal communication, May 17th, 2013) and acquired Tunigo, a music discovery app using that platform, in early May 2013. This was the first acquisition in Spotify’s history. (Spotify, 2013; CrunchBase, 2013)

**SoundCloud**
SoundCloud, launched in 2008, is a social sound platform offering anyone the chance to create sounds and share them everywhere. It opened up its platform for app-creators pretty early, around the same time as the launch (Osman, personal communication, May 14th, 2013). SoundCloud had 10 million registered users in early 2012 and it introduced Pro Partner, a beta program for content and brand partners, in March 2013. (SoundCloud, 2012; SoundCloud, 2013)

**8tracks**
8tracks offers a way for people to discover and share music online through minimum eight-track mix-tapes. Users can whether listen to mixes or create their own. 8tracks has a status as an internet radio station as its users can’t choose which specific songs are to be played. Thus, it can avoid the high licensing fees the other music streaming companies are facing. 8tracks was launched in 2008 and it opened up its developer-API in 2009. (8tracks, 2013; DuVander, 2009; Porter, personal communication, May 4th, 2013)

**Soundrop**
Soundrop is a social service for music listeners. It helps people to find and enjoy great music moments by offering virtual rooms where listeners can vote tracks and communicate with each other. The Soundrop application was launched in 2011 inside Spotify and in April 2013 its own web-based service was launched. Soundrop aims to accelerate traffic in Spotify and it also provides insightful analytics about
the platform usage for its partners. Soundrop opened up its SDK (Software Development Kit) to its users, allowing them to build new applications on Soundrop’s platform. (Sandvik, 2012; CrunchBase, 2013; Sandvik, personal communication, May 3rd, 2013)

The companies presented above provide instant music experiences and encourage their users to modify, “hack” and create new solutions around the original products. A vast amount of user-developers have embraced the challenge and created different applications using the companies’ open platforms. In practice this means the companies offer an open API, application programming interface, or SDK, software development kit. An API is an interface allowing software components to communicate with each other, whereas an SDK is a set of tools for application development for a specific platform.

4.2. Music streaming industry

In the music industry there is a need to open up toward partners. People are no more buying music, they are buying access to music. (Sandvik, personal communication, May 3rd, 2013) That access is provided by music streaming companies, such as Spotify, who licenses the original content from artists and record labels. Spotify pays approximately 70% of its revenue to the rights owners, estimated to be $500 million this year (Sandvik, personal communication, May 3rd, 2013; Pham, 2013). Other players in the industry are e.g. Last.fm (CBS), Pandora, SoundCloud, 8tracks as well as Google who recently launched a similar service (Chicago Tribune, 2013).

Record labels’ and artists’ revenue (the license fees paid by music streaming companies) depends on the traffic they have generated in terms of streams. That creates an incentive for the rights owners to drive user- and app engagement. It is not enough for a label or an artist to license a big music catalogue out to different streaming companies. In aim to get a decent revenue share, the rights owner has to focus on engaging its listeners on a daily, weekly and monthly basis. (Sandvik, personal communication, May 3rd, 2013)

Many new artists are not on labels. The cost of distribution, production and sales have decreased dramatically, encouraging artists to pursue their career
independently. The more songs listeners stream in a certain period of time, the bigger portion of revenue the artist gets. It’s all about constant fan engagement. This also reflects to what Soundrop essentially is. It might look like a niche service for music discovery using Spotify’s APIs but it actually is a marketing platform for labels and artists. (Sandvik, personal communication, May 3rd, 2013)

“The future of marketing is APIs.” (Sandvik, personal communication, May 3rd, 2013) Companies growing effectively have APIs in their core strategy for bringing their content and features into other services. E.g. for Spotify it is crucial to find a balance between integrating with other services and integrating other services into the Spotify platform. APIs are important also for record labels that often use external service providers (such as The Echo Nest) to get data. (Sandvik, personal communication, May 3rd, 2013)

In general, the more users engaged by a product or service, the better for everybody - the industry ecosystem is all about how to build value to other players within it. (Sandvik, personal communication, May 3rd, 2013)

4.3. Reasons to open up the platform

This sub-chapter is based on the interviews of Inge Andre Sandvik (Soundrop), David Porter (8tracks), Mattias Arrelid & Ronald Pompa (Spotify) and Paul Osman (SoundCloud). What is said about each company is directly related to the respective interviewee's (or interviewees') answers.

Spotify, SoundCloud, 8tracks and Soundrop see similar benefits in opening up their platforms: distribution of their innovation, generation of a bigger quantity and variety of ideas than what could be done in-house and simply good marketing. A good example is SpotON Radio, a recently released app using Spotify’s API, that showed Spotify a need among users. Spotify was at that time working on its own radio feature and found many mutual benefits from the relationship. Today, the SpotON Radio team is partly working as consultants at Spotify.

Users or partners building on open APIs often want to have access to music without getting involved in the actual music licensing process. Spotify considers this as a great asset to increase brand awareness, traffic as well as user engagement.
Interestingly, Spotify originally launched Libspotify (its first open API) as a response to Despotify, a hacker group, who had actually managed to gain unauthorized access to Spotify’s platform. By opening up, Spotify could better control the API usage as well as de-incentivize any inappropriate use.

SoundCloud finds it important to allow people to build new solutions, since creating and sharing music on SoundCloud should be as easy as possible regardless of the tools creators use. Moreover, the open API allows people to use SoundCloud widget more aggressively on different platforms. Soundrop, in turn, enhances its relationship with record labels by offering them APIs through which they can pull analytics and insights about their fan-engagement.

In addition to perceived benefits, opening up has also caused some challenges. It requires a lot of effort to make sure an API is easy to use, and to learn from the expectations of a user-developer community, as emphasized by Spotify. Moreover, it is a complicated situation to offer content owned by artists (or record labels), build a platform and offer that platform to third parties. Thus, the transparency of the platform has to be carefully considered. All the sample companies monitor the amount of API requests and 8tracks pointed out that a partner streaming a lot may cause significant costs, indicating a need for a more formal contract (although the company’s ultimate aim is to be available everywhere and for free). The sample companies have needed to create legal infrastructures, namely “terms of use”, to specify the rules for the open platform usage. Spotify points out its API is easy to build upon, but how to build a sustainable business by using the API, is a totally different question. SoundCloud sees a similar problem: users developing new solutions using the open API and selling them without giving royalties to the artists is not in line with the company’s philosophy. Questions related to people’s possibilities to monetize on assets provided through open APIs are described in the sub-chapter 4.6.

4.4. User-developer engagement

This sub-chapter is based on the interviews of Inge Andre Sandvik (Soundrop), David Porter (8tracks), Mattias Arrelid & Ronald Pompa (Spotify), Paul Osman (SoundCloud) and Atte Hujanen & Lari Haataja (participants of Music Hack Day Stockholm 2013). What is said about each company is directly related to the
respective interviewee’s (or interviewees’) answers. Information considering Music Hack Day is based on company representatives’ and event participants’ views.

SoundCloud organizes and participates in various events where it speaks directly to the user-developers. It has a developer evangelist who e.g. looks for interesting new solutions built using the open API and publishes blog posts about them. SoundCloud has active support channels (such as e-mail and Stack Overflow for programmers) with the aim to create a community of user-developers helping each other. Spotify also takes actively part in various technology and recruitment events, has a developer evangelist, and communicates with its user-developers e.g. through an unofficial IRC (Internet Relay Chat) -channel.

Spotify, SoundCloud and Soundrop are active organizers and sponsors of Music Hack Day events. A Music Hack Day is a 24-hour laid-back “hackathon” where some 90-100 user-developers come together to build new things related to music technology, mostly using the hosting companies’ different open platforms. It is a great opportunity for the companies to test their APIs and/or SDKs, find potential future employees, network, get ideas for their own new product development projects and receive feedback. These events aim to make more people develop apps based on the companies’ open platforms, which will create value for existing and new users.

Spotify pays significant attention to how people engage with existing and new applications. It gathers log data of practically everything a user does. The most interesting metrics are related to the amount and context of music streaming which help Spotify to create both a better product and a more functioning open API. Spotify collaborates with most of its top apps as it wants to elaborate on the value these partners are creating.

All the companies are very open toward their existing and potential partners, they have managed to generate traction with the open platforms and they constantly pay attention to their user-developer communities. SoundCloud had 1,5 years ago approximately 10.000 registered applications. Today, the number is around 30.000. Inside Spotify’s desktop application, there are approximately 120 approved applications. The amount of apps built on Spotify’s open API (Libspotify) is very
hard to state. The scale is estimated to be from a few hundreds of thousands to several hundreds of thousands, available across various marketplaces.

SoundCloud’s view on the industry seems to represent the general situation accurately: the app ecosystem forms a funnel. There is a huge amount of personal applications or experiments, only a smaller number of somehow commercialized solutions or solutions with significant amount of users and just a few successful large-scale applications.

8tracks is not actively promoting the open platform or taking part in Music Hack Days (although it launched its open API in Music Hack Day Boston in 2009) due to its limited resources. It is still a relatively small company and so far it has just made the open API section available on its website. 8tracks has seven official and five unofficial (third party) apps.

4.5. Relationship between an open platform user and the platform-provider

This sub-chapter is based on the interviews of Inge Andre Sandvik (Soundrop) and Mattias Arrelid & Ronald Pompa (Spotify).

Regarding this thesis, Soundrop has two roles. It is a growing company in the music streaming industry but also a company who started to gain momentum by partnering with Spotify and using its open API (Libspotify). Although Soundrop hasn’t any exclusive API access, it still has a somewhat special relationship with Spotify.

When Soundrop was founded in 2010, its team knew well the key people at Spotify as well as Spotify’s open API. Soundrop’s initial idea was a mobile social jukebox which then evolved in 2011 to include shared listing and user collaboration. Spotify asked Soundrop to be part of its launch team, and the actual launch happened in late 2011. Soundrop is an independent platform as well as a Spotify App inside Spotify application.

Soundrop benefits from Spotify’s user base and from the fact that all the music licensing is done by Spotify. Many services, such as Soundrop, start by using available assets. However, that alone will never be enough. Every initiative has to
have uniqueness which in Soundrop’s case is user generated content: users create listening rooms, add and vote tracks as well as discuss about the music. The mutual benefits (feedback and help) started the collaboration which then evolved into focusing on making users feel convenient on both platforms. When Spotify improves its platform, it also thinks how it could benefit Soundrop. Developing the Spotify APIs gives Soundrop both better tools to use and possibilities to exist in the ecosystem of Spotify. When Soundrop creates user engagement, Spotify creates engagement in terms of streams generated and music data collected by users.

Soundrop has business incentives to accelerate traffic in their service and it also generates revenue when new users sing up to Spotify. Soundrop uses all the open APIs Spotify offers: Libspotify, Metadata API and Spotify Apps API. Spotify reaches out to Soundrop when it has new versions of APIs to get feedback. Spotify also gives feedback to Soundrop but doesn’t help it in any monetary way.

Soundrop also has other business relationships, namely with various record labels and artists. It uses significant resources in building brand relations with digital music marketing teams all around the world. Moreover, Soundrop partners with Facebook, Youtube and Vevo. Soundrop is soon relaunching in App Store and also introducing a mobile SDK which allows user-developers to embed their listening rooms into mobile applications.

It is hard to guess at this point how the relationship will evolve in the long term. Soundrop obviously will want to grow its revenue streams somehow as the service is gaining attention and it also has an external investor aboard.

### 4.6. Rules of open platform usage

This sub-chapter is based on the interviews of Inge Andre Sandvik (Soundrop), David Porter (8tracks), Mattias Arrelid & Ronald Pompa (Spotify) and Paul Osman (SoundCloud). What is said about each company is directly related to the respective interviewee’s (or interviewees’) answers as well as the “Terms of Use” section publicly available on the company’s website.

SoundCloud’s terms of use allows user-developers to distribute their applications and stream music anywhere, as long as both SoundCloud API usage and the original
artist is attributed accordingly. However, user-developers are not allowed to monetize their applications based on other creators’ SoundCloud content. In case of commercialization incentives occur, user-developers (or user-developer teams) are considered as partners with whom a formal contract is agreed on, as royalties have to move to the original creator in some way. A similar deal has to be made in case an app grows significantly in terms of traffic (API requests). SoundCloud doesn’t claim any intellectual property rights on products (applications) built on their open API. However, it reserves the right to charge from the API usage in the future. In a couple of specific cases commercial use is however allowed: a user-developer can sell his/her app if its purpose is to create original user content and share that content (by the content creator), a user-developer can use the open API to deliver user content to other (ad-enabled) platforms directly related to that user (e.g. website or social media profile) and a user-developer can use the API to access user content in aim to promote it (without infringing SoundCloud’s terms of use). SoundCloud thinks it will have pretty standard procedures regarding the monetization by user-developers in the future. Meanwhile, the operations focus on ignoring small traction and contacting the bigger players, i.e. user-developer apps with significant traffic.

8tracks has a monthly streaming limit of 10,000 hours for external applications. In case an application exceeds it, the app team is pushed to commercialize their product as well as to set up a commercial relationship with 8tracks. These situations are evaluated on a case-by-case basis. Users of the open API are expected to mention the 8tracks brand, so app-users will find their way to the company’s original website. Mix-tapes created on 8tracks are the property of the company but the applications created are owned by the respective user-developers. 8tracks is quite flexible in terms of commercialization. As long as it’s first agreed with the company, user-developers can charge a subscription fee or even sell their app. The amount of usage (API requests) is what matters with a specific application, not the amount of money a user-developer may make with it. In the future, 8tracks may include audio or visual ads in the platform.

At the moment it is not possible for a user-developer to monetize an application built with Spotify APIs. If a user-developer wants to commercialize, he/she has to find a way that is not directly related to the app. These situations are still quite rare but they are likely to become more common in the long term. Spotify thinks a user-developer should be able to make a living by building an app and using the open
APIs in the future, without it (as a company) interfering or actively working with him/her (although it has no idea yet how the monetization model would look like). The commitment Spotify has with the rights owners (record labels and artists) prevents others making money through the company. It however has a big interest in solving that problem. Today, if a user-developer app has business potential, Spotify evaluates it (on a case-by-case basis) which may potentially lead to a partnership. Another option for Spotify is to acquire the user-developer team (or company), but that is not a scaleable model in the long term. Spotify sees this relationship being self-sustained in the future, without the need to discuss about acquiring but rather how can the user-developers solve the monetization issues themselves.

Spotify has three APIs (Libspotify, Spotify Apps and Web API), whereas 8tracks and SoundCloud both have one. Spotify mentions it wants to actively give feedback and suggestions related to user-developers’ apps. For using Libspotify the developer needs a premium account as Spotify doesn’t offer a free tier on mobile platform. Libspotify users create and distribute their apps themselves. Spotify Apps are integrated inside the Spotify application, and in aim to develop something for that platform, a user-developer has to go through a concept submission and approval process. Spotify emphasizes the quality of the apps published in Spotify Apps. The Web API is just a simple lookup data service for music metadata. User-developers own the IP of their applications, as Spotify’s recent acquisition of Tunigo shows.

All the sample companies have a legal infrastructure, namely the Terms of Use, which set up the rules for open platform usage. Most importantly, everyone has to respect the licenses regarding the actual content (music). No partner has the right to store any data (unless they have the specific rights to do so). Thus, the open platforms offer a user-developer the possibility to access data, not acquire any ownership on that data. In addition, the terms of use prevent (naturally) any use related to e.g. spam distribution, unsolicited advertising, promotional messages, copyright or trademark violation, false affiliation, user harassment, platform damaging, virus spreading, personal data collection, API access selling or, in general, any illegal (or unauthorized) purpose. In the end, each of the sample companies has the final word in deciding whether or not an app is acceptable.
To be able to use a company’s API, a user-developer has to create a user account to the respective company and accept the terms of use discussed above. In addition, the user-developer has to ask for a personal application key (access to the API). User-developers may distribute their apps in App Store, Google Play, Windows Phone Store etc. as long as they meet both the terms of use of the API-provider and the marketplace.

Soundrop, using Spotify’s APIs, has to respect all the rules described above. In case a user-developer team building on Soundrop’s SDK looks for commercialization opportunities, a licensing discussion between the team and Soundrop will occur. However, this is highly influenced by the fact that Spotify hasn’t (yet) figured out toward the labels how it could let others to build value (commercially) on top of the open APIs.

4.7. Summary of the findings

<table>
<thead>
<tr>
<th>Benefits of opening up</th>
<th>Challenges of opening up</th>
<th>User-developer engagement</th>
<th>Rules of open platform usage</th>
</tr>
</thead>
<tbody>
<tr>
<td>- distribution of the innovation</td>
<td>- maintain the API easy to use</td>
<td>- all companies have created a user-developer community and communication channels</td>
<td>- the respective artist and platform provider have to be attributed</td>
</tr>
<tr>
<td>- generation of novel ideas by the user-developer community</td>
<td>- meet the expectations of the user-developer community</td>
<td>- different events are organized, Music Hack Days play an important role</td>
<td>- no direct monetization allowed (except 8tracks has a special status as well as SoundCloud's original content creators)</td>
</tr>
<tr>
<td>- a good marketing initiative</td>
<td>- transparency level</td>
<td>- Spotify and SoundCloud have developer evangelists</td>
<td>- commercial incentives as well as significant amount of user traffic lead to partnerships, defined on a case-by-case basis</td>
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<td></td>
<td>- some apps may stream a lot --&gt; need for a formal contract</td>
<td>- user actions within the apps provide crucial metrics</td>
<td>- user-developers own their creations’ intellectual property</td>
</tr>
<tr>
<td></td>
<td>- legal infrastructure has to be very up-to-date</td>
<td>- SoundCloud has 10.000s of apps, Spotify 100.000s --&gt; a significant phenomenon</td>
<td></td>
</tr>
</tbody>
</table>

Table 1: A summary of the empirical findings
5. Discussion

My research question seems to be very accurate as all the companies interviewed are in the middle of figuring out the future rules for user-developers who want to commercialize their creations based on the open platforms. At the moment only 8tracks allows the commercialization. However, it has a special status as an Internet radio (loosening significantly the legal boundaries) unlike the other music streaming companies in the sample. Still, it makes 8tracks one of the first companies in the industry to nurture user entrepreneurship, defined by Shah & Tripsas (2007), within its user-developer community. To support a desirable development of the phenomenon, the companies need to refine the rules of open platform usage, especially in terms of commercialization possibilities.

Everything related to the phenomenon is very early on. Companies’ APIs have been open only for a couple of years and practices around them are constantly evolving. Benefits from opening up have been identified by the companies. These benefits, such as distribution of the innovations and access to a pool of novel ideas, match the benefits of open innovation, as described by Chesbrough (2003). The opening up has also caused challenges for the companies, mainly in terms of how transparent the open platform can be, as it provides third parties an access to rights owners’ content. This also relates directly to the open innovation paradigm, specifically to the discussion about how open a company should be in order to also take care of its core intellectual property. Interestingly, Spotify was planning to open up its platform, but a hacker group Despotify managed to get access to that API before it was introduced. That pushed Spotify to open up even faster as they wanted to have control over the API usage and de-incentivize further misuse. That is an example of the power of open innovation; opening up may actually protect a company better.

Both Spotify and SoundCloud think they’ll some day have standard procedures for user-developers to monetize their apps. Until then, they do case-by-case evaluations and focus on apps creating significant user traction, which is also the case with the rest of the sample companies. None of the companies claim any intellectual property rights regarding the applications created by user-developers. However, e.g. SoundCloud’s and Spotify’s terms of use state the companies have the right to currently (or in the future) develop apps, products or services that are similar or competitive with the user-developers’ apps.
User-developers have the possibility to monetize indirectly. For example Soundrop is promoting different labels and artists on its standalone website. The companies in the sample, however, emphasize the open APIs provide significant benefits that are not directly related to commercialization. E.g. Spotify provides crowdsourcing, distribution, volume, brand awareness, access to music and it can “[...] guarantee that whatever you build, you’ll have the potential to reach millions of users - but it’s still up to you to get them hooked on your product” (Arrelid, personal communication, May 13th, 2013). These user-developer engagement processes show the companies are actively using user-driven innovation strategies, as discussed by Baldwin et al. (2006), von Hippel (1977) and von Hippel et al. (2011).

In addition to the user-developer monetization model around the open platforms, the companies are constantly putting effort on how to make their APIs even more easy to use and coherent. Simultaneously, the companies aim to engage more people to use the apps on different platforms, grow the ecosystem and actively cooperate with user-developers. This shows the companies actively nurture user innovation within their communities, as suggested by von Hippel (1988; 2005).

The sample companies seem to take good care of their user-developer communities. Active dialogue with the user-developers as well as organizing various events, especially the Music Hack Days, are essential in the companies’ user-developer engagement processes. SoundCloud even mentioned it wants to create a community where user-developers are able and willing to help each other. This reminds a lot the way different open source software communities operate, as researched by von Hippel, von Krogh (2003) and Raymond (1999). One could say the sample companies are creating “hacker culture” behaviors in their communities.

This thesis proposes a new notion: “community user entrepreneur”. Muniz & O’guinn (2001) discussed about brand communities, where users represent general consumers interested in some specific brand. Shah & Tripsas, in turn, presented user entrepreneurship describing users as active innovators. What I see here, within the context of music streaming industry, is a huge amount of entrepreneurial users willing to build upon open platforms. At the same time, each platform belongs to a specific brand. “Community user entrepreneurs” could describe better these user-developers, as they are neither independent entrepreneurs nor just enthusiasts of a specific brand.
I also think I’ve found a sign of paradigm shift from companies’ perspective. As theory shows, a significant amount of users move from user innovation to user entrepreneurship. Simultaneously, companies have been switching from closed innovation models to open ones, and even adopted different user-driven innovation strategies. As showed in the empirical review, companies are pushing their openness further by offering open platforms upon which anyone can build new solutions. I visualized this paradigm shift both from an individual’s and a company’s perspective:

![Figure 1: A new paradigm shift (an early proposal)](image)

The findings of this research answer to the original research question. The sample companies have clear rules of the open platform usage. Although the rules regarding monetization of the applications user-developers have created are mostly strictly forbidding, maybe the exceptional status of 8tracks could be benchmarked by the rights owners to adjust their intellectual property policies. By that I don’t mean every company should become an Internet radio, but rather companies could proactively suggest rights owners different solutions to apply similar experience to services which also allow the user to choose the songs played.

My original proposition seems to be quite accurate. Open platforms give access to assets for free (except Libspotify requires a subscription fee) for non-commercial purposes. In case of commercial initiatives, everything is settled on a case-by-case basis (even with 8tracks). It is all about partnerships in the ecosystem, instead of my original thought of open platform users paying license fees to the platform-provider companies, as no standard licensing rules exist yet. Another key finding is that the sample companies are essentially interested in the user traction different apps generate.
6. Conclusion

In the spirit of open innovation, companies are creating user communities and nurturing user innovation. Firms’ user-driven innovation strategies are evolving to the direction of “benefit for many” instead of trying to maximize profit based on users’ creations. Moreover, some companies even support user entrepreneurship and actually encourage users to take action, as seen with the music streaming industry. Although the commercialization issues are not yet solved within that specific industry, the mutual interest is in finding solutions in the long term. User innovation and user entrepreneurship are seen as something truly valuable for the whole business ecosystem.

Music industry in general is challenging, as the content has strong copyright protections and the intellectual property is not owned by the music streaming companies who offer the open platform for user-developers. The role of IP will stay no doubt essential in the future, and it is interesting to see how the rules of IP usage evolve as the different forms of open strategies, collaboration and user involvement become even more common.

This research proposes a new notion: “community user entrepreneur”. More research in this field is required, as the possibilities for user entrepreneurship in companies’ communities may change significantly if looking at some other than music streaming industry.

It is also intriguing to see how this phenomenon will be called in the innovation and entrepreneurship literature in the future, as it is a mixture of open, user and user-driven innovation as well as user entrepreneurship.
7. References


8. Appendices

8.1. Interviewees

- Lari Haataja, entrepreneur and participant of Music Hack Day Stockholm 2013, April 26th 2013, 22m25s
- Atte Hujanen, entrepreneur and participant of Music Hack Day Stockholm 2013, April 29th 2013, 17m13s
- Inge Andre Sandvik, CEO and Co-founder, Soundrop, May 3rd 2013, 47m58s
- David Porter, CEO and Founder, 8tracks, May 4th 2013, 27m00s
- Mattias Arrelid, Product Owner at Spotify (internal platform), May 13th 2013, 19m44s
- Paul Osman, Developer Evangelist, SoundCloud, May 14th 2013, 20m39s
- Ronald Pompa, Product Owner, Spotify (open platform: APIs facing partners and the developer community), May 17th 2013, 38m29s

8.2. Interview structure (parent company: Spotify, SoundCloud, 8tracks)

What are the reasons behind opening up your platform to external developers?
- What have been the most significant benefits so far? Future benefits?
- What have been the biggest challenges to date? Future challenges?

What have you concretely done to nurture user/developer engagement?
- How do you promote the open platform?
- If involved in Music Hack Day:
  - What do you see as the purpose of the event?
  - How are the IP rights regarding the hacks defined?
    - What is the case if a team decides to commercialize their project?

How would you comment of the level of user/developer engagement at this point?
- What seems to be the future trend?
- How many third party applications are there at the moment based on your platform?
What are the rules regarding intellectual property?

- What instruments do you use in protecting your intellectual property?
  - What is copyrighted? Trademarked? Do you own any patents?
- Who owns the IP of new products/services using your API?
- When a “user innovator/developer” wants to commercialize, do the rules change? If yes, how? --> Are there e.g. different licensing options?
- Do you have generalized “IP-rules” or are the decisions made on a case-by-case basis?
- What is needed for a developer to get an API key? Any other requirements (than agreeing on the terms of use) to use the API?
- If there are different open APIs, what is their relation? (E.g. Spotify has Libspotify, Web API (Metadata API) and Spotify Apps API)
- **SPOTIFY**: Requirements for developers publishing in App Finder (is Spotify) are clear. What about App Store, Google Play or Windows Phone Store?
  - Are the apps in App Finder (in Spotify) free for users?
- **OTHERS (THAN SPOTIFY)**: What are the rules (from your side) for developers to publish in App Store, Google Play or Windows Phone Store?
- **SOUNDROP, SPOTIFY**: Any specific agreements within this relationship?

8.3. Interview structure (community company: Soundrop)

At what point did your company get involved with Spotify?

What are your thoughts about building a startup partly on another company’s assets?

- What are the biggest benefits?
- What about the challenges?

What are the rules regarding intellectual property?

- What are the terms you agreed with Spotify (on a general level)? The nature of the partnership? Licenses? Royalties? Promotion of Spotify?
- Do the terms differ between launching in App Finder (in Spotify) vs. external marketplaces (App Store / Google Play / Windows Phone Store)?
- Which Spotify APIs do you use (Libspotify / Web API (Metadata API) / Spotify Apps API)?
Music Hack Day:

• Why were you part of (or sponsoring) the event?
• How are the IP rights regarding the hacks defined?
  • What is the case if a team decides to commercialize their project?

What are your own plans regarding the openness toward your user community?
• Open API - users integrating rooms into their own applications?

8.4. Interview structure (Music Hack Day participants)

• What do you think was the purpose of the event?
• Why did you participate?
• How was the general structure of the event (compared to the one found online)?
• How many participants were there? What kind of people (backgrounds, skill sets)?
• How would you describe the atmosphere?
• How many teams were formed?
• Which ideas (pitches) come to your mind from that event (name a few)?

• Did you have to sign something (an NDA / contract) at the event?
• How were the IP rights regarding the hacks defined? Who owned the products created during the hackathon?
• Did some teams continue developing their idea further after the event?
• If you will / would continue the development, would the IP rules change? If yes, do you know how?
• If you will / would commercialize your solution / app, would the IP rules change? If yes, do you know how?