Digital Transformation in Music Industry
A Multiple Case Study of Finnish Record Labels

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DIGITAL TRANSFORMATION IN MUSIC INDUSTRY:

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Abstract

This research studied the digital transformation in music industry of Finnish record label companies, and their utilization of ICT technology and digital platforms. Six record label representatives of top level executives were interviewed as a part of this study. All three dominant players, major record labels, were involved in this study with addition of three smaller independent record labels. The study aimed to understand what ICT technology is used in the core operations of a record label, and possibly, how they are utilizing different digital platforms and technology in their i.e. communications, when choosing the primary channels of communication to increase operational efficiency.

A literature review on the previous research was conducted on platform theories and digital platforms, followed by an industry overview and the digital transformation of music market, then leading to theoretical background of the framework used to analyze findings, description of the methodology, overview of the current market situation, explanations of the case companies and analysis of them through the findings.

The results of the study supported the previous literature related to the industry transformation and the market structure. However, the importance of sociological behavior emerged through the significance of the social media in music industry and by the way of communications of the record labels. The use of technology is on quite basic level, thus some lack of digital platform being utilized can be recognized.

As a managerial implication, the more accurate strategic mapping of the relevant stakeholder groups for the record label is recommended in order to improve communications to increase efficiency to gain competitive advantage.

This study is limited by the small sample size and relatively wide scope of a complex industry, which required substantial delimitation, and abundance of various affecting factors related to the operations of the record labels.

Keywords platforms, digital platforms, music industry, digitalization, IISI[n]

Acknowledgements

Table of Contents

List of Figures

List of Tables

1 INTRODUCTION

"Musicians say there is no money in streaming… That's what you know isn't it? Well, that's wrong. The industry is suffering a slow death and in order to live it must change." - Willard Ahdritz, the founder and CEO of Kobalt Music Group (Gray, 2015).

Digital transformation has revolutionized the whole music industry over the past two decades. Music consumption has changed significantly and the consumers are better served than ever before. People can listen to music in any place and at any time with instant access through different devices. Global digital record collection holds more than 43 million tracks and over 400 licensed music services worldwide (IFPI, 2015). International Federation of the Phonographic Industry (IFPI) also estimates that global digitization has brought licensed services to some 200 countries overall, enabling the recording industry to reach markets that it could not monetize before through physical retailing.

It is quite obvious, that many stakeholder groups are involved in this giant entertainment industry. Therefore, it is well eligible to study the whole music industry through different platform theories (Hagiu & Wright, 2015) and multisided markets theories (Eisenmann, Parker, & van Alstyne, 2006).

Information systems have created multiple new distribution channels for music. Various digital platforms exists in the music industry (Tilson, Sørensen, & Lyytinen, 2013). Tilson et al. also states that Information Systems (IS) platforms play an increasingly important role, for example in the transformation of legacy systems into flexible platforms for service innovation, or in the distributed development and delivery of smartphone- and tablet applications.

Many are familiar with various online music listening services, such as Spotify, Deezer, Soundcloud, and other online music streaming service platforms targeted to consumer market (IFPI, 2015). Inescapably, there are multiple other digital platforms in music industry as well targeted to music producers, record labels, and other stakeholder groups, but not necessarily a dominant platform between artists and record labels (Tilson et al., 2013).

In music industry, and all of its complexity, lies a growing bubble enforced by the digitization. Information Communications Technology (ICT) enables music consumption and publishing for anyone and anywhere in the world with ease. With the help of ICT Intensive Service Innovations in many-sided markets (IISIn model), introduced by (Tuunainen,

Tuunanen, & Bastek, 2009) it is easier to compare and define more precisely different platforms and the stakeholders.

Recording industry is still dominance of three major record labels (Universal Music, Warner Music, and Sony Music) (IFPI, 2015). At the same time, there are numerous smaller independent record labels and sub-labels competing in the same industry and market.

The purpose of this study is to analyze the use of ICT technology and digital tools used in Finnish record label companies. The main focus of the study is to take on the technology used by these record labels and artists, and how the new technologies are applied into core operations of a record label to increase efficiency or profitability in record label business. The study should explain how record labels are utilizing ICT technology, how they choose their primary channel(s) of communication, and if they are lacking of any technology used. The research questions are:

Q1: "How are the record labels utilizing ICT technology?"

Q2: "How music companies (record labels) choose their primary channel(s) of communication – are they lacking of technology platform used?"

Q3: "What is the importance of social media for a record label?"

Special attention will be placed on the communication of record labels and network effects, within and between different stakeholder groups. To study these questions, interviews will be organized for different record label companies in Finland. At least all the three major record labels with additional independent labels will be interviewed.

In the study I first analyze the existing literature and research in information economy on digitalization, two-sided and multisided markets, platform theories, and digital platforms to explain the definitions for ICT technology and characteristics. Then I combine these theories to music industry to explain the basics how the music industry functions. After that, I explain and outline the theoretical background and framework for the ICT Intensive Service Innovations in many-sided markets ($IISI^n$ model), which will be used as an analyzing tool to break down the case studies. Then I present the research method and data, empirical study and findings from the interviews leading to discussion, conclusions and limitations of the study.

2 DIGITALIZATION AND DIGITAL PLATFORMS

This chapter explores the information economy literature focusing on the digitalization and different non-digital and digital platform theories. Here the research questions are inspected on the basis of existing literature the first time. The theory will be based on five main areas. First, in part 2.1, the digital ubiquity is described. Then in part 2.2, the previous researches on non-digital platforms are presented to set up the next part, 2.3, where digital platform theories are introduced. After that, in section 2.4, platform complexities are reviewed. Thereafter, in section 2.5, the general platform types and characteristics are explained before introducing platforms in the music industry in chapter 3.

2.1 Digital Ubiquity

New digital technology surrounds us in everyday life progressively more. Marco Iansiti and Karim Lakhani, in their Harvard Business Review article (2014), discusses about digital ubiquity. The discussion focus on explaining how connections, sensors, and data are revolutionizing business despite the industry. Iansiti and Lakhani demonstrates this phenomenon through using the internet of things as an example. "Over time, digital technology and internet of things will transform virtually every sector and every business", (Iansiti & Lakhani, 2014). Moreover, Iansiti and Lakhani explains that over the next few years many business components will be digitized to enable new range of products, services and business models (Iansiti & Lakhani, 2014). The same revolution has been underway in music industry over the past decade.

The pioneering models of multi-sided platforms (MSPs) introduced by Armstrong (2006), Caillaud & Jullien (2003), Parker & Van Alstyne (2005), and JC Rochet & Tirole (2003), as well as a large number of more recent contributions, all treat "multi-sidedness" as a given characteristic of the relevant industries and firms. It is important to recognize, however, that many real-world organizations make choices that determine how close or how far they are from a multi-sided economic model, and that these choices carry significant economic trade-offs (Hagiu & Wright, 2015).

Digital platforms are mainstream information systems agenda widely, since they are omnipresent in today's industry. The way people interact and share experiences have changed due to social media platforms like Facebook (Mark De Reuver, Sørensen, & Basole, n.d.). Mobile technology flourishes with Android and iOS operating platforms being a part of

almost everyone's everyday-life. Digital platforms serve a key-role facilitating online user-interaction, yet digital platforms are a distinctively new phenomenon in information systems (IS) (Spagnoletti, Resca, & Lee, 2015). New updated, modular, versions of digital platform infrastructures are replacing more traditional digital infrastructures with monolithic architectures (Tiwana & Konsynski, 2010). "Competition no longer revolves around who controls the value chain but around who attracts most generative activity around its platform, (Mark De Reuver et al., n.d.)." A good example of this phenomena is that many firms offering access to their digital services and data via open application programming interfaces (API) (e.g. Google Maps and Flickr), which has led to the "programmable web" and a vibrant mashup ecosystem (Weiss & Gangadharan, 2010).

Platform concepts has been widely researched and discussed also from a non-digital worldview outside of information systems industry. As mentioned before, several studies are found about two-sided markets (JC Rochet & Tirole, 2003), organizing activities and competing through platforms (Gawer & Cusumano, 2002), and platform economics (Parker & Van Alstyne, 2005). However, while platform literature can provide useful notions and concepts, digital platforms are notably different in several ways (Yoo, Henfridsson, & Lyytinen, 2010).

In contrast to discussion outside information systems, within information systems, digital platform discourse has lacked common conceptualizations and methodologies, which is common in any emerging field (Kuhn, 1962). Sørensen et al. states in their paper: "While consensus on conceptualizations need to be desirable per se, clarity on what constitutes a digital platform and how to study them is vital for the field to sustain." Therefore, De Reuver et al., presents the research challenges for platforms with considerable digital element, drawing upon separate research strands on platforms, ecosystems, infrastructures, and two-sided markets (Mark De Reuver et al., n.d.). These types of digital platform constructs can serve as broader theoretical foundations for empirical inquiries into platforms based on pure software-based arrangements, or layered modular architectures mixing software and hardware (Yoo et al., 2010). Such digital platform constructs assumedly exists abundantly among music industry, and it is essential to this study. Therefore, it is pivotal to study existing literature about digital, as well as non-digital platforms both, within music industry and outside music business.

2.2 Non-digital Platforms

Some studies views platforms as a stable core and a variable periphery (Carliss Y Baldwin & Woodard, 2008). Modular concept development are found in many studies of platforms innovations (C Y Baldwin & Clark, 2000; Henderson & Clark, 1990). Annabelle Gawer, in her article in 2014, principally categorizes platforms in terms of its process scope into three different categories. These categories are: 1) internal platforms, enabling recombination of sub-units within the firm; 2) supply-chain platforms coordinating external suppliers around an assembler; and 3) industry platforms where a platform leader pools external capabilities from complementors (Gawer, 2014). In the types 2 and 3, platforms mediates between different groups of users in addition to providing a stable core (Mark De Reuver et al., n.d.). This type of platform, which is mediating different groups of users is typically denoted as a multisided platform (Kevin J Boudreau & Hagiu, 2009). Ideas of two-sided markets was generated when Rochet and Tirole analysed US credit card antitrust cases in the 1990s (J.-C. Rochet & Tirole, 2003). From the economic view, Eisenmann et al. (2006), illustrates two-sided markets bringing together or matching two distinct groups , whereas the value for one group increases as the number of participants from the other group increases. In this case, the necessity of an intermediary cannot be undervalued for internalizing externalities created by one group for the benefit of other (Evans, 2003). Arrangements where multiple groups interact are referred to as multi-sided markets (Kevin J Boudreau & Hagiu, 2009; JC Rochet & Tirole, 2003), which is in the focal point of this study.

When studying multisided platforms, as they bring together multiple user groups, the networks in different sides of platform creates network effects or network externalities. As mentioned above, network externalities imply that a technology's usefulness increases as its installed base of users increases (M. L. Katz & Shapiro, 1985a; Shapiro & Varian, 1999). Arthur (1989), suggests that increasing adoption levels can trigger positive feedback cycles that further increase the usefulness of the technology. Normally, network externalities are direct if the value of the platform depends on the number of users in the same user group (Mark De Reuver et al., n.d.). For instance, this may occur if the value of the product increases by others buying, connecting, or using the same platform or services provided via the platform. Great examples of direct network effects today are social media, which become more valuable if more end-users join the platform (Mark De Reuver et al., n.d.). In turn, the indirect externalities occurs when the value of the platforms depends on the number of users

in a different user group (Mark De Reuver et al., n.d.). For instance, Apple's App Store become more valuable for consumers and users if there are more developers creating applications for iOS system and App Store. Another good example are video game consoles, which similarly become more valuable for consumers if there are more developers creating games for that console. Indirect network effects may also be negative when advertisers streams video commercials to websites forcing the user or viewer to watch the commercial before watching the desired video decreasing the value of the website platform. Or, for instance more advertisers on a search engine platform decrease its value for searchers of independent advice (Mark De Reuver et al., n.d.). When the users have started to adopt the product or technology, these network effects provide benefits to both new and existing users such as reduced price, lower uncertainty about future versions of platforms and complementary services, communities of users, higher quality products, and new market opportunities (Dew & Read, 2007).

De Reuver et al.(n.d.), states that the concept of platforms is closely related to that of ecosystems. Basis to these assumptions can be found in Iansiti and Levien's work on exploring the strategic options for enterprises in becoming a keystone organization cultivating an ecosystem (Iansiti & Levien, 2004a, 2004b). The ideology behind is about changing competitive environment, treats biological ecosystems as a metaphor for the business ecosystem. This conceptualization does not involve a platform construct like many other information systems and management research does. "Within management research, the platform as a construct or metaphor is at times treated separate from and at times intimately related to the ecosystems construct or metaphor", (Mark De Reuver et al., n.d.).

Sometimes, with digital service innovations, it might not be that cloudless to identify the definite platform for a service, to which De Reuver et al. referred as a construct or metaphor. This ideology paves the way to the section 2.3, in which digital platforms are explored more in depth. Moreover, the differences to non-digital platforms are pointed out.

2.3 Digital Platforms

In this section the aim is to identify typical characteristics of a digital platform. By comparing digital platforms into traditional platform theories, it is attainable to recognize how the digital platforms are different.

De Reuver et al., (n.d.) studied industrial innovation management literature on

platforms, which typically assumes modularization governed by an over-arching design hierarchy (Clark, 1985). De Reuver et al. argues the case of digital platforms being different, that this assumption does not hold. According to several studies on digitalization and digital platforms, there can be varying assumptions and theories about digital platforms. The studies from Kallinikos, Aaltonen, & Marton, (2013) and Yoo et al., (2010) convey that digital technologies imply homogenization of data, editability, reprogrammability, distributedness, and self-referentiality. Henfridsson, Mathiassen, & Svahn, (2014) suggests that such characteristics of digitality lead to complex relationships of multiple inheritance in distributed settings, which challenges the assumption of one core-owner of the platform that dictates its design hierarchy. Moreover, the digital platforms will introduce characteristics beyond traditional integrated and modular architectures when combining the modularity of physical goods with the layered architecture of software (Yoo et al., 2010). "Components in such layered-modular architectures are loosely coupled through standardized interfaces, leading to products open for new meanings after manufacture", (Mark De Reuver et al., n.d.). This conceptualization is realized in various smartphone applications where these apps combine existing layered-modular resources from the operating systems, such as iOS and Android, the various hardware elements, the software development kits, and variety of public APIs into new innovative applications not considered when the smartphones and associated software were initially conceived (Mark De Reuver et al., n.d.).

At this point, it is quite clear that various conceptualizations exist what comes to digital platforms. According to current studies, digital platforms can be defined as purely technical artifacts where the platform is an extensible codebase, and the ecosystem comprises third-party modules complementing this codebase (K. J. Boudreau, 2012; Tiwana, Konsynski, & Bush, 2010). However, several other additional definitions exist by many scholars. Tilson, Sørensen, & Lyytinen, (2011) view the platform as a socio-technical assemblage encompassing the technical elements (of software and hardware) and associated organizational processes, international standards, etc. Another definition of digital platforms is: "software-based external platforms consisting of the extensible codebase of a software-based system that provides core functionality shared by the modules that interoperate with it and the interfaces through which they interoperate" (Ghazawneh & Henfridsson, 2015). De Reuver et al. (n.d.), defines that a digital platform incorporates various models deployed to extend the functionality of the software product. Applications can be seen as demonstration of these modules or as "add-on software subsystems" (Tiwana et al., 2010), which are often

designed and developed by third-party developers. De Reuver et al. in their study define such applications as "executable pieces of software that are offered as applications, services or systems to end-users" (Ghazawneh & Henfridsson, 2013).

Henfridsson & Ghazawneh (2013) also emphasize that the essence for understanding digital platform dynamics is the boundary resources made up of software tools and regulations facilitating the arms' length relationships between the involved parties, not just the platform itself. In addition to this idea, when considering the platform dynamics, distributed actor collectively engaging in the tuning of boundary resources should be taken into account. De Reuver et al. (n.d.) build on this idea by suggesting a shift away from ownership-centric views in innovation management literature that focuses on the platform owner as a keystone organization that manages a number of complementors. These types of conceptualizations are expected to occur in digital platforms in music industry, where multiple distributed actors are operating around one platform. This study will explore this concept more later in the research with the help of $IISI^n$ model. De Reuver et al. (n.d.) states that given this type of ownership and control of digital platforms does not reside with one single actor, the issue of how to govern digital platforms is often being studied.

Governing digital platforms has been widely studied among information systems management literature Tilson, Lyytinen, and Sørensen (2010), argued that the recombinability of digitized elements through digital convergence, and the associated generativity, raise paradoxical relationships of change ad control. Moreover, "the paradox of change implies the need for digital platforms to simultaneously remain stable to form a solid foundation for further enrolment, and yet to be sufficiently flexible in order to support seemingly unbounded growth", (Tilson et al., 2010). De Reuver et al. (n.d.) argues this in the following way: "The paradox of control presents the opposing logic of digital platforms simultaneously being governed by centralized and distributed control. The development of the iOS and Android platforms and associated ecosystems of apps and stakeholders illustrate the control paradox as varying control arrangements have both hindered and fuelled generativity. The ability to facilitate a rapid self-serviced process of continuous updates of apps and operating systems resources has provided stable yet constantly evolving platforms" (Mark De Reuver et al., n.d.).

This leads to studying the openness of digital platforms, which has been discussed in relation to non-digital platforms (e.g., Eisenmann, Parker, & Van Alstyne, 2011) yet

digitality adds differences to this. For digital platforms, openness relates also more to openness of technologies such as software development kits (SDKs) and application programming interfaces (APIs), not just to organizational arrangements like entrance and exit rules (Mark De Reuver et al., n.d.). De Reuver et al. (n.d.) also found that different levels of openness are found in practice for mobile platforms like iOS and Android, digital marketplaces, and payment platforms. Overall, in addition to digital infrastructures, the digital platforms provide differences in the control arrangements, which may be anchored in an organization or consortium of firms that owns the core platform technologies (Mark De Reuver et al., n.d.), which is essential in this study on record labels core operations and how they exploit digital platforms.

2.3.1 Issues in Digital Platform Research

To have a better awareness on digital platforms, it is beneficial to understand where the research literature stands currently, and where the knowledge on digital platforms is lacking or insufficient. The purpose of this chapter is to help building awareness of the digital platform dynamics through pointing out if the current researches on digital platforms are lacking.

De Reuver et al., (n.d.) in their article: "The Digital Platform – A Concept in Search of Clarity", argues about digital platform research have few issues. The previous chapter observed that a basic foundation for digital platforms research is provided through prior work on non-digital platforms from the management and economics literature, but does not deal with the generative characteristics and non-central ownership of digital platforms. Literature about telecommunications supports studies with many example cases and provides framing of current trends, but is still lacking of rigorous empirical studies.

Overall, De Reuver et al. (n.d.) argues in their paper that the information systems field needs to investigate digital platform concept further as a possible separate construct, since a dramatic increase in the diffusion and importance of digital platforms operating as multi-sided markets, for instance facilitating social networks, smartphone app stores, or the so-called sharing economy. The current studies explore the platform concept within economics, management, information systems and telecommunications, and seeks a distinguishing focus on digital platforms as a separate type of artefact (Mark De Reuver et al., n.d.). Three main issues are presented in the paper: "Firstly, the discourse will need to engage in further

conceptual clarification of the digital platform and the ecosystem constructs in a digital context. The second main issue is concerned with the scoping of digital platforms, for example developing a typology expressing variety of digital platforms. Thirdly, the paper identifies critical methodological issues to be resolved in the study of digital platforms – many of which are common with the challenges of studying digital infrastructures" (Mark De Reuver et al., n.d.).

Going into these issues more specifically will give a clearer perspective understanding digital platforms. De Reuver et al. (n.d.) takes on the conceptual issues first. Terms of ecosystems and digital platforms are often used in a colloquial way without clear definitions. Therefore, this field of research needs a shared conceptualization of the core terms, and scholars should provide clear definitions of what is meant by the terms "digital platform" and "digital ecosystem". Especially, whether platforms are referred as technical or sociotechnical concepts, the definitions should be explicit. Often the term digital platform is used to refer to different units of analysis, which causes ambiguity among the term digital platform, since digital platforms are composed of technologies with different levels, e.g. the device, the operating system, and the applications. A good example is seen in the context of mobile platforms, the iOS operating system is closely linked with the Apple iTunes app store platform. Usually platforms engages in many categories, and should not be seen as a black box (Gawer, 2014).

The case of mobile platforms provides good example for the second presented issue, the scoping of digital platforms (Mark De Reuver et al., n.d.). Considering the case of mobile platforms, the operating system and associated app store are often being studied as the focal platform, when actually digital platforms can be found on multiple levels of the technical architecture, ranging from the infrastructure and middleware towards the applications (Basole & Karla, 2011). Digital platforms evolve rapidly and cross-platform development become more common. New platforms are currently emerging on top of the mobile operating system, i.e. cross-platform development enables application developers to utilize multiple operating systems without noticing a difference (Pon, Seppälä, & Kenney, 2014). HTML5 is a great example of this development, as it enables running applications in the browser of the smartphone, making the browser the main platform to be analyzed. "Even the apps can become the dominant platform as for instance Facebook's app allows browsing within the application to content from third party newspapers" (Sørensen, De Reuver, & Basole, 2015).

The third main concern on digital platforms is methodological issues (Mark De Reuver et al., n.d.). Cross-platform development and the browser as platform are technological developments that will accelerate platforms competing with other platforms, and the ecosystem around different platforms is often partly overlapping due to multi-homing. Moreover, digital platforms and digital ecosystems are often by their very nature interconnected and comprise multiple levels of analysis (Yoo, 2013). In addition, Tilson et al., (2010) study on digital infrastructures posit that the comparability of research units is difficult as the complexity of digital platforms makes each of them unique in its own right. Tilson et al., (2010) also suggests that embedded case study approaches are required that take into account the full network of participants engaging in distributed innovation managements, and by comparing cases within the same larger ecosystem, internal validity of platform studies can be enhanced. Later in this research Tuunainen et al., (2009) have presented a helpful tool to investigate digital platforms and multisided networks more in depth. This research agenda is supported by the claim that the study of digital platforms alone does not exist without examining the ecosystem that surrounds it. Mobile ecosystems require more thorough understanding of the structure, dynamics, and strategy or behavior of platforms and players in the ecosystems around digital platforms. This kind of ecosystemic thinking is becoming crucial for decision makers due to increasingly global, complex, and interconnected business environment (Basole, 2014). "Firms are not isolated anymore and value is co-created and co-delivered by multiple players" (Mark De Reuver et al., n.d.).

M. De Reuver & Bouwman, (2012) in their article about governance mechanisms for mobile service innovation, argues about the evolution of digital platforms, whether there will be more or less platforms in the future. This leads to discussion about openness of different platforms, and whether the digitality will lead to more centralization or decentralization. "In the end it is also a question about where to locate the intelligence: in centralized platforms or decentralized in the devices" (M. De Reuver & Bouwman, 2012).

As the digital platforms are developing, more integration between other digital platforms is taking place. For instance, the data collected from Facebook users is given to online shopping platforms, or Facebook is being used for identification service for logging into other services like Spotify. "This means that platforms are changing from independent platforms to components being integrated into larger infrastructures. Another example is the operating system, which is being displaced by the browser as the access point to third party

content" (Pon et al., 2014). This leads to relating the concept of platform envelopment, which means the idea that a platform takes over existing platforms (Eisenmann et al., 2011).

2.4 Platform Complexity

Platforms bind together different ecosystems and its varied activities within. Differing industries creates complexities in different platform models, therefore understanding these different platform complexities and their effects becomes vital for the industry (Tilson et al., 2013). The range of possible activities on the platform and the related aspects of control are defined by the complexity (Tilson et al., 2013). According to Tilson et al. 2013, the abstract models of platforms used in current research remove some of the most important features underlying the inherent complexity of digital platforms. They illustrate this insight with a small study of platforms and their evolving complexity in the music industry in their article: "Platform Complexity: Lessons from the Music Industry, 2013". Tilson, Sørensen, and Lyytinen (2013) posit that advancing theoretical perspective that better embrace the complexity of digital platforms is needed to fully capture the strategic and technological implications of emerging digital platforms. Baldwin and Woodard (2008), defines that platforms possess solid core with variable peripheries (Carliss Y Baldwin & Woodard, 2008). This means that all platforms share several universal features despite the industry. These universal features comprise core modules, which do not change quickly, coupled with peripheral modules that support variety. Tilson et al. (2013) suggests that as a term 'platform' has been applied to diverse phenomena, including products, systems, and services, in academic literatures. According to Tilson, Sørensen, Lyytinen (2013): "Within Information Systems (IS) platforms play an increasingly important role, for example in the transformation of legacy systems into flexible platforms for service innovation, or in the distributed development and delivery of smartphone- and tablet applications.

Almost all, academic literature on platforms originates from the fields of strategy, new product development, and network economics where the world of bits is rarely conceived as different from the world of atoms. Music industry as a whole consists of multiple digital and non-digital platforms. Both digital and non-digital platforms have underlying unique differences, which can be found and defined by exploring the complexities of both (Tilson et al., 2013). In order to track the drivers and changes associated with both digital and non-digital platforms within the music industry, we need to view back hundreds of years. Tilson et al. (2013), in their study, found emerging specific configurations of

components in platforms that created radical industry transformations, which were the focal point throughout the whole study. Tilson, Sørensen, and Lyytinen states (2013): "a theory of digital platforms must address issues not relevant in the world of atoms, such as control arrangements for multiple platforms layered upon one another, or platform dynamics when different layers change at different speeds". Tilson et al. (2013), in their article reviews the platform concept and they examine how platform change, -generativity, and –control points reshape industries. Finally, they define the necessary elements of a comprehensive theory of digital platforms.

2.5 Platform Types and Characteristics

In this section, the general platform types and characteristics are explored. The focus is on digital platform whilst the cross-references are made and compared to the very primal forms of platforms, including non-digital ones.

2.5.1 Platform Openness and Control

Before analyzing platforms in the music industry, Tilson et al., (2013) defines common different platform types and characteristics. Generally, Tilson et al., (2013) imply platform being flat, possibly raised, surface onto which something can be placed. "A platform product is one that "meets the needs of a core group of customers but is designed for easy modification into derivatives through the addition, substitution, or removal features" (Wheelwright & Clark, 1992). With the help of Gawer (2009), more generally platforms can be classified as: internal, supply chain, or industry platforms. Here, the first two types of platforms (internal and supply chain) share similar modular characteristics. Tilson et al., (2013) defines internal platforms as follows: "Platform products are examples of internal platforms used within a firm". Usually a physical product can be referred to internal platform. Meyer & Lehnerd, (1997) supports this idea by defining internal platforms as " a set of subsystems and interfaces that form a common structure from which a stream of derivative products can be efficiently developed and produced". Supply chain platforms share key characteristics with internal platforms, but outside the boundaries of a firm and some modules are also designed and produced externally (Tilson et al., 2013).

Finally, the industry platform is defined being "a loosely organized supply network or ecosystem in which several firms produce components that can be combined to form complete systems" (Tilson et al., 2013). With the industry platform, increased flexibility may

indicate that end-users may not be known in advance (Gawer, 2009). All of these three different types of platforms have different characteristics, the internal and supply chain platforms being more centrally controlled and the industry platform type being more decentralized and flexible. Therefore Tilson et al., (2013) suggests a hypothesis "that in particular digital industry platforms must be considered separately from product and supply-chain platforms by the potential for distributed and contested control of industry platforms and the flexibility of software based digital platforms".

This research will therefore focus on the industry platforms; which control is highly distributed. Although, the distribution of control is difficult to define because industry platform participants vary across time and across cases. "Typically, key platform assets and the customer relationship are the most important control points" (Tilson et al., 2013). Moreover, Tilson et al., (2013) build on industry platforms being prominent focus of interest for technology strategy research because their effects on industry level competition. The significance is also supported by Gawer & Cusumano, (2008) by defining the industry platform as "a foundation technology or service that is essential for broader, interdependent ecosystem of businesses. The platform requires complementary innovations to be useful and vice versa. An industry platform, therefore, is no longer under the full control of the originator, even though it may contain certain proprietary elements." This leads to sociotechnical governance of an industry platform to become a platform leader in case of whether to control platform interfaces to extract value and to retain ecological control versus opening the platform for others' innovations and open participation (Ghazawneh & Henfridsson, 2013).

2.5.2 Platform Generativity

Continuing from platform openness, the platforms in general tend to remain incomplete, underspecified and open for further developments through recombination and augmentation which refers to platform generativity (Zittrain, 2008). The level of openness of the platform is crucial for generativity. An open platform increases the likelihood of evolving and adapting platform with possible unintended and new uses (Tilson et al., 2013). The multipurpose platforms can be seen as a positive development of platforms and can be defined as, "a system's capacity to produce unanticipated change through unfiltered contributions from broad and varied audiences" (Zittrain, 2008). The architecture behind different platforms vary, which affect the generativity, and Zittrain (2008) identifies five different features that influence platform generativity. These features are leverage, adaptability, ease of mastery,

accessibility, and transferability. Here leverage refers to utility in performing some task, adaptability implies to flexibility to be used in diversified ways, ease of mastery means the easy adaptation for broad audiences, accessibility implies to the ability to access tools, and finally transferability refers to the ability of sharing results and to get an ecosystem of innovation and collaboration going (Tilson et al., 2013).

A widely studied prime examples of a flourishing generative digital platform are the personal computer and the internet combined, and nowadays mobile operating system platforms (Tilson et al., 2013). This will lead the way for the research to take on one industry, music and its transformation in the digital era.

3 PLATFORMS IN THE MUSIC INDUSTRY

In this chapter, the platform theories are applied into the music industry. First, the theories in music industry are initialized with a short summary of some technology platforms in the music industry, and continuing to digital transformation of the music industry in sections 3.1 and 3.2.

Music has been existing for ages as a form of entertainment, which later transformed into a multimillion industry driving technological development. Presently, technological development is revolutionizing the music industry through digitization and vice versa. Tilson et al., (2013) identifies that music industry has driven the adoption of mobile consumer products from the car and transistor radios, to the Walkman and the iPod being one of the most recognizable platforms in the music industry. Tilson et al., (2013) postulates that "the ways in which music is created, distributed, and enjoyed has been revolutionized several times by both tangible and intangible technological platforms – most recently by digital music distribution. In the article, Tilson et al., (2013) identifies the key platforms and control points and analyzes how the generativity of platforms and industry structure have changed over time.

Tilson et al., (2013) recognizes the changes in the music industry over time and construct a theory explaining features that digital industry platforms should possess. From live performances being the main source of income, the transformation through legal rights and copyrights coming into play mixing up the sale and licensing of recordings has changed in the digital era. The three main sources of revenue in the music industry are live performance, song and music writing, and recordings (Hull, Hutchison, & Strasser, 2011). Now, in the digital age the music distribution is done digitally over the internet, by mobile phone, and other diffuse delivery and reproduction systems (Tilson et al., 2013). In addition to digital platforms, other platforms have shaped the music industry throughout its history as well. Probably the most concrete example of non-digital platforms is stage for enhancing live performances to larger audiences (Tilson et al., 2013). In order to better understand the effects of digital music platforms, an analysis of the most important non-digital music platforms through the pre-industrial and industrial ages of music is needed.

3.1 Music in Transition

Music, itself provides multiple industry-wide platforms long before digitization. Tilson et al., (2013) defines the most fundamental platform for music being the set of relationships between different frequencies of sounds perceived as pleasing to the human ear. Traditionally, music was not written down but instead transited from musician to musician, and ever since music has evolved through standardized notation of the five line staves, to physical and digital form, and ultimately to online streaming and distribution of music (Tilson et al., 2013). The paper focused on introducing different platforms in music industry, and how the industry have changed when the first phonograph was initially introduced, and the music could be replayed (Tilson et al., 2013). More concrete and tangible platforms then began to transform. The first form of larger-scale transformation in the music industry and its revenue models, "the recording technologies provided platforms for the transformation of the music industry with the purchase of recordings replacing the purchasing of sheet music for many people" (Tilson et al., 2013). Figure 1. below gives a simplified overview of structure of the twentieth century recording industry.
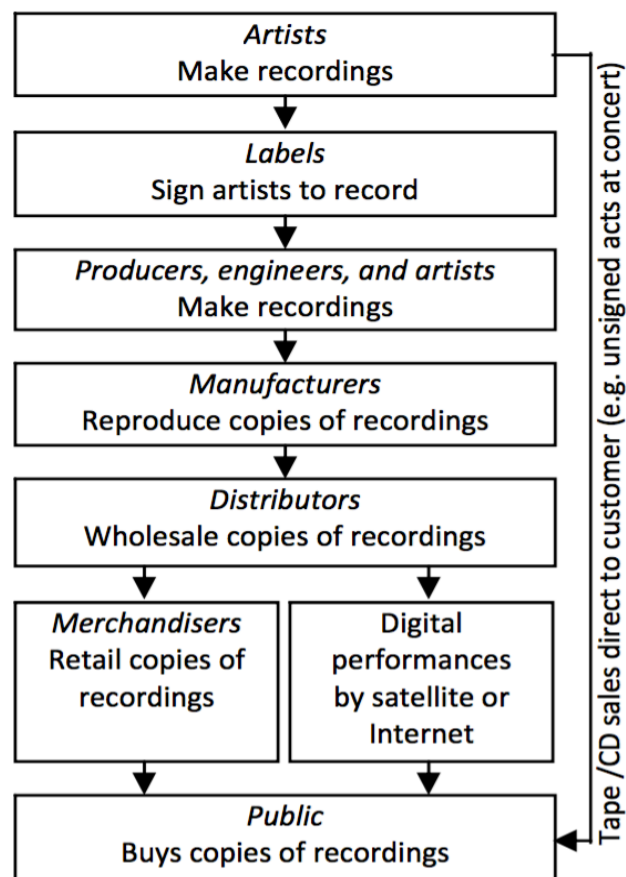
Figure 1. Overview of the recording industry in the 20th century (Hull et al., 2011).

The *figure 1* shows the production chain of recordings from artists or composers to the end-user. Artists could perform their music and record it to a physical form of music product, such as tape or CD, and sell it through their own distribution channels, i.e. in their own concerts. Another path for an artist is to sign with a record label, which would be an outsourced entity for an artist to publish and market recordings. Here, the artist would typically agree to an exclusive deal to receive royalties paid by the record label. Record labels typically possess the copyrights for the recordings of its artists as well. Furthermore, record labels being the copyright owner, they also possessed the connections for manufacturing and distribution of recordings which allowed them to dictate the contracts between the artists and the record labels. "The high barriers to entry in high quality recording, manufacturing, distribution, and promotion gave the recording labels considerable power" (Tilson et al., 2013). Along with the copyrights control came the performance rights for recordings in the USA in 1992 (Tilson et al., 2013). This means that recording performing rights organizations (PRO) began to collect royalties for using the recordings in public, such as on television, in restaurants, in movies etc. (Tilson et al., 2013). Record labels typically included the performing rights copyrights in the contract signed with the artist. Although, "the music publishing segment of the industry has its own PROs to collect royalties on the sale and performances of recordings on behalf of the copyright holders of the song or music" (Tilson et al., 2013).

3.1.1 From Traditional Music Industry to Digital Music Industry

Similarly to the figure 1, Bockstedt, Kauffman, & Riggins, (2005), presents their views on music industry structure and value chain showing in figure 2 below. The figure 2. illustrates the traditional music industry market structure and the traditional music industry value chain. This illustration presents similar overview of the music industry and the main drivers for the value in the traditional recorded music value chain as the figure 1. before. The figure 2., instead is used to compare the structural changes in the market structure in the recorded music industry value chain due to new forms of digital distribution later in figure 3. for better understanding the transformation in the music industry, (Bockstedt et al., 2005).

Traditional Music Industry Market Structure
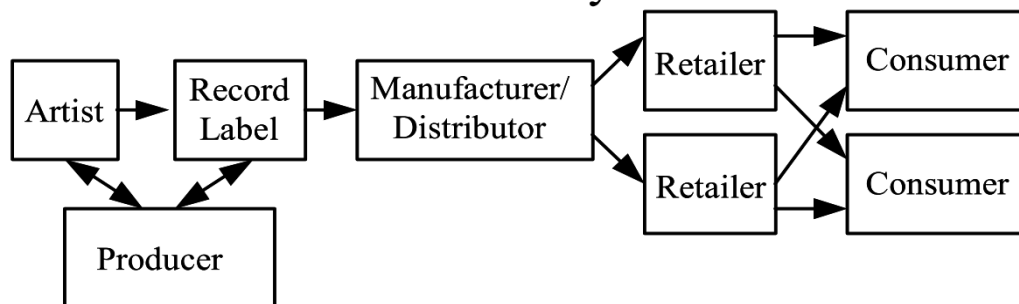
Traditional Music Industry Value Chain
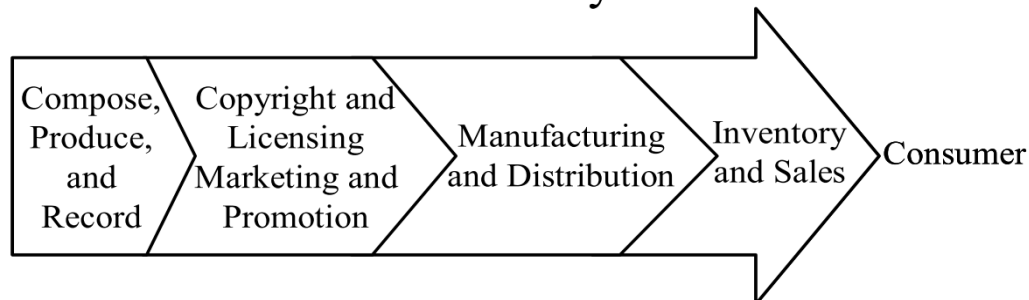
Figure 2. Traditional Music Distribution Value Chain (Bockstedt et al., 2005).

3.2 Music in the Digital Age

3.2.1 The Rise of the MP3 File

The first form of digital music was initially introduced to consumers through compact disc (CD) in 1982, which was designed for storage capacity of digital multimedia content for computers, not necessarily engineered just for music (Tilson et al., 2013). While 650-megabyte CD could hold 70 minutes of uncompressed music in its first form, several algorithms for compressing digital audio for CDs were developed in the turn of 80s and 90s. The Motion Picture Experts Group (MPEG) of the International Standards Organization (ISO) first published a set of standards including some of these algorithms in 1993, (Tilson et al., 2013). The most revolutionary algorithm was developed by the Fraunhofer Institute for Digital Media Technology for CDROMs and especially for transmitting high quality music using ISDN lines, which was the first digital version of traditional phone connections. This algorithm was called MPEG Layer III, to which the Fraunhofer Institute hold the patent (Tilson et al., 2013). This algorithm was decided to be "dot m-p-3" file extension in 1995.

Later on known as MP3 format for music, which became a de facto standard for music on the Internet as both encoding and decoding capabilities became widely available. The key advantage of an MP3 file format was its compressed file size of only 3-4 megabytes per song compared to large uncompressed file formats (Tilson et al., 2013). This innovation was one of the key drivers for the transformation in the music industry. Along with the new technologies and the use of Internet for distributing music as a digital good, MP3 enabled the creation of a new platform for swapping music over the Internet significantly transforming the recorded music market structure as well as impacting the recorded music value chain (Bockstedt et al., 2005). One of the developers of the MP3 algorithm, Karlheinz Brandenburg described the situation of MP3 file format development in 1997, that he "got the impression that the avalanche was rolling and no one could stop it anymore", (Tilson et al., 2013). This was particularly referring to the unauthorized distribution of music over the Internet by using the MP3 file format, which enabled music to be easily replicable in contrast to physical artifacts like LPs or CDs (Tilson et al., 2013).

3.2.2 Piracy

While the industry transformed and developed, the new way of music distribution raised another issue with the intellectual property rights. New portable devices that supported MP3 audio files platform, as well as peer-to-peer networking online software platforms were paving the way for increased popularity and driving the demand for modernized music consumption (Bockstedt et al., 2005). Napster was pioneering this phenomenon when launched in 1999. Napster introduced a platform for anonymous and unauthorized file sharing over the Internet, which intrinsically included the sharing of MP3 music files: "MP3 and Napster became important platforms that allowed people to share recordings on a large scale without the permission of copyright holders. Within 18 months Napster had amassed almost 80 million users," (Tilson et al., 2013).

However, these new technological innovations of the late 90s was on a collision course with the music industry and the copyright owners, typically the major record labels and artists themselves. The unauthorized sharing of MP3 music files was vexatious for the major record labels, the mainstream music industry, and many established artists (Tilson et al., 2013). Yet, some less established artists, saw it as an opportunity to promote and reach larger audiences, for instance DJ and producer Sonny Moore, better known as Skrillex by the artist name (Gray, 2015). "My philosophy is get the music out to as many people as possible," Moore says. "I spend a big part of my career onstage. That's why I make records,

to get people to shows, because I DJ. When people hear me, they want to be there." – Sonny Moore (Gray, 2015).

By 2001, Napster and other file sharing platforms were facing legal proceeding by the recording industry and individual artists, ultimately resulting closing down during the same year (Tilson et al., 2013). The music industry was on its culmination point facing the demand of music listeners consuming music in novel ways enabled by the new technology and innovations on the market, while the recording industry and the artists trying to hold their ground in inevitably changing industry. New transaction strategies were forced to be developed to increase profits for digital music service providers along with the on-going digitalization, digital music having lower profit margins (Bockstedt et al., 2005). New services saw daylight more often, Bhattacharjee, Gopal, Lertwachara, & Marsden, (2003) argue that due to piracy, a digital music distributor may be able to maximize profits by offering a mixed-model purchase and subscription service. Thus, it is justified to say that, piracy has driven the digital transformation and also pushed the music industry towards endorsing live show acts to gain more revenue to artists and record labels.

3.2.3 iTunes & Online Streaming Services

The platform of music product has changed and evolved from a physical form to a digital, virtual form being much more agile and fluid music product. "For digital music, there is no longer a physical product to manufacture. Instead the product itself is information: the digital music recording" (Bockstedt et al., 2005). Rayport & Sviokla, (1995) describes the virtual value chain by the following way: "Companies that create value with digital assets may be able to reharvest them in an infinite number of transactions". Music production has therefore transformed: "A song is recorded once, but in a digital format it can be replicated and distributed an infinite number of times with low costs for reproduction. Also, songs in digital format can be sampled and remixed benefiting record companies, artists, and creative consumers", (Bockstedt et al., 2005). Moreover, compared to physical formats of recorded music, the distribution costs of digital music are reduced since digital music is reproducible at almost no cost (Bockstedt et al., 2005).

Considering these transformations, the major labels tried to create a market for legal music downloads while the replication of songs being their main concern. Also, the major labels still held their ground rejecting every effort by third parties getting involved in digital sales by not agreeing to license their catalogs for download or subscription services of any

third parties. Yet, the labels' own online distribution services were unsuccessful, i.e. MusicNet and Duet (Tilson et al., 2013).

In addition to the end of the Napster era, the year 2001 also was revolutionary for the music industry since Apple released its first version of iTunes software. This software supported ripping and encoding music from CDs, the playback of encoded songs, and the burning of CD with mixed songs. Users were also able to manage their music libraries and transfer files to MP3 players. By the end of the year 2001, Apple's Steve Jobs picked up steam by developing Apple's own MP3 player device, iPod, which quickly became the dominant player on the market for mobile music players. Still, it was not until 2003 when the iTunes music store was launched for legal downloads (Tilson et al., 2013). Therefore, Apple's initial business model for the iPod was capitalizing on unauthorized content and illegal sharing platforms. Especially the Apple's "Rip, Mix, Burn" marketing campaign encouraged the theft of music and was resented by the labels (Mossberg, 2004; Nash, 2011).

Finally came along the online streaming services (e.g. Spotify) and social networks (e.g. Facebook), preferably, social media nowadays. These platforms showed such adaptability, which changed the music consumption for consumers inevitably causing an economic shift in the music industry (Tilson et al., 2013). This initialized a power shift in the music industry, a shift of power moving away from the record labels, more towards consumers.

(a) Industry Market Structure
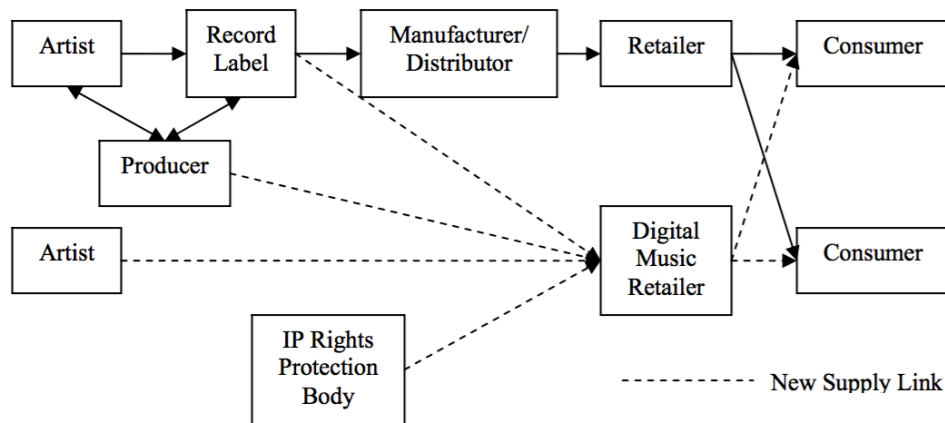
(b) Value Chain
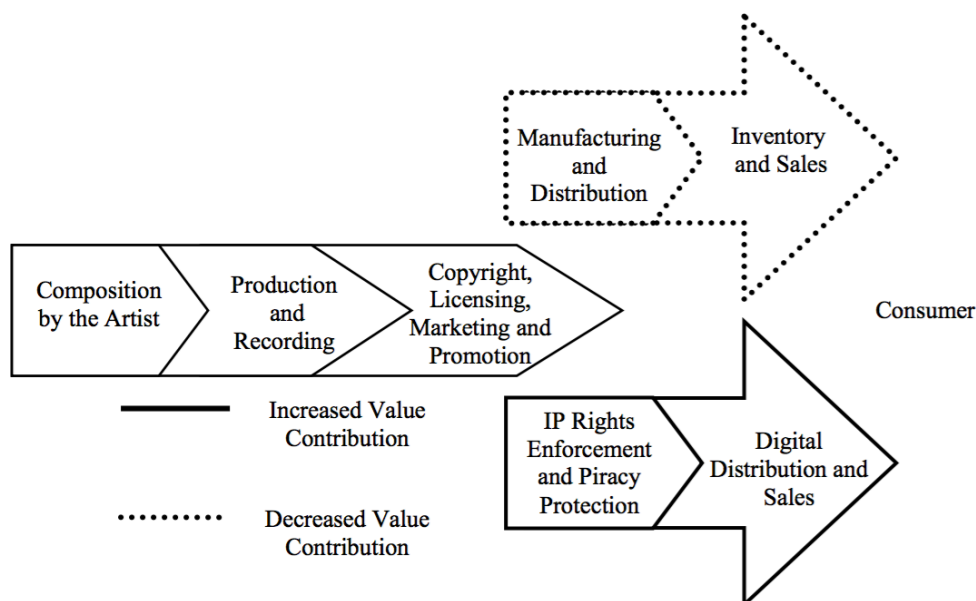
Figure 3. Digital Music Industry Distribution (Bockstedt et al., 2005).

The figure 3, also from Bockstedt et al. (2005), illustrates the changes in the (a) music industry market structure and (b) value chain. Now, the digitalization enables a possibility for i.e. an artist to be in more direct interaction with consumers. With all the different digital tools available, it is not necessarily needed to have an entity to publish audio recordings. Although, the role for i.e. record labels, may different and still important. The new, digital value chain, illustrates the diminishing demand for manufacturing, distribution, inventory, and sales entities, yet introduces increased significance for two new digital entities on the market. The licensing and copyright rights protective operators and digital distribution and sales entities.

4 THEORETICAL BACKGROUND

The purpose of this section is to cover and overview the relevant areas of literature about platforms and multi-sided markets. Based on the literature a framework is chosen, which is suitable when it comes to comparing different entertainment focused digital music services. This section aims to seek justification for the study through platform theories (Tilson et al., 2013) and relies on the $IISI^n$ model (Tuunainen et al., 2009).

Economics research has played an important role in the study of platforms. Even though this study has an Information systems (IS) point of view rather than an economic one, some of the main economic platform studies will be discussed in the beginning of this section.

4.1 $IISI^n$ Model Framework

This section explains the $IISI^n$ model from Tuunainen et al. (2009) in many-sided markets and the motive for the use of the model in this research. The aim is to elaborate $IISI^n$ usefulness to compare different stakeholder or user groups in the study and the affiliation to music industry.

Music and recording industry takes part in many-sided market. Record label businesses can be identified as platform providers for multiple stakeholder groups, such as consumers as music listeners, artists, music producers, promoters, marketers and other third-party members. Hence, it is significant to understand theories about two- or many-sided markets and digital platforms. Throughout this research, the tool to be used to analyze and compare different platforms is $IISI^n$ model (Tuunainen et al., 2009). $IISI^n$ model, that is, the model for ICT (information and communications technology) Intensive Service Innovations in many-sided markets (Tuunainen, Tuunanen, & Piispanen, 2011a). With the help of $IISI^n$ model it is easier to identify the key similarities and differences in the technologies used, the platform users, and business models. Based on the analyses with $IISI^n$ model, the goal is to identify rationalizations for the success and the challenges of various record labels through comparison. Therefore, the aim is to investigate the technology adopted by the record labels, more importantly, perhaps the lack of technology adopted.

Although, the focus of this study is on digital platforms and ICT intensive service innovations, it is important to understand different factors affecting these service innovations.

Figure 4 from Tuunainen et al. (2009) on the next page outlines the IISI^n model and the internal and external factors affecting the service innovations. Studies about new service development (NSD) suggest that service platforms are not to be analyzed only from technological point of view. Moreover, the internal and external factors for success of new service can be defined into four categories (figure 4): market related, product related, NSD process related, and organization related (Alam, 2006).
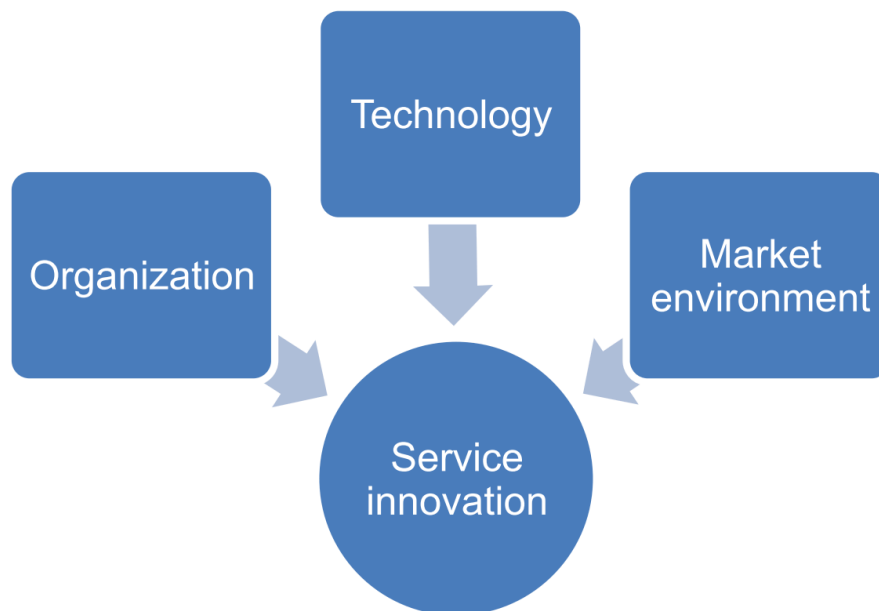
Figure 4. Categories of factors affecting service innovation (Tuunainen et al., 2009).

More specifically, these factors as seen above in figure 4, include the following. Technology factors means the technology and the type of ICT used by the company, or in this study, by record labels. The market environment is defined by the competition of other record labels and artist, and by the demand of consumers as music listeners. Finally, the organizational factors include the strategic framework of the company or record label. In more detail, the organization and management of the record label, as well as its financial structure, including the profit potential and cost structure of the service (Tuunainen et al., 2009).

Music consumption has become more mobile through various digital services. Cloud computing has enabled more and more mobile and agile services to the market. Tuunainen et al. states that ICT enabled services, and services in general, are powering modern economic

growth (Tuunanen, Myers, & Cassab, 2010). Especially Apple's and Google's platforms have been pioneering the mobile market (Tuunanen, Tuunanen, & Piispanen, 2011b). In the study of Tuunainen et al., the focus is on how different sides of the markets such as consumers, 3rd party service developers, and service providers, are coupled with network externalities to form many-sided markets (Jean-charles Rochet & Tirole, 2002). Tuunainen et al. define platform to be products and services that bring together groups of users in these many-sided networks, which also provide infrastructure and rules that facilitate groups' transactions (Parker & Van Alstyne, 2005). Additionally, a platform can be defined as a bundle of functions, which can serve as the basis of certain services whose value changes over time (Taudes, Feurstein, & Mild, 2000).

Tuunainen et al. study introduces similar examples of many-sided, platform-mediated networks from different entertainment industries, such as video games, where the users groups for the gaming console platform are consumers (gamers), the game developers, and game distributors. The same idea can be applied into music industry, where the user groups can be divided into similar groups.

In figure 5 *(see below)* Tuunainen et al., (2009), presents the dimensions of ICT intensive service innovation. More specifically, in this figure the service concept refers to a new value proposition of the service in a specific market. The characteristics of a service may remain undefined, yet the intention of a service involves new ways to provide solutions to new or existing problems. The client interface presented in the figure 5 does not refer to software application or the user interface of a system, but here to the innovation in the interface between the service provider and its customers. In this study, clients can be referred to artists and suppliers referred to music producers or record labels for instance. Therefore, their role cannot be underestimated, more likely their role can be major innovations for many services. Instead, the delivery system here relates to the correlation between the service provider and its client because delivery does involve interaction across this interface. Often, this concerns the electronic delivery of services, therefore already widespread mobile applications are good example of delivery systems in this figure.
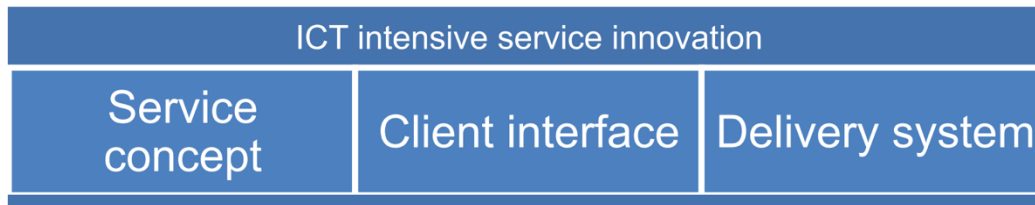
Figure 5. Dimensions of ICT intensive service innovation (Tuunainen et al., 2009).

4.2 Mobile Service Platforms

A mobile phone has become part of everyday-life for most of the people in the world. "Mobile phones have diffused all over the western countries and become like commodities. Mobile devices have been the fastest adopted consumer products of all the times with more mobile phones shipped annually than automobiles and personal computers combined", (Tuunainen et al., 2011a). Nowadays, we talk more about smart phones, rather than mobile phones. This is because technologically mobile phones are much more evolved than being just a "telephone", therefore we can consider smart phones being a platform for numerous complementary innovations (Ballon & Hawkins, 2009).

Understanding, that smart phones have spread all over the world and connecting most people easily anywhere in the world without any physical interaction or geographical restrictions, thus the consumers are driving the mobile technology development with their needs and desires (Tuunainen et al., 2010). Mobile service platforms consists of ICT and supporting software products, which are crucial parts of needed subgroup and rules employed by users in their transactions (Taudes et al., 2000).

4.3 IISI^n Model and Network Effects

Multisided platforms bind together multiple networks. With the help of IISIn model (Tuunainen et al., 2011b), we can compare these multisided platforms (MSP's) and the network externalities (M. L. Katz & Shapiro, 1985b) (L. Katz & Shapiro, 1994). Tuunainen et al. introduces three dimensions for service innovation in two- or many-sided markets (see figure 5 above). These dimensions are the service concept, the client interface, and the delivery system. These are often designed separately for all different user groups, since the

service innovation dimensions are different for the different sides of users (Tuunainen & Tuunanen, 2011) & (Tuunainen et al., 2009).

A number of different stakeholders are involved in a mobile service platform. These stakeholders can be for instance, and advertiser, a content developer, a content user, and a mobile operator. All of these different stakeholders have different preferences as to the number of platforms used, and they represent different sides of the user groups. The members of the same side, as well as on the other side might share their preferences and often causing network effects to one another (Parker & Van Alstyne, 2005). The preferences need to reflect on the pricing strategies for the different stakeholder groups (JC Rochet & Tirole, 2003).

Platform to be successful, the platform requires positive network effects. Successful platforms enjoy increasing returns to scale (Economides & Katsamakas, 2006). Positive network effects or network externalities usually occurs, when another user joins and enlarges the network causing a value increase or positive affect for existing member(s) of the network (L. Katz & Shapiro, 1994). Therefore, users are willing to pay more to be involved in a larger network, causing improving margins as user bases grow (Eisenmann et al., 2006). Parker et al. also states that a many-sided model has the advantage of suggesting new approaches for estimating network effects.

Often, the platform's value to any given users, correlates to its numbers of users on the network. With many-sided networks effects, the larger the number of users is on the other side of the networks, the more valuable the network is to its user. The value of a platform grows as the platform matches demand from different sides (JC Rochet & Tirole, 2003). Therefore, it is more desirable for different stakeholders to take part in network with plenty of users, or increasing number of users on the network. Platform provider also should take into account both the same-side and the cross-side effects, even though they are not directly designable by the platform provider (Tuunainen et al., 2011).
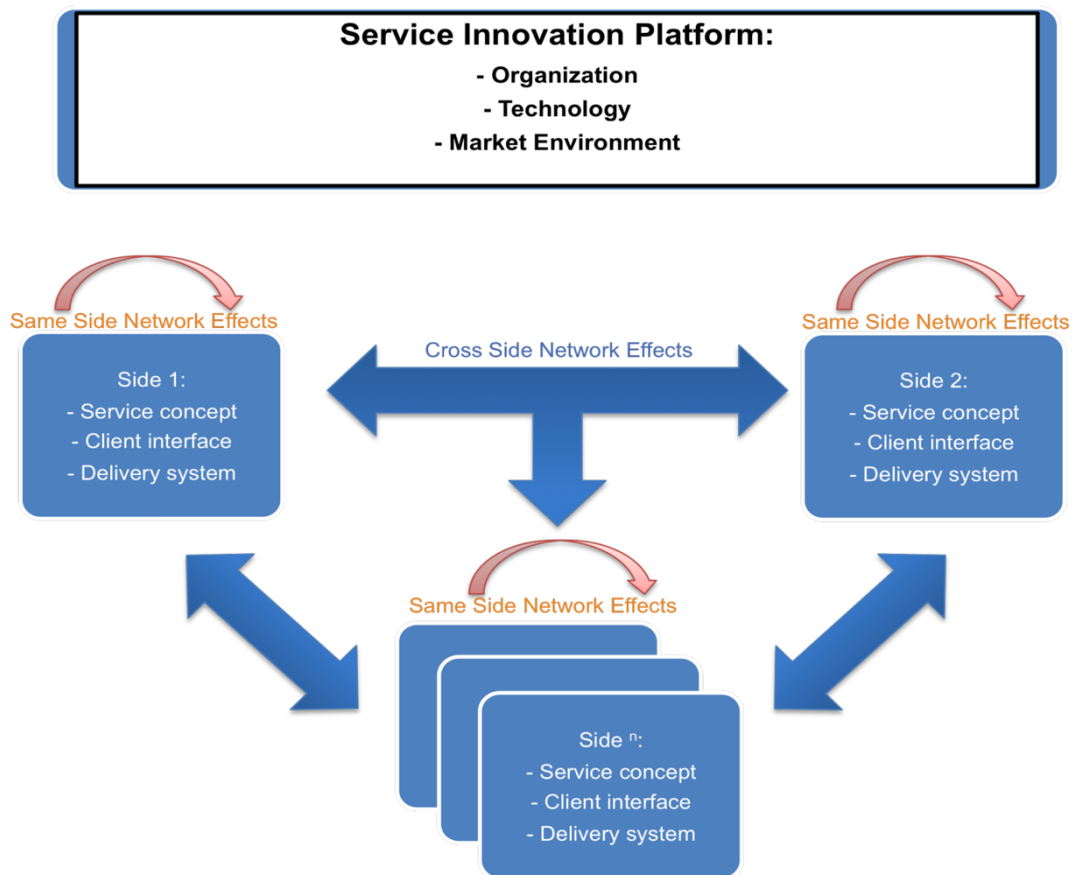
Figure 6. The IISI^n model: Model for ICT Intensive Service Innovations in Many-sided Markets (Tuunainen & Tuunanen, 2011).

The complete IISI^n model is presented in figure 6. The figure demonstrates how different sides of networks, and its groups of users are brought together by a platform in two- or many-sided networks. Here the different sides can be referred to artists, record labels, consumers as music listeners, producers etc. In this figure, the arrows also represent the so-called network effects or network externalities, as Katz and Shapiro (1985) describe it, occurring when platforms bring together multiple user groups. Katz and Shapiro (1985) with Shapiro and Varian (1998) also state that network externalities imply that a technology's usefulness increases as its installed base of users increases. De Reuver, Sørensen, & Basole, (n.d.) further exploits this theory. De Reuver et al., (n.d.) argue that network externalities are direct if the value of the platform depends on the number of users in the same user group, i.e. the value of the product increases by others buying, connecting, or using the same platform or services provided via the platform. Examples of direct network effects are social media, which become more valuable if more end-users join the platform. Moreover, externalities are

indirect when the value of the platforms depends on the number of users in a different user group. For instance, video game consoles become more valuable for consumers if there are more developers creating games for that console (Mark De Reuver et al., n.d.).

Inevitably, there are different types of costs related to adoption and use of the platform for users on both sides that need to be considered by the platform provider (Tuunainen et al., 2011). "Homing", as a concept, means the users' preferences and possibilities to be affiliated with one or more different platforms, which is indispensable to understand according to (Eisenmann et al., 2006). Eisenmann et al. also lists the related homing costs as follows, adoption of a new platform, operation, and the opportunity costs of time. These comprise all the expenses the users incur in order to establish and maintain their platform affiliation. The two concepts of "homing" are affiliated to the costs involved with platform theories. Especially, in the case of mobile service platforms, we can exhibit mono-homing and multi-homing. Mono-homing is having one particular mobile device and only one mobile service platform to acquire applications from. Mono-homing is expected to be more preferable for most consumers (Tuunainen et al., 2011b). On the other side there are the application developers, who are more likely to prefer multi-homing, which is the ability to offer applications for different platforms (Tuunainen et al., 2011b). We can expect similar situation in the music industry, among all the different user groups in music business.

Another considerable question related to platforms is the pricing strategy. How to design the pricing model for many-sided network? This study continues to investigate more on the revenue models in the music industry with the help of $IISI^n$ model, artists and record labels being at the center of the focus. The investigation is composed through comparison by analyzing the dimensions of ICT intensive service innovation, which were service innovation platform, service concept, client interface, and delivery system (Tuunainen & Tuunanen, 2011). Based on the $IISI^n$ model, the framework construct for analyzing the record labels in the following way:

A. Service Innovation Platform:
   a. Organization:
   b. Technology:
   c. Market Environment:
B. Service Concept:
   a. Consumer Side:
   b. Content Provider Side:

C. Client Interface:

    a. Consumer Side:

    b. Content Provider Side:

D. Delivery System:

    a. Consumer Side:

    b. Content Provider Side:

Based on the literature review and theoretical framework, the research questions of the study are the following:

Q1:   "How are the record labels utilizing ICT technology?",

Q2:   "How music companies (record labels) choose their primary channel(s) of communication – are they lacking of technology platform used?"

Q3: "What is the importance of social media for a record label?"

5 METHODOLOGY

In this section the reasons for choosing the research method and the merits of the given method are introduced. First, in chapter 5.1, the background of qualitative study is explained, as well as the reasoning for choosing it to be the research method, then in section 5.2, the data collection process is explicated. Finally, in section 5.3, the analysis method is presented.

5.1 Qualitative Method

This study has been carried out by empirical research and qualitative form. Compared to the quantitative method, where the research, its arguments, and analysis are based on the correlations between statistics and numbers, when qualitative analysis seeks to observe the evidence and data in more holistic manner (Demerath & Alasuutari, 1996). Qualitative research is recommended to be used, when the evidence and the focus of the study cannot be investigated comprehensively. Qualitative research aims to study a phenomenon, which does not argue against generalization. Therefore, it is essential to understand the phenomenon thoroughly to be able to explain and exploit it diligently. Proving the existence of the phenomenon is irrelevant according to (Demerath & Alasuutari, 1996).

Since the concerning subject strove to acquire more local and relevant information compared to any preceding studies, the interview method was chosen for collecting data and information. Qualitative interview study is more suitable for this research since the subject at hand is quite new, thus the resources for research material are limited. Interviews allows for deeper information and analysis to be made in this study. Moreover, additional questions in the interviews were anticipated for further definitions, which would not have been possible with a survey. The research method is half structured interview, which is similar to open interview, but the themes of the interview have been chosen beforehand. All the interviewees answer to same set of questions, but the order and wording may vary. In addition, the answer options are not predetermined, and therefore the interviewees need to answer to the questions in their own words. The themes of the interview questionnaire are based on the academic literature and preceding research data. Empirical research includes, "building and testing statements about an object of study by analyzing evidence drawn from observation" (Dul & Hak, 2008).

According to Dul and Hak (2008), "If an experiment is not feasible, the longitudinal single case study or the comparative (multi) case study is the second-best strategy." In this

study, a multiple case study was used in order to signify the results. Dul and Hak (2008) defines multiple case study as: "A comparative case study is a study in which (a) a small number of cases in their real life context are selected and (b) scores obtained from these cases are analyzed in a qualitative manner." In this study, the single case study would not explain sufficiently the reasoning of one record label operating differently from others. Therefore, multiple case study from various companies inside the same industry can potentially expose occurring trends, behaviors, and phenomena despite differing approach to the market and strategy.

The focus of this study is to find out and define the digitality of record labels currently, and how they operate and utilize different digital tools and platforms. In other words, the relation between the record label and other stakeholders, such as the artists, in digital music era. Therefore, vague description, the "role" of the record label in this study can be more specifically defined to be as the modern role of a record label in digital music distribution. The interviews aim to define the needs how to perform better in today's music industry and if there are any shortcomings how the record labels operate. Evaluating performance of a record label, the interview questionnaire is focused on determining profitability of the company and its revenue streams as well as its efficiency and popularity of its artists.

5.2 Data Collection

The data and information of this study was collected by conducting an interview study, since it allows better communication throughout the data collection process. Understanding human behavior becomes more significant as this study focuses especially on the relations between different stakeholders, which increases the importance of communication and sociological behaviors.

This study aims to exploit the digital music distribution from record labels point of view. Therefore, the selected interviewees were all representatives of a record label operating in Helsinki, Finland. Six different representatives participated in this study, who contributed rather comprehensive overview about digital commercial music in Finland. All the interviews took place in Helsinki, Finland, during the month of May in 2016. All three major record labels (Sony Music Entertainment Finland Oy, Universal Music Finland Oy, Warner Music Finland Oy) were included in this study with the addition of three independent record labels (The Fried Music Oy, Lihamyrsky Oy, Monsp Records Oy). All the interviewees were C-

level executives, manager/director title, owner, or founder of the company, thus possessed a significant role in the company. Moreover, to be advanced to this level in these companies, indicates seniority and experience of the interviewees, and provides inclusive perceptions about the industry and its transformation over the past decade, which increases the relevance of the study and the selected sample group.

According to Demerath and Alasuutari (1996), in qualitative research it is only rarely justifiable to conduct so many interviews, that emerging deviations would be statistically significant. Furthermore, similar answers began to arise and the interviews started to repeat themselves, whereupon it is improbable, that more extensive empirical material or data would have brought anymore added value to this study.

All the interviews were requested via email, by Facebook messages, or by calling the interviewees directly during April 2016. All the interviewees were contacted through scholar's own contact network or from public information sources. While contacting the interviewees, the subject of this study was explained, as well as the purpose and the goals of the study before continuing to the interviews. Moreover, the interviewees were told, that the interviews will be recorded only for the purpose of data collection to conduct this research. A set of questions and themes were provided for the interviewees beforehand via email. The complete questionnaire can be found in the "appendices" section of this study. The interviewees were also informed to be receiving this complete study, including quotes, collected data and conclusions, for revision before publishing this study.

The interview situations were designed and carried out following the preferences of the interviewees. The interviews took place in the working offices of the record label representatives. More specifically, in meeting rooms or other tranquil space which provided more private and secure surroundings. All of the interviews were recorded by digital recorder application, by using mobile smartphone (Apple's iPhone 6), and laptop (Apple's Macbook Pro) for taking notes directly at the location. The recorded interviews were transferred to computer for listening before transcribing. Some interviews were also transcribed directly from the smartphone by using earphones. The transcription of the interviews was invariably done during the same day or the following from the interview to ensure the accuracy of the collected data. In this way, all the tacit and unspoken communication detected during the interview remained authentic in the memory. Since the interviews were done in Finnish, the precise wording did not translate into the final form of this study. Finnish was the native

language for both parties in all of the interviews and supported fluent, natural, and authentic conversations for data collection, thus being the chosen language for the interviews.

The questionnaire consisted of open-ended questions, excluding the background questions. Most of the questions had additional questions to specify the questions or to guide the interviewee with the questions and to aid in the interview in order to identify certain type of behavior. The interviews were fairly successful. Every record label representative, who participated in the study, were quite interested about the subject of the study. Each one of them had strong, well-reasoned views on commercial digital music distribution, and how the industry itself has transformed. With many of the interviewees, it was easy to recognize and feel the experience behind every answer, although the digital transformation is still underway and shaking the whole industry. Now, there are more and more data collected every year, and some trends are starting to transform for easier interpreting and forecasting.

The information collected was subjective and based on respondents' perceptions. Open-ended questions do not set restrictions for the answers versus predefined answer options, i.e. online questionnaire. This type of open-ended interview ensured better flow and enabled to identify possible influencing factors outside the selected options. For this reason, all the interviews were conducted face-to-face, in order to affirm the answers. Often, the respondents had some difficulty to provide clear answers, thus this open half structured interview method was proven as a right method. In this way, the interviews allowed clarification to additional specifying questions in order to get the relevant answers for the study.

5.3 Analysis Method

While it is possible to analyze the collected information in a variety of means, the analysis methods can simply be divided doubly. In explanatory analysis, statistics are used to support conclusions. Explaining comprehension emphasizing approach lies on the qualitative analysis (Holloway & Daymon, 2002). According to Daymon and Holloway (2002), the qualitative research begins right in the beginning of the study, when scholar delimits excluding all extraneous. The early stage analysis of this study was carefully thought through to outline the research topic, as well as the subjects used in the interviews aiming to support the research problem as well as possible.

The qualitative data analysis can be divided into three different fields: managing and organizing the data, contextualizing the collected data, as well as analyzing and interpreting

the data (Holloway & Daymon, 2002). Managing and organizing the data in this study refers to accurate transcription along with the classification or categorization of literature acquired by other methods or techniques. A qualitative research can be described as an expanding circle, as the study progresses. Thus, it is important for the scholar to remember to focus on the most fundamental information and data for the whole study process (Holloway & Daymon, 2002).

Contextualizing the collected data instead refers to either source criticism or the respondents of the study. According to Holloway and Daymon (2002), it is essential at this point to ask questions like, "Who said?" and "Where and when was this said?" In this study, expressing the data to its authentic context is quite appreciatively unimpeded, since all respondents gave authorization to publish all information, including names and company information to attain yet comparative answers and data.

The third section of qualitative data analysis relates to analyzing and interpreting the data. The interpretation is an analytical process; which ultimate purpose is to explain the essential findings of the scholar's collected data to others. The interpretations need to be proportioned to chosen theory base, with the addition of scholar's own reasoning (Holloway & Daymon, 2002). In this study, the findings and conclusions are based before anything on the interviews of the record label representatives. The analysis and interpretation of the interviews are comparative with the help of the $IISI^n$ model from Virpi Tuunainen and Tuure Tuunanen (2011). The collected data is also compared to the digital platform theories of Thomas Eisenmannn Geoffrey Parker, and Mark Van Alstyne (2011); Carsten Sørensen, Mark De Reuver, and Rahul C. Basole (n.d.); platform complexity introduced by David Tilson, Carsten Sørensen, and Kalle Lyytinen (2013); and Jesse C. Bockstedt's, Robert Kauffman's, and Frederick J. Riggins' (2006) models of structural changes in the digital music market. Moreover, the results are examined with IFPI statistics.

This method could be described as content analysis. It is basic analysis method of qualitative research, that allows processing of studied phenomenon cause and effects by compressing the collected data into such form. Content analysis is used especially for interpreting spoken, verbal, and written information, yet it can be used for numerical data (Holloway & Daymon, 2002).

6 EMPIRICAL STUDY

In this section the empirical study and findings are presented. First, in section 6.1., the overview and the background of the record labels interviewed are explained and presented. Then, in section 6.2., the case companies are analyzed based on the interviews and using the $IISI^n$ model construct. The further investigation of the case companies is in the following Chapter 7, where the companies are more specifically analyzed by presented findings with cross-comparison analysis.

6.1 Producing and Publishing Recordings

All the case companies share the same industry, which validates comparability of the study conducted. In this section, the empirical findings are focused and compared to the $IISI^n$ model framework described in part 4.1*(see figures 1 and 2)*. In this multiple case study approach to be able to apply the framework, *the service innovation*, in the $IISI^n$ model is referred to the record labels. In addition, since the case music companies are sharing the same industry and market, their market environment is the same. The differences occur in technology, organization, service concepts (referring to their individual strategies how they operate), client interfaces, and delivery systems. Arguably, the delivery system can be the same for all, since all record labels uses considerably same channels of distribution.

6.1.1 Finnish Music Market Environment

Next, multiple figures are used to illustrate the current Finnish music market from the most essential point of views for a record label.
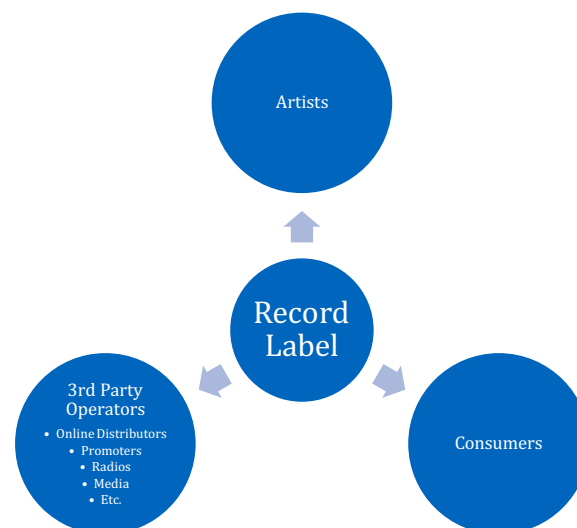
Figure 7. Current Situation – the "Role" of a Record Label

Figure 7, simplifies the role of the record label currently. All the case companies described the role of a record label being a binding factor for all activities between different stakeholder groups, to a degree that artists can focus solely on music. The Founder and CEO of Monsp Records Oy describes the role of a record label being:

"To ease and help the artist to focus on music itself, and to support it and to promote the artist in different channels, in media etc. In a way, the role is the same as always before and the surrounding environments are different with each other."- Keijo Kiiskinen, Monsp Records.

Niko Tähtinen, the CEO of The Fried Music Oy, goes along with Kiiskinen's quote and supports the same idea that artists can focus solely on making of music:

"Our role is important in everything we do with the artists. Managing the artist is multidimensional task. Our job is to build an artist to be a successful completeness. To be there for a support for him or her in every step of the way. To guide them, and to get the right partnerships." – Niko Tähtinen,CEO, The Fried Music.

Kaisu Pulli from Sony Music Entertainment Finland Oy, efficiently sums the role of a record label in the following way:

"The role for the record label is to be an enabler for the artist." – Kaisu Pulli, Sony Music Entertainment Finland Oy.
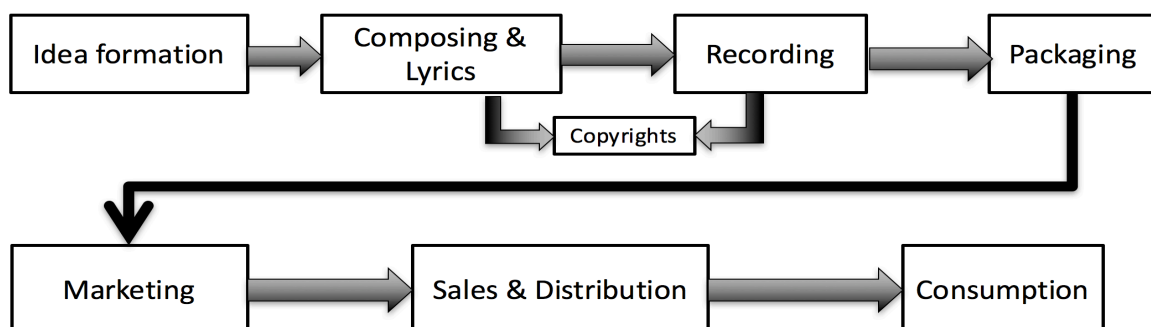
Figure 8. Record Production Supply Chain

This *figure 8,* moreover shows the defining role of a record label and the value creation of a recording. Teppo Lounema from Warner Music Finland Oy reminds of music being a form of art:

"The popularity originates from the essence of making music" – Teppo Lounema, Warner Music Finland Oy.

| Main Artist | → | Concert & Sales Agreement | → | Marketing & Promotion | → | Live Performance |
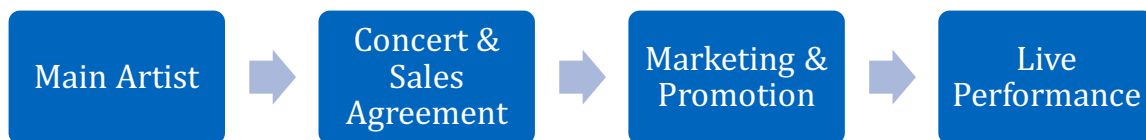
Figure 9. Live Show Production Supply Chain

Many companies are relying on their live production, in fact, the live production was the second most important source of revenue for the record labels after Spotify streams, and other online streaming services and digital music distribution and sales channels. For artists, the live performances are the most important source of income.

| Main artist & record | → | Artistic Development | → | Productization & Commercializing | → | Sales & Distribution |
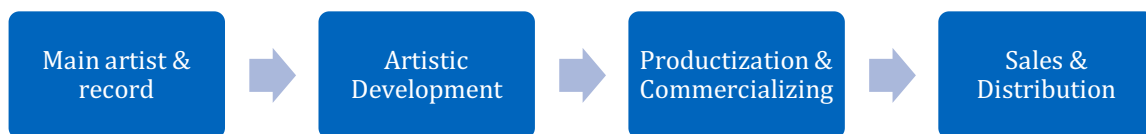
Figure 10. Artist Brand Management Supply Chain

Another important factor illustrated in *figure 10,* is the artists' own brand development. All the record labels have their A&R (artists and repertoire) managers or directors for the artistic and creativity development. This also includes artists' self-brand and its marketing and promotion. Co-founder and CEO of Lihamyrsky Oy, Rudy Kulmala, describes the artistic management being the essential role for the record label in the following way:

"Refine and process artists and support them, especially in the beginning of the career, which can be positive or negative, depending on the case or situation. We want to protect the authenticity of an artist. Record label also defines the whole music market in a sense. Our job

is to give an opportunity for an artist to be heard, and give the possibility to be published and to be a mentor for the artists." – Rudy Kulmala, Lihamyrsky Oy.

6.2 Cases

Before going into each case more specifically, the background information and some shared key findings are illustrated in this section 6.2.

Table 1: The Case Companies – Background information and respondents (IFPI, 2015).

Record Label:	Turnover:	Market Share:	Number of Employees:	Number of Artists:	Interviewee:	Role:
The Fried Music Oy	2 300 000€	n/a	25	10+	Niko Tähtinen	CEO
Lihamyrsky Oy	34 000€	n/a	0 to 2	6	Rudy Kulmala	Co-Founder & CEO
Monsp Records Oy	442 000€	n/a	0 to 2	10+	Keijo Kiiskinen	Founder & CEO
The Sony Music Entertainment Finland Oy	23 602 000€	29,41 %	30	50 to 60	Kaisu Pulli	Digital Business & Development Director
Universal Music Finland Oy	20-25 000 000€	30,30 %	30	40	Kimmo Valtanen	CEO
Warner Music Finland Oy	25 000 000€	30,39 %	40	63	Teppo Lounema	Sales & Business Develompent Director

The goal was to find four to ten record labels to participate in this study. Main focus was to reach at least all the three major record labels with addition of some independent labels. Targeted respondents from the music companies included persons who were majorly part of their overall strategy, operations, and also had managerial responsibility in the company. Six interviews were conducted and all six were accepted as a part of this study. All qualified respondents with the company background information are shown in the table 1.
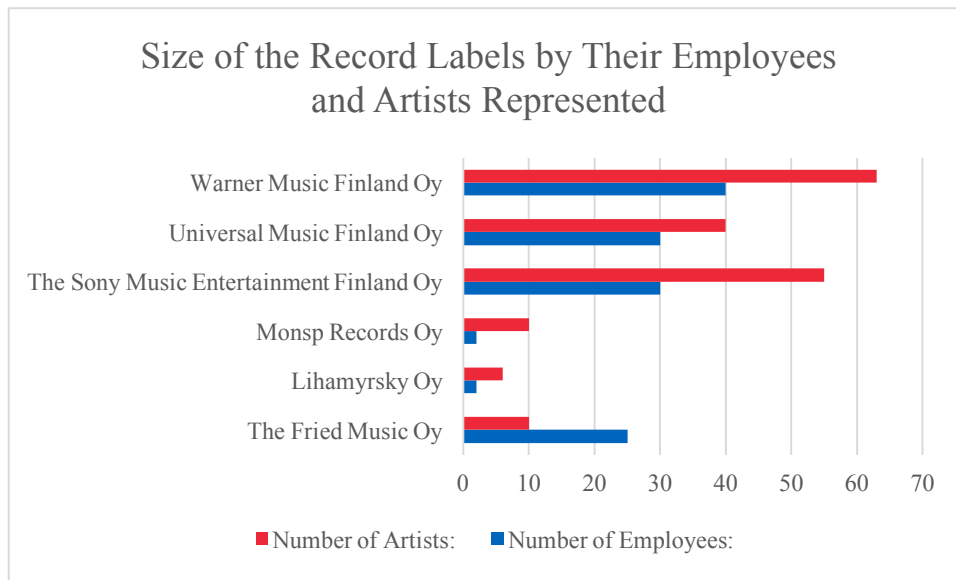
Figure 11. The Size of the Record Labels by Their Artists and Employees

The companies had differences in how they operate. This can be analyzed from *figure 11,* which compares the sizes of the record labels by the amount of artists represented for publishing and distribution by the label as well the number of employees. Here, i.e. The Fried Music Oy is the only company, which has relatively more employees compared to the amount of artists represented for publishing. This is due to the fact how they operate. For instance, Niko Tähtinen from The Fried Music describes their operations as follows:

"Our approach to this business is different to others. We are heavily focused on music production, which is why we have all these studios here. Basically, you can actually call us also kind of a management agency for music producers. We do have many in-house music producers. We probably are in some way involved in 70% of the Finnish music produced. Therefore, we receive most of our revenue in publishing side form copyright royalties collected from online streaming and radio play. Nowadays, most of the money coming in is from live-acts. We have differentiated subsidiary for live act performance management, The Fried Live ltd. There we have approximately 40+ artists, for which we do concert sales and live performance production. Actually, most of our revenue comes from there (1,7 million euros) and The Fried Music ltd. collects about 600 000 euros." – Niko Tähtinen, CEO, The Fried Music.
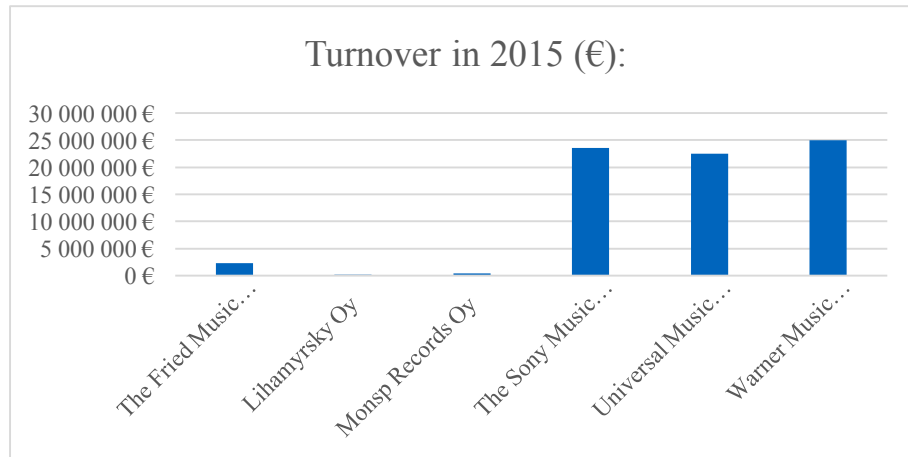
Figure 12. 2015 Turnover of the Record Labels in Euros

Figure 12, shows the last year's turnover for each. This figure also discerns the three major labels clearly. Although, the *table 1* and *figure 11* showed this as well.

6.2.1 The Fried Music Oy

A. Service Innovation – Record Label

Organization. The Fried Music Oy is an independent record label founded in 2000. The label is heavily focused on music production, and the CEO, Niko Tähtinen, actually describes the company being a sort of a management agency for music producers. They have 16 employees for administrative operations in the company, but about 10 producers under their payroll as well. They are representing 10 artists for publishing rights, but yet over 40 artists under their live production and concert sales representation. More accurately, The Fried Music Oy can be described being a sublabel, since the distribution for the label is taken care of by Sony Music Entertainment Oy. For instance, when publishing digital recordings, the music files are sent to Sony Music's representative, who takes it forward for uploading to, i.e. Spotify. Sony Music is also in charge of many marketing activities and promotions for The Fried Music Oy, of course in close cooperation with the label.

Technology. For daily operations, The Fried Music uses basic ICT technology in communications, i.e. laptops and smartphones. Most of the communications happens through these technologies. For internal communications, they use regular text messaging applications, Whatsapp messaging application, email, and social media channels. Externally, mainly emails and social media channels. Also, they use various mobile and cloud services. For instance, Dropbox is a very important tool for them when sharing music files during the

production phase. Differences occur in the used software technology. They have ongoing outsourcing contract with company called Meltwater. Meltwater provides them turnkey hands-on business analytics and data sourcing to meet their needs, for instance daily social media metrics. On production side they use project management software tool called DaPulse, for better record production management. They also have access to Sony Music's software tools. For other financial administration activities, they have other intended software tools.

Market Environment. As mentioned before, The Fried Music Oy, as a record label is heavily focus on music production. Producing recordings are their key factor in the music industry. Moreover, their music production expertise is explained by the fact that they have 3% market share in radio play and 70% share in producing for domestic, Finnish pop-music overall, according to the CEO, Niko Tähtinen. Basically, over two thirds of Finnish pop-music recordings produced have gone through their music production pipeline before publishing. They have distribution contract with Sony Music Entertainment Finland Oy, which provides The Fried Music support in marketing activities, publishing, and digital sales distribution.

B. Service Concept

Consumer side. The Fried Music have their subsidiary for live music production, which is directly targeted to consumers, the audience. Their own website provides content for the audience directly at the website. Some content is cross-linked to other online services like Spotify and YouTube. Label's own Spotify and YouTube playlists are provided by the Fried Music. Everything else, including the digital music sales and distribution is provided through third parties. For instance, uploading a complete track to Spotify happens through Sony Music Entertainment Finland Oy, to whom they will send the audio file and Sony takes care of the rest of the uploading process.

Content provider side. For artists and other record labels, The Fried Music provides support in producing recordings. They have approximately ten music producers employed, which makes them a sort of music producer management company. Therefore, they can offer high expertise on different types of music projects.

C. *Client Interface*

Consumer side. No company own client interface provided. Their website is the only platform for consumer audience to explore their music and promotional content.

Content provider side. No company own client interface provided.

D. *Delivery System*

Consumer side. Through internet and other data connections. Online streaming and downloading services (i.e. Spotify and Apple's iTunes) and social media platforms. Promoting and marketing artists mostly happens through social media platforms and their own website. Social media, such as Facebook, also enables cross-linking and sharing to Spotify.

Content provider side. Also via internet and other data connections. On content provider side, The Fried Music uses mainly Dropbox cloud service for file sharing during the record production. Also, another online software tool, DaPulse is used for project management with music producers.

6.2.2   Sony Music Entertainment Finland Oy

Organization:

Sony Music Entertainment Finland Oy is one of the "big three" global major labels in the music industry. They have localized the company by having own subsidiary here for domestic operations. This Finnish subsidiary is also in charge for the Baltics region, where are two employees in addition to 30 employees in Helsinki office. The interviewee for Sony Music Entertainment Finland Oy was Kaisu Pulli, a head of their digital business operations under the title of Digital Business & Development Director. This Finnish subsidiary of the global corporation was founded in 1990, thus over 20 years of experience in Finnish music market. Currently they are representing about 50 to 60 artists in Finland and hundreds of artists internationally. Sony Music's turnover in 2015 was 23 602 000 euros.

Technology. In addition to laptops and smartphones, Sony Music has several different global software tools at their disposal and few domestic systems in use. All tools are designed exclusively for Sony Music Entertainment for optimizing their production, marketing, and

sales. Their most recent tool is designed to analyze the data out of the online streaming services to help the surveillance of social media metrics, consumer behavior, and revenue streams.

Sony Music is also developing a unique mobile application of their own, in which artist and management can follow their own revenue streams in real-time hoping to increase the transparency and efficiency between the artist and music company.

Market Environment. Sony Music is basically competing against the other two major record labels (Warner Music and Universal Music) on both global scale and locally. Roughly, all three major labels take approximately one third of the market each. Competition is heavy in finding new ways to capitalize on the digitalization.

A. Service Concept

Consumer side. Sony Music is distributing music to all distribution and sales channels in music industry. These are online streaming and downloading services, media (radios and television), physical retail, and live concert sales.

Content provider side. Sony Music have their own in-house music production, artist management and development (A&R), merchandising, live production sales, and media sales. Sony Music Entertainment Finland Oy aims to be all-around 360-model music company offering services covering all areas in the music business.

B. Client Interface

Consumer side. No completely own platform provided for consumer side. Content provided through external platforms and distribution channels. Their website offers content of their artists, from videos, articles, artist stories, to Spotify playlists. Lastly, physical records.

Content provider side. Provides own software tools and mobile application for artists, producers, management, and other labels for file sharing, communication, and data metrics and analysis.

C. *Delivery System*

Consumer side. Basically all sales and distribution of digital music happens over the internet, the cellular data network and mobile connections. These includes online streaming services, playlists, and social media channels for example. Live production sales and concert sales guides to attend to live performance shows.

Content provider side. Similarly, on the content providers side the delivery system have been carried out using different online services via internet, the cellular data network, and mobile connections. Sony Music controls the music publishing for the label's own artists as well as for its sublabels. For instance, they take care of uploading the audio recordings to online streaming services.

6.2.3 Monsp Records Oy

Organization:

Another smaller independent record label, Monsp Records Oy, is an important pioneer in Finnish hip-hop, rap, and urban music scene. They are sublabel for Sony Music Entertainment Finland Oy, who handles their artists' distribution. Everyone in this particular scene knows Monsp, and it has produced and helped numerous popular artists to become successful early in their careers. You may describe Monsp Records being a springboard for many artists, as they have helped them to sign bigger deal. Monsp Records Oy was founded in 2005 by Keijo Kiiskinen, who is still the current CEO of the company and participated in this study.

Technology. Monsp Records also uses publicly available solutions, in general, the most common ICT technology in their daily communications. Laptops and smartphones are part of everyday communications and provides all sufficient tools to manage their daily tasks. They do not have their own software systems in use, but they rely on cloud services (Dropbox, Google Drive), online streaming services, and social media channels. Monsp Records also have access to Sony Music Entertainment's software tools, which is the distributor for Monsp Records. They follow and collect the sufficient data from social media channels, for instance from Facebook profiles, and Spotify streams.

Market Environment. Monsp Records is a sublabel for Sony Music Entertainment Finland Oy. They have heavy focus on Finnish hip-hop and rap music scene. They are well known and respected in that genre, thus they can efficiently appeal to this particular target audience, which is not necessarily following the mainstream music scene in Finland.

A. Service Concept

Consumer side. Supporting more niche audience by serving the audience with urban music artists. Live performances of artists are served by third party operators.

Content provider side. Monsp Records is representing more urban music artists, more "underground" type smaller upcoming artists to satisfy more niche audience. They are a pioneer in Finnish hip-hop and rap scene. They produce many first albums for new artists. They do not have their own live production; thus the live production sales are facilitated through third party. However, they are providing support for live production through third parties.

B. Client Interface

Consumer side. In addition to their own website they do not have completely own client interface. They provide own playlists on Spotify.

Content provider side. No company own client interface provided.

C. Delivery System

Consumer side. Through online connections and mobile connection services. Their company website provides various content for consumer audience, such as links to YouTube and Spotify playlists. Their company and artists own social media channels. All other activities for consumers are published through their distributor, Sony Music Entertainment Finland Oy.

Content provider side. As basis, also publicly available online solutions. They are using online cloud services, such as Dropbox and Google Drive for file sharing during the music production.

6.2.4 Universal Music Finland Oy

A. Service Innovation

Organization. Universal Music Finland Oy is the second, big, global, major record label in the music industry. In Finland, they are the second biggest record label by market share of 30,3% last year according to IFPI (2015). The interviewee, Kimmo Valtanen, a CEO for the company, also told that by the last measurements in February 2016, their market share has gone up to 34,5%. Universal Music's approach is carefully following the digital transformation, thus their focus is mainly on the digital sales and distribution. They have 30 employees in their office in Helsinki, and they represent 40 artists in Finland. Their latest annual turnover was somewhere in between 20 to 25 million euros. This includes the Baltics, which is also administrated by the Finnish subsidiary.

Technology. They have a software tool called, "Artist Portal", which is an enterprise wide internal tool based on the use of Google Analytics. According to Valtanen: *"It provides us all of our artists' streams by daily accuracy. It works both globally and country-specifically. The information it collects is really specific, it provides us all the social media metrics and which operating system is used for listening for each user and individual consumer for example".* Naturally, they have the general ICT technology in use as well. Most tasks can be done by using smartphones or laptops, excluding studio work.

Market Environment. Universal Music is competing to gain market leader position in Finland. They had the second largest market share in 2015, and 2016 is looking promising for them, according to Kimmo Valtanen and the last IFPI measurements made in February 2016. Universal Music's strategy in heavily focusing to utilize digital tools and online streaming services. They are increasing their effort on Spotify playlists and incentivizing people and influencers more through social media, blogs, and v-logs for example.

B. Service Concept

Consumer side. Universal Music Finland, one of the big three major labels, is distributing music to all distribution and sales channels, both digital and physical. They manage social media channels, company own Spotify playlists, and provides content on their own website.

Content provider side. Also, provides all-around service for the artists, from music production to sales and distribution of both digital and physical recordings. They work as a distributor for other labels as well.

C. Client Interface

Consumer side. Other than own website, Spotify playlists, social media channels, and live shows they do not provide company own client interface for music consumption.

Content provider side. They provide their own enterprise wide software tool, "Artist Portal", internally, to which they also allow access for sublabels for instance. Artist Portal provides social media metrics and data based on Google Analytics.

D. Delivery System

Consumer side. The music is mostly delivered digitally to consumers. Thus, the music is delivered mainly through online and mobile connections. All the rest are physical record sales and live productions.

Content provider side. As well as in consumer side, the content provider side delivery system is through online connections and mobile network.

6.2.5 Lihamyrsky Oy

A. Service Innovation

Organization. Third smaller independent record label, Lihamyrsky Oy, is one of the most recent players in the industry being founded a year ago, in 2015. Because of this, Lihamyrsky Oy have not experienced the actual digital transformation as a company, hence they have a "clean slate" to choose their operational strategies in already digitized industry. Co-founder and CEO of the company is an experienced rap artist "MC Ruudolf", who also pioneered with his music in this genre. His real name is Rudy Kulmala. He founded the company along with Keijo Kiiskinen, and they have had a good partnership in Finnish music business for years. Universal Music Finland Oy is the distributor for Lihamyrsky Oy. They have two employees and Lihamyrsky Oy represents six artists currently.

In the interview, Kulmala gave good insights from artist's perspective, as well as from production and working in the studio. Now, he wanted to establish his own label to be able to

work as a "mentor" for new young upcoming artists. Rudy Kulmala establishes his management philosophy strongly on his social skills, friendship and personal relations, and overall on human-to-human interaction.

Technology. In addition to general ICT technology, Lihamyrsky does not have any custom software or digital tools of their own in use. They have access to Universal Music's "Artist Portal" software, but they have not seen it beneficial enough yet to start using it. They manually collect the needed data from social media channels and online streaming services to meet their needs. They have separate software tools for studio work and music production, as well as in other music companies.

Market Environment. Lihamyrsky Oy is also competing in smaller segment of Finnish music industry. They are building a new growing record label, which is more aware of the surrounding digital transformation right from the get-go. They have not had to change or modify their strategy or business model. They are also relying on different endorsement deals of the artists. In music segment, they are also focused on urban Finnish music, hip-hop and rap scene with more niche audience.

B. Service Concept

Consumer side. Similarly, to Monsp Records, Lihamyrsky Oy is representing six Finnish rap artists for more niche audience. Although, few of the company's artists are quite popular. They rely heavily on social media channels to provide interesting and appealing content for their audience. Especially, they are taking advantage on the use of Snapchat for one of their main social media channels.

Content provider side. For the artists they represent, they provide music production and distribution through Universal Music. Lihamyrsky operates closely with the artist as their managers on marketing and promotional activities as well. For other labels and artists, Lihamyrsky provides record producing as well.

C. Client Interface

Consumer side. No company own client interface for consumers are provided. Lihamyrsky also provides Spotify playlists of their own, and interaction through social media channels.

Content provider side. Neither in content provider side, Lihamyrsky Oy does not provide a client interface of their own.

D. Delivery System

Consumer side. No physical sales or distribution of their own. All distribution is conveyed by the Universal Music Finland Oy. All information sharing requires online connection and mobile connection.

Content provider side. All recordings are being produced digitally, therefore again, online connections and cellular mobile networks are used. In music production, different publically available online internet cloud services are used. Dropbox is essential tool during the production phase.

6.2.6 Warner Music Finland Oy

A. Service Innovation

Organization. Warner Music Finland Oy is the third company of the big major labels. According to the respondent, Teppo Lounema (Sales & Business Development Director), Warner Music Finland Oy is the only one of the three majors, who are the market leader in Finland on a corporate level. More specifically, for Warner Music the only country in the world where Warner Music is the largest. They employ 40 people in their Helsinki office and represent 63 artists.

Technology. As well as all the other music companies, they are using smartphones and laptops in their daily operations. They have multiple different software solutions for different purposes. They have own software for sales, financial administration, and project management for instance, but not for i.e. A&R (Artists and Repertoire) and marketing.

Market Environment. With market share of 30,39% (IFPI, 2015), they are the market leader in Finland. Their success is based on their live show production to which they are heavily focused. According to Lounema, their revenue is split into two main revenue streams, 50% comes from live production sales and the other 50% from digital music sales. Therefore, this is one of their key success factors in their operations, and difference compared to the others.

B. *Service Concept*

Consumer side. The market leader, Warner Music Finland Oy, distributes and sells music in all channels, both digitally and physical retail as well. They are heavily focused on live production and possess close relations to traditional media (radios and television channels) as well, to provide music in all formats.

Content provider side. Also, an all-around music company providing music production, artist management, distribution and sales, merchandising, and live production sales for artists and partners.

C. *Client Interface*

Consumer side. They provide a service called Topsify, which is basically a Spotify playlist catalogue of Warner Music's collected playlists on Spotify. Topsify has its own website which provides links to Spotify curated playlists.

Content provider side. Not any specified client interface provided for content provider side. They have some software solutions for different administrative activities, but they are not providing full access to other artist, sublabels, or producers.

D. *Delivery System*

Consumer side. Warner Music provides live productions, all media channels, social media, retail sales of physical recordings, and online distribution and sales. Delivery in many occasions is, again through internet and mobile network connections.

Content provider side. As well as with all other companies, the recordings are produced digitally, therefore the delivery occurs through online and mobile network connections.

7 DISCUSSION

In this chapter 7, the findings from the empirical study and the case companies together are discussed and analyzed more in depth. In section 7.1, the cross-comparison of the case companies are made with few tables providing supporting clarification, the section 7.2 continues discussion by introducing the drivers of change, and the section 7.3 concludes the discussion by proposing a new model of factors affecting service innovation. This chapters seeks to provide answers following the theoretical framework presented in Chapter 4, particularly in the sections 4.1 and 4.3.

7.1 Cross-Comparison of the Record Labels

7.1.1 Business Model Strategies of the Record Labels

The digital transformation has changed the distribution and sales of recordings. All companies responded their primary source of income being from online streaming services as discussed in 3.2.3. Now the labels are more aware of which are the remained dominating players on the market. Spotify clearly being the top player of these services. Other major source of income is live shows, especially for artists themselves.

Table 2: The Record Labels and Their Main Sources of Income

Record Label:	Main Sources of Income:
The Fried Music Oy	Online Streaming, Copyright royalties, Live production
Lihamyrsky Oy	Online Streams, Copyright royalties, Endorsement deals
Monsp Records Oy	Online Streaming, Copyright royalties, Endorsement deals
The Sony Music Entertainment Finland Oy	Online Streaming, Copyright royalties
Universal Music Finland Oy	Online Streaming (Spotify), Copyright royalties
Warner Music Finland Oy	Online Streaming (Spotify), Live production

As the *table 2,* shows, the importance of Spotify, and other online streaming services cannot be undermined. Each record label listed online streams being their main source of income today. According to the article in Markkinointi & Mainonta, the sales of digital recordings increased by 22% to nearly 30 million euros from 2013 to 2014 in Finland. The sales of physical recordings were under 29 million. The sales of physical recordings decreased by 34,4%. The total recording sales still decreased by 14,1%. Still, the largest sector financially in Finland is live music ("Käänne tapahtui: Musiikin digimyynti ohitti fyysisten äänitteiden myynnin viime vuonna - Markkinointi & Mainonta," 2015). This can be also found in the *table 2,* with the Fried Music and Warner Music. According to Lounema,

the total revenue for Warner Music Finland comes half and half from digital music sales and live production sales.

Another interesting part shown in the *table 2*, is that the two smaller independent labels (Monsp Records and Lihamyrsky) mentioned endorsement deals being their crucial revenue stream. Keijo Kiiskinen from Monsp Records stated:

"The endorsement deals are exceptionally big share of our revenue, especially for such a small company as we are. The reason for this are our artists, that are interesting to media."
– Keijo Kiiskinen, CEO, Monsp Records

Founder of Lihamyrsky Oy, Rudy Kulmala, comments on the company's main sources of income and adds to Kiiskinen's comment by the following:

"Online streams, producer royalties, and endorsement deals (for artists mainly). Definitely the increase of endorsement deals has been a notable change in the business." – Rudy Kulmala, Lihamyrsky Oy

Table 3: The Record Labels and Their KPI Preferences

Record Label:	KPI Preference:
The Fried Music Oy	Gross profit and gross sales
Lihamyrsky Oy	Concert sales, Attendance
Monsp Records Oy	Financial performance
The Sony Music Entertainment Finland Oy	Streams, Social media metrics, Sales and revenue
Universal Music Finland Oy	Spotify Top50, Streams
Warner Music Finland Oy	Streams vs. Live shows, Financial results

According to all respondents, the real *key performance indicators* (KPI's) for a record label, should be measured in key financial numbers in addition to the amount of streams as seen in *table 3 (see also figure 12)*.

Now, since the music industry has changed from following physical record sales to digital format, the measurement of the record labels' performance has changed as well. Niko Tähtinen from The Fried Music puts it simply:

"With record labels, the success should be measured in gross profit or gross sales." – Niko Tähtinen, CEO, The Fried Music

All other respondents agreed to this statement, as did Warner Music's, Teppo Lounema:

"The performance of a record label can, and should be measured by economic results, and default expectation values should be defined by the financials and market share." Teppo Lounema, Sales & Business Development Director, Warner Music Finland Oy.

The *table 3* above shows the respondents intuitive answers to what are, or should be the most important measurement of the company performance. The biggest change has been the relative diminishing value of online streams compared to the physical (i.e. CD) sales. As it appears, the financial performance, is the most significant KPI for the music companies currently, as well as the amount of stream. Many respondents brought up the transition how they used to follow record sales and coverage for instance, and now only streams and other financial figures. More specifically, Tähtinen describes this transition in the following way:

"Before, it was all about coverage and record sales. Internally we followed radio lists. Now, it is all about the online streams. Before it was top-30 lists on the radio, and now it is about Spotify lists. The significance of Spotify playlists cannot be undermined and emphasized enough." – Niko Tähtinen, The Fried Music.

Kaisu Pulli, the head of digital business *(Digital Business & Development Director)* for Sony Music Entertainment Finland Oy, puts more weight on the digital services and social media in the music business as well as artist achievements:

"At the moment, we measure i.e. the "streamability" of playlists, artists, and tracks, followers for playlists and social media of the artists. Also, the amount of sales, revenue and income, coverage and reach on media, social media reach etc. Achieving of gold and platinum limits in streaming, which are very important for artists themselves." – Kaisu Pulli, Sony Music Entertainment Finland Oy.

She continues by adding more thoughts from artists' point of view, when choosing the right label for representing them:

"Music company traditionally is measured by how many breakthroughs the company has provided during accounting period. This does not tell the whole truth, since utilizing the

catalogue is also paramount. For new artist, when choosing the music company, the meaning of new ideas, the efficiency of marketing, operating within the online streaming services, disposition of contract, etc. are significant." – Kaisu Pulli, Sony Music Entertainment Finland Oy.

One exception was The Universal Music's CEO, Kimmo Valtanen, who did not emphasize directly to the financial, but to the power of streams and digital music sales: *"The most important measure for us at the corporate level is performing at Spotify top 50 list. Spotify operates currently as our prime sales channel. It used to be the official album list, which we basically do not follow at all anymore at corporate level."*

7.1.2 ICT Technology in Record Labels

Table 4: The Record Labels and Their Primary Selections for Communications

Record Label:	Primary Channel of Communication:		Selected Platform:
	Internal:	External:	
The Fried Music Oy	Smartphone, Laptops, SMS, Email	Email, Social media	Whatsapp, Dropbox
Lihamyrsky Oy	PC, Smartphones	Email, Social media	Dropbox, Google Drive
Monsp Records Oy	Smartphone, SMS, Cloud Services	Email, Social media	Dropbox, Google Drive
The Sony Music Entertainment Finland Oy	Smartphone, Laptops, SMS, Email	Email, Social media	Own software
Universal Music Finland Oy	Smartphones, Laptops	Email, Social media	Artist portal
Warner Music Finland Oy	Smartphone, Laptops, SMS, Email	Email, Social media	Own software, Whatsapp

To answer one of the research questions, *table 4,* illustrates the utilization of the technology used in the record labels. This result seeks to clarify technology factor affecting to record labels, which was discussed in the section 4.1. As it appears, quite basic current technologies are used in the core operations of a record label. Everyone emphasized direct interaction, i.e. between the artists. Many preferred direct phone calls, or better yet, face-to-face or one-on-one communication whenever possible. Kimmo Valtanen from Universal Music states:

"Email, text messaging, regular phone calls, whatsapp, and Facebook. Although, we aim to meet face to face as much as we can. That is one of my principles, and this applies especially

in communicating with artists. Nothing beats the traditional way of working, creating routines and managing your calendar for instance.” – Kimmo Valtanen, CEO, Universal Music Finland Oy

Even the market leader, Warner Music Finland Oy, relies on the basic ICT technology. Teppo Lounema had similar thoughts on communications and also brought up the decision making taking always place in personal meetings, almost never over the phone even:

“For internal communications we use smartphones, Whatsapp messaging, emails, and Facebook groups. With the artists we use Whatsapp, text messages, phone calls, and meetings in person as much as we can. All the decision making occurs in personal one-on-one, face-to-face situations. Externally, we use emails, Facebook, and Instagram.” – Teppo Lounema, Warner Music Finland Oy.

Lounema also added, that there has not been any significant change in the way of communicating and communication technology after the emails came along:

“Nothing really stands out, but I guess emails have transformed the way we operate the most with the speed and efficiency, compared to the fax machines for example.” – Teppo Lounema.

Finally, the study asked the interviewees to define their key stakeholder groups and to recognize any possible network effects or network externalities affecting their business or operations as discussed in 4.3.

Table 5: The Record Labels and Their Key Partnerships or Stakeholder Groups

Record Label:	Key Stakeholder Groups:
The Fried Music Oy	Radios, Media, Distributor (Sony)
Lihamyrsky Oy	Distributor (Universal), Live Production Sales (Ramin Välitys), Radio, DJ's, Fans, Own friends and connections
Monsp Records Oy	Distributor (Sony), Radios, Spotify, Artists, Songwriters
The Sony Music Entertainment Finland Oy	Radios, Media houses, Blogger, V-loggers, Influencers, Brands, Spotify
Universal Music Finland Oy	Artists, Producers, Radios, Spotify, Physical retailers
Warner Music Finland Oy	Songwriters and -makers, Producers, Traditional Retail Channels, Spotify, Apple, Radio, Media, TV

As the *table 5* shows, similar answers can be found between every record label. All respondents basically brought up all players in music productions, as many wanted to emphasize the importance of the artists and the music composers themselves supporting the fact that music making is still a creative process and a form of art. All three independent labels (The Fried Music, Lihamyrsky, and Monsp Records) mentioned their distributors, major labels, being a vital stakeholder for them.

One significant finding here was the importance of traditional media. Each and every one mentioned radio channels still being crucially important in the music industry. That is one of the most important marketing and promotional channel for all the record labels. The fact is that people still listens to radio a lot, i.e. in cars when commuting to work for instance. Radios and other traditional media can still appeal to the audience. Teppo Lounema from Warner Music answered their key stakeholder groups being:

"Songwriters and song makers, producers, traditional retail distribution channels, Spotify, Apple, and media as radio and television. TV is still very important, that is how you create phenomenas."

7.1.3 Social Media for Record Labels

Continuing the key findings from the empirical study, the importance of the social media channels and platforms for record labels is critical today. Major part of their external communications takes place in social media nowadays. The *table 5*, also shows two respondents mentioning fans, own friends and connections, bloggers, and other influencers. In addition, four out of six brought up Spotify one of their key stakeholder groups or partners. Social media platforms and channels provides an efficient way to share and interact between all of these stakeholder groups causing both, cross-side and same side network effects.

This study focused mainly on record labels possible own digital platform tools used in their operations, but as the study went on, the importance of social networks increased. Therefore, a particular questions concerning the importance of social media was added to the interview. The CEO of Universal Music Finland Oy, Kimmo Valtanen, sums the importance of social media quite well:

"It can be pivotal to the artist for success how the artist handles and manages its audience on social media. They should take advantage of AIDA model (an acronym of: attention, interest, desire, and action in consumer/customer engagement - marketing model). The social media

has partly bypassed the role of traditional media. It is more direct route to guide consumers to consume music. It has taken the lion's share from marketing and advertising. Artists' themselves are their own direct channel in social media. They are their own ways to bring new artists out. Also, record label's own channel works as a chain to showcase various artists."

Kaisu Pulli from Sony Music Entertainment Finland Oy, adds to Valtanen's comment about the importance of fan engagement and more transparent communication:

"The importance of social media for music company is huge. The artist can appeal and engage to fans and interested consumers directly, and the artists' social media channels are already own media themselves. Furthermore, medias own social media channels have formed important media channels intrinsically as well. Social media also enables better person-to-person type communication custom for both music companies and artists. Additionally, for instance working with the influencers have become easier this way." – Kaisu Pulli

Keijo Kiiskinen, from Monsp Records underlines, that social media can bring artists closer to their audience:

"Social media has brought an artist closer to its listeners, but on the other hand an artist still needs to stay true to its own "brand". We can talk about social media being sort of normal promotional channel. Social media is the most important channel with different variations and artist must find its own convention to act on social media." – Keijo Kiiskinen

Finally, The Fried Music's CEO, Niko Tähtinen says, that social media could still be utilized even more:

"Building and managing the fan base mostly happens through social media nowadays. I think that is a clear sign of interaction between the fans, artists, and labels. We can define many occasions for internal and external network effects. Still, I think we do not utilize the use of social media enough. We are in still in the very beginning with the whole social media phenomenon. Yet, there must be so much unexplored things with social media. For instance, branding the coverage an artist can offer in marketing and promotion." – Niko Tähtinen

7.2 The Drivers of Change

Based on the empirical study, a few surprising findings can be recognized. In the last section 7.1.3, the importance of social media was discussed, which has surprisingly significant influence on the music industry itself. It was expected to be important, but it came up in the interviews repeatedly. From those findings we can make deduction of social media being one of the driving forces and key factors influencing the music industry today.

Figure 13. Internal vs. External Resources – Changing Role

The *figure 13* illustrates the internal and external resources of a record label today. The music consumption has changed with music listeners. The music itself is more available and accessible everywhere for the consumer with all increased mobile technology. There are more third party driving forces shaping the music industry. In a sense, the power has shifted more towards consumers with more available resources. This forces the record labels step down from the driver's seat and to follow the technological development as well as the consumer desires. As a result, the record labels have been forced to change and evolve along the way. Record labels still are, and will be, highly important for the artists, as well as for the consumers to be provided with music. Their operational strategies have just changed towards more marketing oriented services from just producing and manufacturing recordings as discussed in the section 3.2 of the literature review.

7.3 Factors Affecting Service Innovations

Another surprising key finding from the empirical study was the importance of sociological behavior. This appeared in the interviews by the fact that all the respondents underlined the importance of face-to-face communication, how effective it is, and how crucial it is in decision making. It became clearer and clearer, that how different personalities came along with each other have big influence on success of an artist, how the artists are signed by which record label, or how the artists themselves want to choose their representation. In addition, the importance of social media discussed earlier, and how the social media can appeal to people socially and psychologically. Based on these findings, an extended model on categories of factors affecting service innovations is presented below in *figure 14*. See the original *figure 4* from Tuunainen et al., (2009) in the Chapter 4, section 4.1 on page 33.
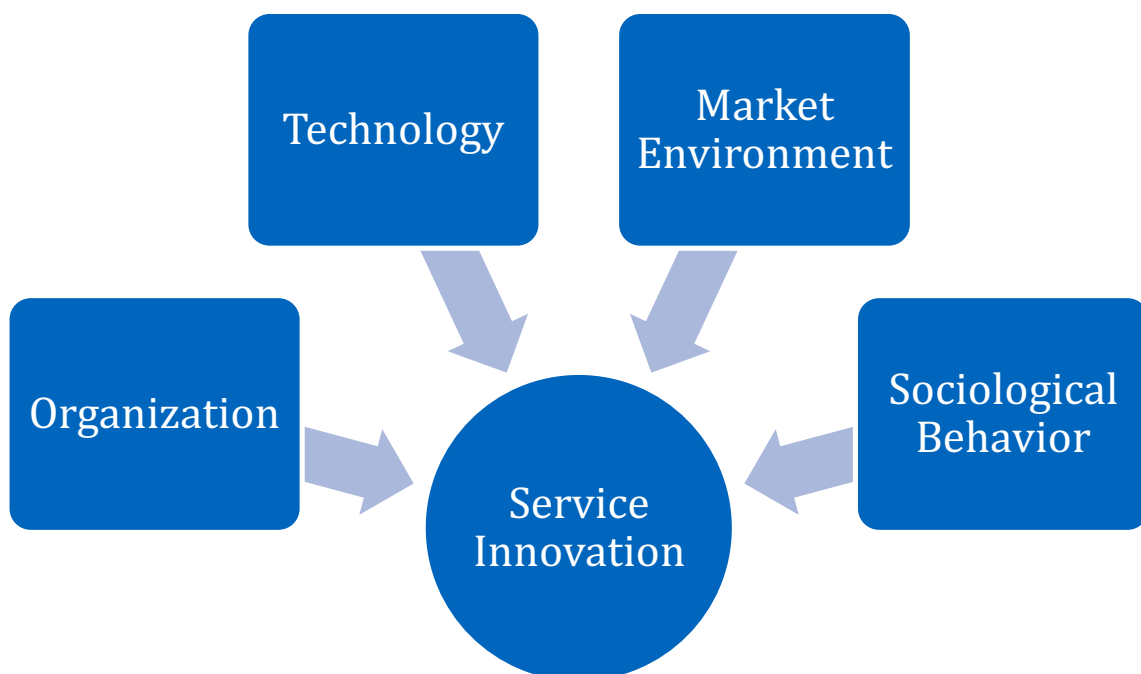

Figure 14. Categories of Factors Affecting Service Innovations – Extended

8 CONCLUSIONS

The goal of this research was to clarify current state of the digital transformation in the music industry from record labels perspective. Basically what relevant digital platforms and technology are in the industry and how they are used in the core operations of a record label, and how they can benefit from them. The scope of the study was to include at least the three major record labels in the industry with additional independent record labels. Six interviews were conducted with the relevant companies. First a literature review was made and synthesized into framework to answer three more specific research questions that were analyzed in the empirical part of the research.

The first question was, how are the record labels utilizing ICT technology? Assumingly, the answer to this question was, that the tools may vary between the labels, as well as between the internal and external use, especially between the different stakeholder groups. This may be due to different operational strategies the companies have. If the label is more focused on music production, they have project management type technology in use, if the company is more marketing-oriented, then they have more technology on marketing activities. This will define the sufficiency of the technology used.

According to the empirical study, very basic current technology is still used by the record labels. Quite basic applications and software for mobile phones and laptops are being used in the daily operations of the record labels. The interviewees emphasized the importance of face-to-face interaction or direct phone calls for instance. However, new technology is constantly being developed and all respondents showed interest in finding better and more efficient utilization of ICT technology. The differences occur on software side, not with hardware devices. This study focused solely on operational side of the record labels to investigate communicational and operational digital platforms, not on music production, therefore this study excludes the digital software tools used in the studio and music making process. Also, the theories presented by Bockstedt et al., (2005) about the music industry market structures in digital era are still valid.

The second question was, that how music companies (record labels) choose their primary channel(s) of communication – are they lacking of technology platform used? To answer to the second question, assuming the companies operate in different ways, thus gaining competitive advantage could be defined by their communicational behavior, if some label has custom designed communication tools in use to increase efficiency in i.e.

production phase, they have competitive advantage on other labels for producing recordings more efficiently.

The various activities of a company require various actions to take. The purpose of this question seeks to find, if there would be a digital platform binding all record label activities on one platform, and if there is even a need for such platform. According to this study conducted, there is no such universal, all-embracing, or holistic digital platform existing, which would "bind" the record label, and all of its stakeholder groups' networks, operations, and activities into one platform. The labels are utilizing basic technology, i.e. email messaging and social media channels in their daily communication and using various tools for collecting data and other purposes. One label is developing a mobile application of their own to improve the communication between the artists and the label. However, according to many many respondents, it would be too difficult and complex to build and develop such platform, which was also discussed by (Mark De Reuver et al., n.d.; Tilson et al., 2010, 2013) in Chapter 2 in sections 2.2, 2.3, and 2.4. Nevertheless, some modular software design could be applicable in record label operations. This would require further investigation of modularity for instance from (Hatch, 2001; Henfridsson et al., 2014; Pekkarinen & Ulkuniemi, 2008; Sanchez & Mahoney, 1996; Tiwana & Konsynski, 2010).

The third question was, what is the importance of social media for a record label? The assumable answer to this question was that the social media is highly significant for the record labels, especially for people engagement. Social media provides channels for artists to interact with their fans and audience. Therefore, the use of social media could and should be utilized more in marketing activities.

The section 7.1.3 discussed about the importance of social media for record labels and validates the initial assumption. The social media is currently part of the record labels external communication as well as taking care of substantial amount of their marketing activities. Social media brings the artists closer to their fans and audience. However, more utilization of social media platforms and channels could be done by integrating and cross-linking more platforms together i.e. Spotify and Facebook could have even better integration to provide more benefit to record labels.

The strongest managerial implication of this study for record labels are related to the strategic mapping of relevant stakeholders more specifically, which clearly adds value for the company. By defining them, it is more evident to allocate channels of communication for

better efficiency and need and requirements of the technology and digital platforms to be used.

The limitations of this research is clearly related to the small sample size, relatively wide scope of a complex industry, which required substantial delimitation, and abundance of various affecting factors related to the operations of the record labels. Also, the tricky setup of three dominating players in contrast to relatively small companies may affect to the results.

Therefore, for future research, if similar study is to be conducted, the study should focus solely on independent record labels. Also, for further studies the scope should focus and involve other different players, stakeholder groups, and third parties in the music industry, especially media should be taken into consideration. Other comparative research could be done on other publishing industries taking different views. Finally, more research on the role of a record label could be made, for instance based on the different business models and marketing strategies by Valerie L. Vaccaro and Deborah Y. Cohn (2004).

REFERENCES

Alam, I. (2006). Service innovation strategy and process: a cross-national comparative analysis. *International Marketing Review*, *23*(3), 234–254.

Armstrong, M. (2006). Competition in two sided markets. *The RAND Journal of Economics*, *37*, 668–691. Retrieved from http://onlinelibrary.wiley.com/doi/10.1111/j.1756-2171.2006.tb00037.x/abstract

Arthur, W. B. (1989). Competing technologies, increasing returns, and lock-in by historical events. *The Economic Journal*, *99*(394), 116–131. Retrieved from http://www.jstor.org/stable/2234208

Baldwin, C. Y., & Clark, K. B. (2000). *Design Rules: The Power of Modularity Volume 1*. *Academy of Management The Academy of Management Review* (Vol. 26).

Baldwin, C. Y., & Woodard, C. J. (2008). The Architecture of Platforms: A Unified View. *Working Papers -- Harvard Business School Division of Research*, 1–31. http://doi.org/10.2139/ssrn.1265155

Ballon, P., & Hawkins, R. (2009). Standardization and Business Models for Platform Competition : The Case of Mobile Television, *7*(June), 1–12.

Basole, R. C. (2014). Visual business ecosystem intelligence: Lessons from the field. *IEEE Computer Graphics and Applications*, *34*(5), 26–34.

Basole, R. C., & Karla, J. (2011). On the Evolution of Mobile Platform Ecosystem Structure and Strategy. Retrieved January 21, 2016, from http://download.springer.com.libproxy.aalto.fi/static/pdf/499/art%3A10.1007%2Fs12599-011-0174-4.pdf?originUrl=http://link.springer.com/article/10.1007/s12599-011-0174-4&token2=exp=1453382010~acl=/static/pdf/499/art%253A10.1007%

Bhattacharjee, S., Gopal, R. D., Lertwachara, K., & Marsden, J. R. (2003). Economic of Online Music. *ICEC '03: Proceedings of the 5th International Conference on Electronic Commerce*, *50*(August), 30–309. Retrieved from http://portal.acm.org/citation.cfm?id=948045#

Bockstedt, J., Kauffman, R. J., & Riggins, F. J. (2005). The Move to Artist-Led Online Music Distribution: Explaining Structural Changes in the Digital Music Market. *Proceedings of the 38th Annual Hawaii International Conference on System Sciences*, *0*(C), 1–10. http://doi.org/10.1109/HICSS.2005.608

Boudreau, K. J. (2012). Let a Thousand Flowers Bloom? An Early Look at Large Numbers of Software App Developers and Patterns of Innovation. *Organization Science*, *23*(5),

1409–1427.

Boudreau, K. J., & Hagiu, A. (2009). Platform Rules: Multi-Sided Platforms as Regulators. In A. Gawer (Ed.), *Platforms, Markets and Inno- vation.* (pp. 163–191). http://doi.org/10.2139/ssrn.1269966

Caillaud, B., & Jullien, B. (2003). Chicken & Egg: Competition among Intermediation Service Providers. *The RAND Journal of Economics*, *34*(2), 309–328. Retrieved from http://esc-web.lib.cbs.dk/login?url=http://search.ebscohost.com/login.aspx?direct=true&db=bth&AN=10723053&site=ehost-live&scope=site

Clark, K. B. (1985). The interaction of design hierarchies and market concepts in technological evolution. *Research Policy*, *14*(5), 235–251.

De Reuver, M., & Bouwman, H. (2012). Governance mechanisms for mobile service innovation in value networks. Retrieved January 21, 2016, from https://www.researchgate.net/profile/Mark_De_Reuver/publication/235257182_Governance_mechanisms_for_mobile_service_innovation_in_value_networks/links/0912f510ad57339f28000000.pdf

De Reuver, M., Sørensen, C., & Basole, R. C. (n.d.). The Digital Platform. *Forthcoming, Unpublished - Draft Under Under Review for International Journal. Personal Copy Obtained from the Authors*, 1–15.

Demerath, L., & Alasuutari, P. (1996). Researching Culture: Qualitative Method and Cultural Studies. *Contemporary Sociology*.

Dew, N., & Read, S. (2007). The more we get together: Coordinating network externality product introduction in the RFID industry. *Technovation, Vol. 27, No. 10*, 569–581. Retrieved from http://ac.els-cdn.com.libproxy.aalto.fi/S0166497207000028/1-s2.0-S0166497207000028-main.pdf?_tid=d17faeb0-c03e-11e5-892f-00000aacb35f&acdnat=1453381354_03459f33590d70b6c098b3231a472a43

Dul, J., & Hak, T. (2008). *Case Study Methodology in Business Research*. *New York* (Vol. 129). http://doi.org/10.1007/s13398-014-0173-7.2

Economides, N., & Katsamakas, E. (2006). Two-Sided Competition of Proprietary vs. Open Source Technology Platforms and the Implications for the Software Industry. *Management Science*, *52*(7), 1057–1071. http://doi.org/10.1287/mnsc.1060.0549

Eisenmann, T., Parker, G., & Van Alstyne, M. (2011). Platform envelopment. *Strategic Management Journal*, *32*(12), 1270–1285. http://doi.org/10.1002/smj.935

Eisenmann, T., Parker, G., & van Alstyne, M. W. (2006). Strategies for Two-Sided Markets. *Harvard Business Review*, *84*(10), 12. http://doi.org/10.1007/s00199-006-0114-6

Evans, D. S. (2003). The Antitrust Economics of Multi-Sided Platform Markets. *Yale Journal on Regulation*, *20*, 325. http://doi.org/10.2139/ssrn.332022

Gawer, A. (2009). Platforms, Markets and Innovation. Retrieved January 21, 2016, from https://www.researchgate.net/profile/Annabelle_Gawer/publication/265268354_Platforms_Markets_and_Innovation/links/54c623250cf219bbe4f67539.pdf

Gawer, A. (2014). Bridging differing perspectives on technological platforms: Toward an integrative framework. Retrieved January 21, 2016, from http://ac.els-cdn.com.libproxy.aalto.fi/S0048733314000456/1-s2.0-S0048733314000456-main.pdf?_tid=7147a984-c03f-11e5-892f-00000aacb35f&acdnat=1453381622_86ef568915f549c13606bd92f0662cd7

GAWER, A. (2014). BRIDGING DIFFERING PERSPECTIVES ON TECHNOLOGICAL PLATFORMS: TOWARD AN INTEGRATIVE FRAMEWORK. *Academy of Management Annual Meeting Proceedings*, 423–428. Retrieved from 10.5465/AMBPP.2014.278

Gawer, A., & Cusumano, M. A. (2002). Platform Leadership How Intel, Microsoft, and Cisco Drive Industry Innovation. Retrieved January 21, 2016, from http://www.platformleadership.com/articles/Case Folio.pdf

Gawer, A., & Cusumano, M. A. (2008). How Companies Become Platform Leaders. *MIT Sloan Management Review*, *49*(2), 28–35. Retrieved from http://sloanreview.mit.edu/the-magazine/articles/2008/winter/49201/how-companies-become-platform-leaders/

Ghazawneh, A., & Henfridsson, O. (2013). Balancing platform control and external contribution in third-party development: the boundary resources model. *Information Systems Journal, Vol. 23, No. 6*, 173–192. Retrieved from http://citeseerx.ist.psu.edu/viewdoc/download?doi=10.1.1.456.6588&rep=rep1&type=pdf

Ghazawneh, A., & Henfridsson, O. (2015). A paradigmatic analysis of digital application marketplaces. *Journal of Information Technology*, *30*(3), 198–208.

Gray, K. (2015). Kobalt changed the rules of the music industry using data -- and saved it (Wired UK). Retrieved April 23, 2016, from http://www.wired.co.uk/magazine/archive/2015/05/features/kobalt-how-data-saved-

music/viewall

Hagiu, A., & Wright, J. (2015). Multi-sided platforms. *International Journal of Industrial Organization*. http://doi.org/10.1016/j.ijindorg.2015.03.003

Hatch, N. W. (2001). Design Rules, Volume 1: The Power of Modularity. *Academy of Management Review*, *26*(1), 130–134. http://doi.org/10.5465/amr.2001.4011995

Henderson, R. M., & Clark, K. B. (1990). Architectural Innovation: The Reconfiguration of Existing Product Technologies and the Failure of Established Firms. *Administrative Science Quarterly*, *35*(1), 9–30.

Henfridsson, O., Mathiassen, L., & Svahn, F. (2014). Managing technological change in the digital age: The role of architectural frames. *Journal of Information Technology*, *29*(1), 27–43.

Holloway, I., & Daymon, C. (2002). *Qualitative research methods in public relations and marketing communications*. *Qualitative Research* (Vol. 5).

Hull, G. P., Hutchison, T. W., & Strasser, R. (2011). The Music Business and Recording Industry: Delivering Music in the 21st Century. Retrieved from http://books.google.fr/books?id=BWUil8OuXS8C

Iansiti, M., & Lakhani, K. R. (2014). Digital ubiquity: How connections, sensors, and data are revolutionizing business. *Harvard Business Review*. Harvard Business School Publishing.

Iansiti, M., & Levien, R. (2004a). Strategy as Ecology. *Harvard Business Review*.

Iansiti, M., & Levien, R. (2004b). *The keystone advantage*. *Networks*. Retrieved from http://hbr.org/products/3078/3078p4.pdf\nhttp://books.google.ru/books?hl=ru&lr=&id=T_2QFhjzGPAC&oi=fnd&pg=PP15&dq=The+Keystone+Advantage:+What+the+New+Dynamics+of+Business+Ecosystems+Mean+for+Strategy,+Innovation,+and+Sustainability.&ots=Ugt8P9rNo4&sig=Hynsh2wyT4t_zOSxo-Om8t9DUTs&redir_esc=y#v=onepage&q&f=false

IFPI. (2015). Digital Music Report 2015.

Käänne tapahtui: Musiikin digimyynti ohitti fyysisten äänitteiden myynnin viime vuonna - Markkinointi & Mainonta. (2015). Retrieved April 23, 2016, from http://www.marmai.fi/uutiset/kaanne-tapahtui-musiikin-digimyynti-ohitti-fyysisten-aanitteiden-myynnin-viime-vuonna-6271437

Kallinikos, J., Aaltonen, A., & Marton, A. (2013). The Ambivalent Ontology of Digital Artifacts. *MIS Quarterly*, *37*(2), 357–370.

Katz, L., & Shapiro, C. (1994). System Competition and Network Effects. *The Journal of Economic Perspectives*. http://doi.org/10.1126/science.151.3712.867-a

Katz, M. L., & Shapiro, C. (1985a). Network Externalities, Companition and Compability. Retrieved January 21, 2016, from http://brousseau.info/pdf/cours/Katz-Shapiro[1985].pdf

Katz, M. L., & Shapiro, C. (1985b). Network externalities, competition, and compatibility. *The American Economic Review*.

Kuhn, T. S. (1962). *The Structure of Scientific Revolutions. International encyclopedia of unified science Vol2 no2* (Vol. 2). University of Chicago Press. http://doi.org/10.1111/j.1468-0149.1963.tb00813.x

Meyer, M. H., & Lehnerd, A. P. (1997). The power of product platforms - building value and cost leadership - meyer,mh, lehnerd,ap. *Journal of Product Innovation Management*, *14*, 526–529.

Mossberg, W. S. (2004). The Music Man - WSJ. Retrieved April 23, 2016, from http://www.wsj.com/articles/SB108716565680435835

Nash, E. (2011). How Steve Jobs Saved the Music Industry. *Wall Street Journal*. Retrieved from https://autorpa.yzu.edu.tw/login?url=http://search.proquest.com/docview/899298867?accountid=15184\nhttp://pqdd.sinica.edu.tw/twdaoapp/servlet/advanced?query=\nhttp://re8ux2yp4z.search.serialssolutions.com/?ctx_ver=Z39.88-2004&ctx_enc=info:ofi/enc:UTF-8&rfr_id=info:sid/ProQ%3Awallstreetjournal&rft_val_fmt=info:ofi/fmt:kev:mtx:journal&rft.genre=unknown&rft.jtitle=Wall+Street+Journal&rft.atitle=How+Steve+Jobs+Saved+the+Music+Industry&rft.au=Nash%2C+Ed&rft.aulast=Nash&rft.aufirst=Ed&rft.date=2011-10

Parker, G., & Van Alstyne, M. W. (2005). Two-sided network effects: A theory of information product design. *Management Science*, *51*(10), 1494–1504. http://doi.org/10.2139/ssrn.1177443

Pekkarinen, S., & Ulkuniemi, P. (2008). Modularity in developing business services by platform approach. *The International Journal of Logistics Management*, *19*(1), 84–103. Retrieved from http://www.emeraldinsight.com/doi/abs/10.1108/09574090810872613

Pon, B., Seppälä, T., & Kenney, M. (2014). Android and he demise of operating system-based power: Firm strategy and platform control in the post-PC world. Retrieved April

6, 2016, from http://hcd.ucdavis.edu/faculty/webpages/kenney/writings/Telecom Policy Android and the Demise of Operating System Power.pdf

Rayport, J. F., & Sviokla, J. J. (1995). Exploiting the Virtual Value Chain. *Harvard Business Review*, *73*(6), 75–85. Retrieved from http://search.ebscohost.com/login.aspx?direct=true&db=buh&AN=9512052732&site=ehost-live

Reuver, M. De, Sorensen, C., & Basole, R. C. (201AD). The Digital Platform. *Unpublished - Draft Under Review*, 1–15.

Rochet, J.-C., & Tirole, J. (2003). Platform Competition in Two-sided Markets. *Journal of the European Economic Association*, *1*(4), 990–1029. http://doi.org/10.1111/j.1467-8462.2013.12020.x

Rochet, J., & Tirole, J. (2002). Platform Competition in Two-Sided Markets, 1–47.

Rochet, J., & Tirole, J. (2003). Platform competition in two sided markets. *The European Economic Journal …*, *1*(4), 990–1029. Retrieved from http://onlinelibrary.wiley.com/doi/10.1162/154247603322493212/abstract

Sanchez, R., & Mahoney, J. T. (1996). Modularity, flexibility, and knowledge management in product and organization design. *Strategic Management Journal*, *17*(S2), 63–76. Retrieved from http://dx.doi.org/10.1002/smj.4250171107

Shapiro, C., & Varian, H. R. (1999). *A strategic guide to the network economy. HArvard Business School Press*.

Sørensen, C., De Reuver, M., & Basole, R. C. (2015). Mobile platforms and ecosystems. *Journal of Information Technology*, *30*(3), 195–197.

Spagnoletti, P., Resca, A., & Lee, G. (2015). A Design Theory for Digital Platforms Supporting Online Communities. *Journal of Information Technology*, *30*(4), 1–17. http://doi.org/10.1057/jit.2014.37

Taudes, A., Feurstein, M., & Mild, A. (2000). Options Analysis of Software Platform Decisions: A Case Study. *MIS Quarterly*, *24*(2), 227–243. http://doi.org/10.2307/3250937

Tilson, D., Lyytinen, K., & Sørensen, C. (2010). Digital infrastructures: The missing IS research agenda. *Information Systems Research*, *21*(4), 748–759. http://doi.org/10.1287/isre.1100.0318

Tilson, D., Sørensen, C., & Lyytinen, K. (2011). Change and control paradoxes in mobile infrastructure innovation: The Android and iOS mobile operating systems cases. In

Proceedings of the Annual Hawaii International Conference on System Sciences (pp. 1324–1333).

Tilson, D., Sørensen, C., & Lyytinen, K. (2013). Platform complexity: Lessons from the music industry. *Proceedings of the Annual Hawaii International Conference on System Sciences*, 4625–4634. http://doi.org/10.1109/HICSS.2013.449

Tiwana, A., & Konsynski, B. (2010). Complementarities between organizational IT architecture and governance structure. *Information Systems Research*, *21*(2), 288–304.

Tiwana, A., Konsynski, B., & Bush, A. A. (2010). Platform evolution: Coevolution of platform architecture, governance, and environmental dynamics. *Information Systems Research*, *21*(4), 675–687.

Tuunainen, V. K., & Tuunanen, T. (2011). IISI n - A model for analyzing ICT Intensive Service Innovations in n-sided Markets. *Hawaii International Conference on System Siences*, 1–10. http://doi.org/10.1109/HICSS.2011.234

Tuunainen, V. K., Tuunanen, T., & Bastek, M. (2009). A model for ICT intensive service innovations in two-sided markets case study of IPTV in a national TV broadcasting company. *Proceedings - 2009 International Conference on New Trends in Information and Service Science, NISS 2009*, 857–862.

Tuunainen, V. K., Tuunanen, T., & Piispanen, J. (2011a). Mobile service platforms: Comparing Nokia OVI and Apple App Store with the IISIn model. *Proceedings - 2011 10th International Conference on Mobile Business, ICMB 2011*, 74–83. http://doi.org/10.1109/ICMB.2011.42

Tuunainen, V. K., Tuunanen, T., & Piispanen, J. (2011b). Mobile service platforms: Comparing Nokia OVI and Apple App Store with the IISIn model. *Proceedings - 2011 10th International Conference on Mobile Business, ICMB 2011*, (September 2015), 74–83. http://doi.org/10.1109/ICMB.2011.42

Tuunanen, T., Myers, M. D., & Cassab, H. (2010). A Conceptual Framework for Consumer Information Systems Development. *Pacific Asia Journal of the Association for Information Systems*, *2*(1), 5. Retrieved from http://aisel.aisnet.org/pajais/vol2/iss1/5/

Weiss, M., & Gangadharan, G. R. (2010). Modeling the mashup ecosystem: Structure and growth. In *R and D Management* (Vol. 40, pp. 40–49).

Wheelwright, S. C., & Clark, K. B. (1992). Creating project plans to focus product development. *Harvard Business Review*, *70*(2), 70–82.

Yoo, Y. (2013). The Tables Have Turned: How Can the Information Systems Field

Contribute to Technology and Innovation Management Research? *Journal of the Association for Information Systems*, *14*, 227–236. Retrieved from https://search.ebscohost.com/login.aspx?direct=true&db=bth&AN=89299518&site=ehost-live

Yoo, Y., Henfridsson, O., & Lyytinen, K. (2010). The new organizing logic of digital innovation: An agenda for information systems research. *Information Systems Research*, *21*(4), 724–735.

Zittrain, J. (2008). *The future of the Internet and how to stop it*. *Jonathan Zittrain THE FUTURE OF THE INTERNET AND HOW TO STOP IT Yale University Press Penguin UKAllen Lane* (Vol. 321). Retrieved from http://ssrn.com/paper=1125949

Appendix A: IISI^n Model Framework Construct for Analysis

Based on the IISI^n model, the framework construct for analyzing the record labels in the following way:

A. Service Innovation Platform – Record Label:
   a. Organization:
   b. Technology:
   c. Market Environment:
B. Service Concept:
   a. Consumer Side:
   b. Content Provider Side:
C. Client Interface:
   a. Consumer Side:
   b. Content Provider Side:
D. Delivery System:
   a. Consumer Side:
   b. Content Provider Side:

Appendix B: Interview Questions

Background information:

Name:
Company:
Your role/title in the company:
Number of employees:
Number of artists:
Annual amount of publications:
Latest annual revenue/turnover:

- Do you (company) have any application, software, or system in use to help with the record label operations daily? If yes, then what? And how does help with the operations and make the administration better?
  - What are the main tasks of this software or system? What is the main purpose of this tool?
  - What are the biggest benefits of this software?

- What is the "role" of a record label in modern digital music industry and in digital music distribution?

- What is the main source of business for the company at the moment?
  - What is your main source of revenue?
  - Has it changed over past few years? If yes, how?

- What and who are the most important partnerships and the key stakeholders for the company/record label?

- How the ICT technology is utilized in the company at the moment?
  - What ICT technology is already in use? (software, hardware, systems, or applications)
  - How has technology been utilized before and now?
  - What has changed operations of your company the most? What has been the biggest improvement and change maker with developed technology?

- What is the importance of social media in the operation of a record label currently?
  - How the social media has changed the music industry?
  - Do you recognize any various interaction, inside and between of different stakeholder groups which have impact to record label business? (network effects) Can you define any of these (network effects)?

- Can you define some key performance indicators (KPI) in music industry?
  - What are your KPIs at the moment, what do you measure? (coverage, listening figures, streams, etc.)
    - What about before, has the KPI's changed significantly?
  - What would you like to measure, if possible?

- How could these things be measured?
- Can you estimate or define what conclusions could be made by these KPI's? (analysis etc.?) What conclusions are desired?
- How the performance of a record label could be better measured?

- Which software applications do you utilize, use, and follow currently? (i.e. in marketing, publishing, promotion etc.)
  - Which applications are the most useful?
  - What kind of application would be the most useful, if such existed?
  - Are there any other digital tools you could capitalize on?

- Which software applications do you use in communications?
  - What type of application could increase the efficiency of your work?
  - Are there any applications between the record label and other stakeholders?
    - If yes, then what?
    - If no, what type of application could be useful?

Can your name be mentioned in this research? (yes/no)

Can your company be mentioned/represented in this research? (yes/no)

By answering to this interview, the information given above can be used as a part of the research (Pro Gradu) for Aalto University School of Economics.