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Business Ecosystem and Reverse Salient: The Development of the Mobile Music Business in Japan and Korea

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Abstract: This paper aims at exploring a mechanism of new business development. To understand how a business develops, we move our analytical focus from the level of a focal business to the level of the "business ecosystem," a collection of related businesses and institutions. We pay special attention to a slowly advancing component as a "reverse salient." We comparatively examine the developmental process of the mobile music business in Japan and Korea, and show how the interactions among related businesses and music copyright institutions as a reverse salient shaped the directions and speed of the development in each country (98 words).

1. Objectives

When technological innovations offer a new business potential, firms strive for prosperity and survival by creating a new business. For them it is critical to properly understand how a new business is created and developed over time. In particular, when a variety of new business ideas emerge and compete with each other, a proper understanding of business development is indispensable. Yet, it is often hard to foresee how a business potential might materialize. Without better understanding, firms may overlook critical success factors and err in their management of the situation.

This paper explores a mechanism by which a new business is created and developed. We achieve this by moving our analytical focus up from the level of a particular business of interest to the level of a collection of related businesses. We argue that it is critical to look at complex interactions among various types of businesses as well as related institutions to understand the development process of a business.

Traditionally, to analyze a particular business, we put our central focus on the business itself. Industrial organization economics, for example, has conventionally focused on the structure of the market which the business serves and the behavior of firms within the market. Substantial ideas on strategic management have been formulated within a similar theoretical framework (Teece, 1984). However, it is not unusual that disruptive technologies would have significant repercussions across a variety of related businesses. Furthermore, new businesses are often created and

developed amid and through complex interactions with these related businesses.

The goal of this paper is to adopt the concept of a "business ecosystem" (Moore, 1993; Iansiti and Levien, 2004), which consists of a variety of interdependent businesses and relevant social institutions, to understand the process of business development. We show the value of looking at the level of a collection of businesses, rather than at the level of a focal business stand-alone. In particular, we demonstrate the importance of paying attention to a "reverse salient" (Hughes, 1983, 1987), which refers to the part that has fallen behind in progress within the whole ecosystem. We analyze the role and impact of a reverse salient on the developmental path of the business ecosystem as a whole and the way in which it would affect the directions and speed of the development of a focal business.

Empirically, this paper deals with the mobile music business, a business that provides music to consumers through mobile internet, in Japan and Korea. We comparatively examine how the mobile music business developed since the late 1990s in these two countries from the perspective of the business ecosystem with a focus on the influences of music copyright institutions as a reverse salient.

2. Analytical Framework

A natural unit of business analysis is the market. A market consists of competing business firms that provide mutually replaceable goods or services. A particular business is formed for a particular market, and competition among the firms within the market drives changes. Industrial organization economics, for example, analyzes the relationship among market structure, the strategic behaviors of firms, and industrial performance. Porter's competitive strategy analysis (Porter, 1980) was based on the framework of industrial organization economics, and a rich and fruitful stream of strategic research has drawn on a similar framework.

However, when disruptive technologies bring about a new business potential, this type of single-business level analysis may not be sufficient. The emergence of a new business is often not without the influence of other interdependent businesses and relevant social institutions. In such cases, stand-alone analysis at the level of a focal business cannot give us a satisfactory explanation as to the nature of business development. Thus, we need to raise our analytical viewpoint to a higher level of analysis. The business ecosystem perspective could serve this purpose.

A business ecosystem is a loosely coupled system that consists of a focal business and other types of interdependent businesses. It also encompasses organizational actors and their relevant environmental components, such as markets, technologies, and institutions, which are related to the constituent businesses. Thus, in

the business ecosystem model, a particular business is not viewed as a stand-alone entity, but rather as a part of a whole business ecosystem that spans a variety of businesses. The ecosystem presumes a dynamic process in which interdependent businesses evolve in an interactive manner as changes in a business set the stage for reactive changes in other industries (Moore, 1993; Iansiti and Levien, 2004)[1].

For most cases, the business ecosystem environment is irrelevant. During a normal period, when technologies and other environmental factors are more or less stable, constituent businesses remain independent of one another. Each business can be managed and changed without being influenced by other businesses, and the firms within it can behave rather freely without the need to pay much attention to other firms outside of their business.

However, during periods of disturbance, caused by, for instance, radical technological innovations, the business ecosystem does matter. Critical inter-business relations surface, and this necessitates negotiations, coordination, and rearrangement within the ecosystem. It is during these periods of radical change that the business ecosystem perspective serves as a valuable viewpoint for understanding business development. This is especially true in the field of information and communication technologies (ICT), where discontinuous innovations arrive cyclically at frequent intervals, and technological impacts cut across various businesses and industries (Sampler, 1998). Here, the business ecosystem perspective is expected to make a great contribution.

When we analyze business development at the level of the business ecosystem, a holistic viewpoint would enable us to identify a part or component that obstructs the system development as a whole. While technological innovation initiates radical changes and affects a variety of businesses, each component in the ecosystem exists in a different context with different interests and develops at a different speed. When a change in a component disturbs the existing balance, corresponding changes in other components should be made in order to regain balance and order within the whole ecosystem. In this process of change, a ‘reverse salient’ refers to the part or component that has fallen behind or out of phase with the others (Hughes, 1983, 1987). It hinders the whole development of the ecosystem. Thus, a reverse salient plays a key role in setting the direction and speed of business ecosystem development and in

[1] In our previous research (Takeishi and Lee, 2005), we drew on the concept of a “Large Technological System,” proposed by Hughes (1983, 1987), to analyze the mobile music business. In this paper, we adopt the business ecosystem perspective, since we have found that this perspective is fitted better to the analysis. While the large technological system perspective assumes that components of the system share the common goal, the business ecosystem perspective assumes that components are interdependent but do not necessarily share the common goal. The latter assumption is more appropriate to understand the developmental process.

shaping the structure of the focal business[2]. A reverse salient could not be recognized from the focal business stand-alone viewpoint. Rather, it is recognized only when you look from the level of the business ecosystem.

In summary, we aim to analyze business development at the level of the business ecosystem, including other types of businesses in our analysis and concentrating our attention on a reverse salient that would influence the developmental path of the system as a whole.

3. Research Design and Data

The empirical field of this paper is the developmental process of the mobile music business in Japan and Korea. This is a business that allows consumers to use mobile phone handsets to replay music files that are downloaded through the mobile internet. Both Japan and Korea have been at the forefront of mobile internet diffusion and development in the world. The mobile music business in both countries has grown rapidly to become the largest market among mobile internet businesses and to establish a notable position within the music industry.

The mobile music business was first created in Japan, but recently Korea has come to the frontline and left Japan behind. Although the basic technologies and structure of the business look similar in both counties, substantial differences exist in some dimensions, such as how fast new businesses were developed, who became winners or losers in the competition, and the size of the market.

In other words, the mobile music business has taken different developmental paths in the two countries. How has the mobile music business in both countries been created and developed? What is the underlying mechanism behind their developmental path? The goal of our empirical study is to answer these questions by analyzing the business development at the level of the business ecosystem with a focus on a reserve salient.

The mobile music business is served by mobile content providers (CPs) that produce music files and supply the files to customers via mobile internet. However, the business does not function in a stand-alone manner. It is surrounded by a variety of related businesses and institutions, all of which constitute the mobile music business ecosystem together with related technologies and markets. They include the mobile

[2] In a sense, a reverse salient shares conceptual grounds with a “focusing device,” presented by Rosenberg (1976), which refers to imbalance in an interdependent technological system. In this approach Rosenberg focused on a “technological” imbalance for the explanation of innovation process, especially delving into timing and direction of new technological innovations. Application of reverse salients, however, is not necessarily limited to technological components of the system. It could be applied to organizational and institutional components of the system.

communication network business, the mobile handset business, the music business, music copyright institutions, and the government bodies that design and implement public policies and regulations on mobile communication. Although the list could be expanded to add other related businesses, it sufficiently covers the key businesses and institutions of the mobile music business ecosystem. We will analyze how the components within this ecosystem interact, negotiate, and coordinate with each other during the process of developing the mobile music business.

As a reverse salient of the developmental process, we pay special attention to music copyright institutions. There are two reasons for this. First, all music related businesses must deal with music copyright issues in order to successfully implement their businesses. Second, music copyright institutions do not change rapidly. Since music copyright laws and rules involve various businesses and public organizations, each with its own interests that often conflict with the interests of the others, any change in music copyright institutions occurs slowly and requires substantial energy. The copyright institutions, therefore, are likely to fall behind the changes made by others, such as technological innovations and strategic moves made by some firms, to become a reverse salient in the overall mobile music business ecosystem.

Other components could also be viewed as a reverse salient. Yet, for the above mentioned reasons, this paper focuses on music copyright institutions, and we analyze how they set the directions and timing of the mobile music business development. An institution here refers to any one of the varying types of arrangements that govern and constrain social and economic activities. It includes not only formal arrangements, such as law, rules, and public institutional bodies, but also informal ones, such as habits, customs, and widely shared views, which also influence how a business is run.

The following analysis is based on the information and data collected as of the summer of 2005 from our interviews with practitioners, reports, statistics, and articles available in Japan and Korea. The appendix shows a short history of the mobile music business in the two countries to be covered in this paper.

4. Developmental Process of the Mobile Music Business in Japan and Korea

4-1. Overview of the Mobile Music Business in Japan and Korea

Japan and Korea are ahead of other countries in the diffusion of mobile internet services. As of January 2002, mobile communication subscribers amounted to 66% of the total population in Japan and 76% in Korea. Among the subscribers, those owning handsets with a mobile internet function amounted to 86% in Japan and 92%

in Korea in 2004. Mobile internet services, embodied in the 2.5G mobile communication system, were first launched in February 1999 in Japan and September 1999 in Korea, and grew rapidly with e-mail and content services. Both countries then moved to a 3G mobile communication system in October 2001 in Japan and June 2002 in Korea, with an expectation for further growth and development in mobile internet businesses.

Among various mobile internet services, music-related services have been most successful in the two countries. They established the largest market and drove the further development of mobile internet businesses. To date, the services described in Table 1 have been available in both Japan and Korea.

These mobile music businesses rapidly grew into a large market. The most notable was Japan's ringing melody ("Chaku-Mero") service. The revenue from ringing melody sites was 700 million U.S. dollars in 2002, accounting for 40% of the whole mobile content market. As a 3G music service, KDDI launched a ringing song service ("Chaku-Uta") in December 2002, and then started a full-track music download service ("Chaku-Uta-Furu") in November, 2004. With immediate successes, the market size of these services grew to be 1.1 billion US dollars in 2004 (see Table 2).

In Korea, the ringing melody service ("Bellsori") was also the most popular mobile content service. The ringing melody market grew to be about 80 million US dollars, while the ring-back song ("Coloring") market grew to nearly 30 million U.S. dollars. Together, they accounted for about a half of the 230 million U.S. dollar total mobile content market in 2002. In November 2002, SKT began providing ringing song ("Livebell") and full-track music download ("MOD") services simultaneously. Then in November 2004, SKT launched its U-Music (Ubiquitous-Music) service – the first time this service was offered in the world.

It should be noted that Korea eventually overtook Japan in the development of new mobile music services. Korea was behind Japan in launching ringing melody and ringing song services, but then moved ahead by introducing full-track music download and U-Music services. Maintaining high momentum for changing the way music is distributed to customers, the mobile music business in Korea finally outgrew the traditional offline music business in 2004 (see Table 2).

4-2. Ringing Melody Service in Japan and Korea

The ringing melody service was the most successful during the early days of mobile internet business development in both Japan and Korea. The service in Japan established the world's largest internet music market, including both wired and mobile music download services. Whereas the world internet music download market (excluding ringing melody in Japan) was estimated to be 341 million US dollars in 2004, the Japanese ringing melody market had already reached 664 million US dollars by 2002. While there were several factors to explain this success, Japan's copyright management institution played a key role in the smooth and rapid development of the ringing melody service[3].

As ringing melody services use only the melody of original music, the copyright fee is paid only to the composer. In Japan, the majority of music copyrights are managed by JASRAC (the Japanese Society for Rights of Authors, Composers, and Publishers) on behalf of the copyright holders. For the ringing melody service, JASRAC mandated that content providers of ringing melodies should pay a copyright fee of five US cents (or 7.7% of the information usage price) to JASRAC. This rule was established through the negotiation between JASRAC and NMRC (Network Music Rights Conference), which represents nine institutions including Association of Musical Electronics Industry, Recording Industry Association of Japan, and Internet Association Japan to promote music businesses on the internet.

This official copyright rule contributed to the smooth launch and subsequent growth of the ringing melody business in two ways. First, as anyone can provide the ringing melody service just by paying the copyright fee to JASRAC, a large number of CPs entered a highly competitive market. The resulting intensified competition led to better and cheaper services. Second, JASRAC effectively repressed the spread of illegal services. In the beginning, as ringing melodies were gaining wide popularity, a large number of free, unofficial services that neglected to pay copyright fees to JASRAC sprung into existence. To counter this undesirable trend, JARAC vigorously monitored and charged the copyright violators. By cooling down the movement, JASRAC made an important contribution to the establishment of a sound market basis for legal services.

In Korea, most copyright fees were collected by KOMCA (Korea Music Copyright Association). In principle, CPs paid 8% of their revenue to KOMCA as the copyright fee. The basic structure of the business looked similar to that of Japan. However, there existed some seemingly subtle but critical differences that cannot be

[3] For more detailed description of the Japanese ringing melody service and its developmental process, see Takeishi and Lee (2006).

overlooked by those who want strict copyright protection and management. First, the copyright fee was charged based on certain percentages of the CP's total monthly revenue, not per melody download. CPs thus could exert larger control on setting their service price. Since Korean CPs often provided a variety of content services, such as screen savers, they used free ringing melodies as a promotional tool to attract subscribers. Second, since Korean mobile carriers and CPs did not make available detailed data on melody downloads, copyright management remained inaccurate and opaque.

Copyright holders complained about ineffective copyright management, but no significant improvement was made in a timely manner. Indeed, Korea's fundamental problem resided in the fact that general recognition for copyright protection in Korea had been comparatively weak among not only users but also copyright claimers, such as recording companies, composers, and lyricists, who were supposed to be in the position to strongly uphold their rights. Such weak recognition stemmed from the structure and history of the Korean music industry.

First, most recording companies in Korea were small and medium-sized firms that lacked the resources and power to command strong copyright protection. Until the mid-1980s, the Korean government designated the recording industry as a protected sector only for small and medium-sized firms and prohibited large conglomerates from entering the business. Although a later deregulation allowed large firms to enter the recording industry, none of these bigger firms achieved success. The structure of the music industry remained unchanged, and the weak voice of the industry could not change Korea's recognition of copyright protection.

Second, copyrights were not effectively managed even within the recording industry itself. According to the established practice, small record retailers usually neglected to report correct sales revenue so as to avoid taxation. Also, recording companies usually gave an advance to artists and producers, and the copyright fee was paid only when the record sales reached a pre-negotiated target volume, which rarely occurred. Because of such practices, even the recording companies had not been eager to build up strong copyright institutions.

An international comparison on copyright revenue (see Table 3) reveals that Korean copyright management is not strict. Compared to Japan and the U.S., copyright revenues from copy and distribution were significantly smaller in Korea. This revenue structure indicates that illegal copy and distribution were prevalent in Korea. One estimate revealed that sales of illegal music copies reached almost one quarter of the whole legal market size (100 US million dollars) in 1996. Interestingly, in the later stages of the mobile music business development, such weak copyright institutions

enabled Korea to introduce new mobile music services more swiftly than Japan, as will be discussed below.

4-3. Music Download Service in Japan

The ringing song (“Chaku-Uta) service, which is an advanced mobile music service designed to provide part of an original song, rather than just the melody, was launched in December 2002 by KDDI on the 3G mobile communication system. The service gained popularity and grew steadily to reach 90 US million dollars in 2004 with 10 million downloads per month on average. While the other two mobile carriers also launched a similar service about one year later, the popularity of the ringing song service helped KDDI gain more subscribers as the first provider of this service.

The ringing song service and the ringing melody service appear similar; however, there was a critical difference between the two services in terms of copyright management. Ringing song used part of an original song. Thus, the providers should pay a full set of copyright fees for not only the ‘music copyright’ held by the composers and lyricists, but also for the ‘music neighboring copyright,’ which includes ‘copyright in sound recordings.’ The later copyright was usually owned by artists, musicians, recording companies, and artist management offices.

Music copyrights were collectively managed by JASRAC and other registered institutional bodies based on the Copyright Management Business Law. As explained above, this institutional arrangement realized a competitive market for the ringing melody business. However, neighboring copyrights were controlled by the individual claimers, without any formal institution for their collective management. When a ringing-song CP wanted to use recorded music, it was compelled to negotiate with and receive permission from the neighboring copyright claimers individually in advance. The claimers could exercise exclusive copyrights, and there was thus no guarantee for the provider to get permission.

In the ringing song business, the exclusive usage of neighboring copyrights limited the number of CPs competing in the business. Instead of giving permissions to other CPs, most recording companies got directly involved in the service, exploiting the advantage of their exclusive copyrights on popular music. It was under this condition that Label Mobile, a joint venture of 18 Japanese recording companies established for the mobile music business, came to take a dominant market share in the ringing song business. This CP exclusively provided a large variety of popular songs to capture more than 50% of the market share in 2004.

The recording companies regarded their dominance in the ringing song market as fair rewards. They invested immense resources to make hit music and

promote star artists. However, in the ringing melody business, those CPs founded by former wired-karaoke companies and video game producers, such as GIGA, Xing, Dai-ichikosho, and Dwango, took a dominant market share. Those companies easily entered the business by paying copyright fees to JASRAC and were highly competitive in the business since they could quickly transform their digitalized melodies, originally prepared for the karaoke business, for the mobile ringing service. Recording companies did not have the capability to compete with these companies. In contrast, in the ringing song business, recording companies were protected by neighboring copyrights. Facing declining CD sales, recording companies came to recognize the ringing song business as a new, attractive market.

From the consumers' point of view, however, the ringing song service was not fully satisfactory. Some popular songs were not available, once again because of the way in which neighboring copyrights are managed and controlled in Japan. In contrast to the US and European music industries, there are many cases in Japan in which artist management offices or subsidiaries of TV network companies hold neighboring copyrights rather than recording companies themselves. Since some of these companies did not give permission to recording companies, and instead established their own CPs, even Label Mobile could not cover some of the popular songs. The ringing song service for these songs was either offered exclusively by different CPs or not at all. This was inconvenient for customers, who were forced to take the time to find whether and where one could find their favorite songs. Furthermore, as each ringing song was provided only by a CP, market competition was limited.

The copyright law endows the copyright claimer with the exclusive right to use. The behavior of these copyright holders was thus legal. However, the business structure raised concerns over limited competition. In March 2005, the Japanese Fair Trade Commission (JFTC) issued a recommendation for the five leading founders of Label Mobile (Avex, Sony Music Entertainment, Toshiba EMI, Universal Music, and Victor Entertainment) to permit other CPs to use their music for the ringing song service. JFTC argued that the major labels prevented third parties from using copyrights without any 'justifiable' reasons. Four of the five recording companies, with the exception of Toshiba EMI, refused to follow the recommendation, and the case is still pending.

Although a music creator's exclusive use of neighboring copyrights caused anticompetitive concerns, the condition of the ringing song service improved. Stimulated by JFTC, an increasing number of recording companies and artist management offices began to issue copyright permission to multiple CPs. The number

of available ringing songs continuously increased to reach 200,000 on 397 sites as of September 2005.

In the meantime, KDDI launched a full-track music download (“Chaku-Uta-Furu) service in November 2004. The new service costs 3 US dollars per song and takes 30-40 seconds to download to the handset. A mobile handset can save about 40 songs, and an external memory card can increase the storage capacity to more than 100 songs. The full-track music download service started with 6 CP sites with 10,000 songs available and reached 46 sites with 60,000 songs in September 2005. According to KDDI, in 2005 while the market for ringing melodies continued to slowly decline and that of ringing songs matured, the market for full-track music kept rapidly growing. The full-track music service gained an increasing weight within the mobile music business as a most advanced service in Japan. As in the case of the ringing song service, while there remained some inconveniences for customers and anticompetitive concerns in the mobile full-track music business, improvements have been being made.

4-4. Music Download Service in Korea

The ringing song and full-track music download services were together introduced in November 2002 by SKT when it launched the 3G content service. Later on, the other two carriers also started the same services. Compared to Japan, the ringing song service started one month earlier, and the full-track music download service began two years earlier in Korea.

As in the case of the ringing melody service, although the services seem similar between the two countries, the business structure under the surface is different. In Japan, because of the exclusive neighboring copyright usage, wired-karaoke or game producing companies could not enter the ringing song service market, and recording companies won a dominant market share. In contrast, in Korea, former ringing melody CPs, which were mostly those firms specialized in information and communication technologies, could diversify into the ringing song and full-track music download services. Recording companies or artists management offices could not enter the business. It was the Korean mobile carriers that had designed and controlled the business structure by exploiting their relatively strong power against recording companies.

Upon starting new services, SKT launched an integrated site where consumers could search and download music. Though many CPs worked behind the site to arrange copyright issues and develop digital files, consumers could not recognize individual CPs, and the mobile carrier controlled the services more directly

than before and in Japan. The Korean mobile carriers claimed 30% of the service revenue as a handling fee, which was much higher than the fee (10%) for the ringing melody service and than KDDI's fee (9%) for the same services in Japan. This difference indicates the strong power of the Korean carriers.

Another difference is that in Korea in 2003, right after ringing song and full-track music download services started, numerous public and private organizations were newly established to collectively manage and mediate neighboring copyrights. Such institutions to manage neighboring copyrights did not exist in Japan or in any other countries. These organizations simplified the cumbersome process of copyright negotiation and coordination and systemized copyright management. By getting copyright permission from these organizations, CPs, backed by carriers, could provide most of popular Korean music by paying standard copyright fees.

Why were such new institutions established in Korea? First, previous experiences of the Korean music industry in the PC-based internet music service, which was filled with confusion and crisis, were influential.

Since 2000, as one of the most advanced PC-based internet network in the world diffused in Korea, free music services, such as Bugsmusic (music streaming service) and Soribada (peer-to-peer file download service) caused devastating effects on the music industry. Bugsmusic and Soribada attracted 8 million and 20 million users, respectively. To force these companies to respect copyrights, the recording industry and copyright holders had engaged in many rounds of legal and political haggling, which took five years.

There were other failures. The first online music download service was launched as early as 1997 and was based on home PC-VAN (Valued Added Network). However, the service survived for only one year and was abandoned because of the failure of copyright negotiations among recording companies, VAN providers, and CPs. Also, recording companies launched their own internet download service in 1999; however, the service could not survive as it was severely oppressed by free illegal music services. These bitter experiences drove an urgent need for establishing well-ordered institutions for managing music copyrights.

The second reason such collective neighboring copyright management services were developed in Korea was related to the Korean government's beneficial policy to promote the online digital content business. After the financial crisis in 1997, the Korean government began strategically promoting the cultural content industry as a new dynamo for economic development. It recognized that music copyrights should be used more openly in the internet environment.

These two factors – bitter industry experiences and influential government

policy – together prompted the establishment of new institutions, including KAPP (Korean Association of Phonogram Producers). It was established in March 2003 as the first public organization in the world to collectively manage neighboring copyrights for the online music business. In the beginning, 82 relatively small recording companies entrusted their music copyrights to KAPP, and 9 online music business operators subscribed to the copyright usage program. However, four major recording companies opposed the idea of entrusting copyrights to a third party, and they jointly founded Manine Media, a private copyright publisher designed to manage copyrights for these recording companies. In addition, many other private publishing companies were also established.

Supported by these institutions and well-established control by powerful mobile communication carriers, the mobile music business expanded rapidly and outgrew the offline music business in market size in 2004 (Table 2). The mobile music services thus became an important revenue source for recording companies, which could not benefit from the PC-based internet and subsequently suffered from the decline of their traditional off-line business. However, this does not mean that everybody was happy. Recording companies were far from being satisfied with the mobile carriers' excessive and growing control over the music business.

4-5. Ubiquitous Music Service in Korea

The mobile music business in Korea moved further ahead when SKT started the U-Music (Ubiquitous Music) service in November 2004. The other two carriers soon started a similar service. Breaking down the barrier between mobile and fixed internets, the U-Music service provided both full-track music in MP3 format and music streaming. Consumers could play music on their mobile handsets, PCs, and other portable devices. In contrast to previous services, mobile carriers internalized the new business. They directly provided the service by themselves, and no CPs were allowed to enter the business. The U-music service by LGT and SKT attracted 2 million and 2.3 million subscribers, respectively, as of July 2005.

The development of this new service was led by the introduction of MP3 phones. The MP3 phone is equipped with the capacity to play MP3 files, and caused serious conflicts of interest among related industries. The key issue was whether MP3 phones should be compatible with the exiting MP3 files saved on users' PCs. Most of MP3 files were illegally downloaded through PC-based internet. A possible serious problem was that once MP3 phones became fully compatible with existing PC MP3 files, they would not only destroy the existing mobile music business, but also damage future development of the online music business as a whole.

While handset manufacturers wanted to produce fully compatible handsets to stimulate a rapid diffusion, record companies understandably opposed such a plan and demanded full incompatibility with the existing illegal files. Mobile carriers stayed closer to recording companies, calculating the potential of the music download market. Through government mediation, a tentative agreement to limit the replaying time of illegal files to 72 hours was about to be made.

Suddenly, LG Telecom, the smallest mobile communication carrier in Korea, withdrew from the negotiations and began selling fully compatible MP3 phones to gain a market share. Their decision was in line with the interests of LG Electronics, the handset manufacturer in the LG group. LGT introduced unregulated MP3 phones and successfully increased subscriber numbers. Carefully watching this success, the other mobile carriers also began providing fully compatible mobile handsets. As MP3 phones blurred the boundaries between fixed and mobile internets, mobile carriers came to fully realize the most advanced mobile music business by launching U-Music services.

However, these moves by the carriers seriously offended the music industry. KPPA, recording companies, and other music creators legally and politically fought back against LGT's selfish decision. In November 2004, they reached an agreement that LGT would provide 10 million US dollar to fund development in the music industry and would pay 80% of their revenue as a copyright fee. Under these conditions, LGT was allowed to provide free U-Music service for six months, and gained copyright usage permission for 1.3 million songs.

Without much coordination in advance, SKT started the U-Music service with only 900,000 songs. Although SKT paid 48% of the revenue as a copyright fee, it never satisfied copyright claimers. In an attempt to strengthen its own music business and bargaining power over other recording companies, SKT acquired YBM Seoul Records, which was one of the largest recording companies in Korea. By entering the PC-based internet market, mobile carriers initiated competition with companies in that market. Relationships among related businesses would become further complicated, and it remains to be seen what kind of order will emerge within the mobile music ecosystem in Korea.

5. Discussion and Implications

How has the mobile music business been created and developed in Japan and Korea? To answer this question, we have moved our analytical focus from the level of a focal business (the mobile music business) to the level of a collection of related businesses and institutions (the mobile music business ecosystem) and paid attention to

the role of a reverse salient (music copyright institutions) in the process of business development.

Our observations show that the development of the mobile music business could not be fully explained by looking solely at the mobile music business served by CPs. For a better understanding, it was necessary to look at complex interactions among related businesses, including the mobile carriers, handset producers, recording companies, and artist management offices.

Technological changes determined which businesses would be involved. In the beginning, ringing melodies were manually input by users. The development of mobile internet then realized the potential to distribute ready-made melody files. Next, new technologies made it possible to distribute parts of original songs and, ultimately, full-track music. Finally, the U-Music service broke down the barrier between mobile and PC-based internets. As technologies advanced, the scope of relevant businesses expanded. On each occasion, new expectations as well as new concerns emerged, and negotiations and coordination were needed to build a new order. The process was not technologically determined, but rather socially constructed. Although the same technologies were adopted in the mobile music industries of both Japan and Korea, the business development in each country was embedded in the society and history and correspondingly took divergent paths.

One factor which shaped the developmental path was the inter-industry power structure. In Korea, the power of recording companies was weaker than that of mobile carriers and handset manufactures. In contrast, recording companies and artist management offices in Japan maintained relatively stronger power over others. We were able to capture such a difference by examining the winners and losers in the mobile music business of the two countries. In ringing melody service of Japan, the, wired-karaoke companies and game companies were successful, while recording companies and content creators dominated the ringing song and full-track music download services. In Korea, by contrast, technology-based CPs succeeded in the ringing melody service. Mobile carriers then took control of the ringing song and full-track music download services. In the U-Music service, they integrated the service, thereby kicking out incumbent CPs.

Another critical factor which affected the development path was music copyright institutions, to which we paid special attention as a reverse salient of the mobile music business ecosystem. Under Japan’s firmly established copyright institutions, copyright claimers and content creators could exert strong influence. Negotiations between these well-trenched copyright holders and other businesses consumed energy and time, and, as the boundaries of the business ecosystem expanded,

the development of new services was slowed down.

In Korea, with a repeated pattern of 'service first and negotiation second,' new services were rapidly introduced. Under weak copyright institutions, companies with technological innovations could take leadership in developing new services to their advantage, while the market of music content remained relatively small[4]. However, a counter movement to strengthen music copyright institutions has been made. Both public and private organizations were established to collectively manage and mediate neighboring copyright usage. The recording industry has also strengthened its voice and political influence and somehow prevented LGT from making extreme advancements in the market.

A higher priority on copyright protection in Japan slowed the speed of new business introduction, and emphasis on technological advancement in Korea brought confusion and disorder in business development. These problems vividly attest to the common difficulty of achieving a delicate balance between copyright protection and technology-led business creations. In essence, there is no difference between Japan and Korea in that copyright institutions influenced the direction and speed of the business development.

Overall, this paper has demonstrated that, in order to gain better understanding of how a new business is created and developed over time, it is beneficial to raise our analytical focus to the level of the business ecosystem and to pay attention to the role of a reverse salient in the shaping of the whole system development.

As Henderson and Clark (1990) indicated, technological innovations could cause two types of changes in a product system: one within individual components, and the other in the relationship among different components. In a similar vein, changes in business ecosystem can be classified into two categories: 1) changes in individual business, and 2) changes in the relationship among different types of related businesses. In the former case, business development may be effectively grasped by the traditional analytical concepts of industrial organization economics and competitive strategy research. However, for the later case, we need to shift our analytical viewpoint to that of the business ecosystem, which would arouse special

[4] Because of different populations (Japan 127 million: Korea 48 million in 2003) and per capita GDP (32,850 US dollars: 14,118 US dollars in 2004), a simple comparison may be misleading. However, the music market size (6,315 million US dollar: 335 million US dollars in 2004) and the music copyright fee revenue (930 million US dollars: 40 million US dollars in 2002) in Korea was much smaller than in Japan, compared to the total national private consumption (2.4 trillion US dollar: 0.3 trillion US dollar in 2003), the number of domestic automobile sales (5.7 million: 1.6 million in 2002), and the number of domestic PC sales (1.2 million: 0.3 million in 2002).

attention to inter-business relationship. This analytical framework is expected to be of great value for the ICT fields, where frequent technological innovations produce wide-spreading impacts across a variety of businesses, as in the case of the mobile music business.

When we elevate the analytical level from that of an individual business to a collection of businesses, we come to find out that non-economic factors, such as power structure, societal values, and underlying history, play significant roles in driving the business development. Each business has its market, and the market competition more or less defines how the business should be run and developed if the changes are limited to those within the business itself. Customer voices somehow declare winners and loser through competition. However, inter-business relationships cannot be fixed by market competition, because there is no common market between different businesses. Therefore, if the changes go beyond an individual business, non-economic factors are likely to matter more. A change in the level of analysis thus implies a change in factors to be examined. Those firms that want to prosper by creating a new business need to pay as much attention to social and political factors as to technology development and market competition.

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Table 1. Mobile Music Services in Japan and Korea

Type	Outline of Service	Name, Start Time	
		Japan	Korea
Ringing Melody	A service that allows subscribers to download a melody to be used as a mobile handset's ring tone. NTT DoCoMo started the service first in Japan, and all the three mobile carriers started at almost the same time in Korea.	Chaku-Mero 1999/12	Bellsori 2000/8
Ring-Back Song	A service that allows phone call receivers to choose melodies for their callers to listen to while waiting for the receivers to answer. SKT in Korea first started this service, and NTT DoCoMo in Japan adopted it later.	Merodi-Koru 2003/9	Coloring 2002/3
Ringing Song	A service that allows subscribers to download part of an original music (30-45 seconds) song to be used as the mobile handset's ring tone. It became technologically possible with the introduction of the 3G system. KDDI in Japan and SKT in Korea first started the service.	Chaku-Uta 2002/12	Livebell 2002/11
Full-Track Music Download	A service that allows subscribers to download full-track music to be replayed on their mobile handset. Consumers can enjoy the music itself rather than using it as a ring tone. SKT in Korea started the full music and music video download service together, and KDDI first started it in Japan.	Chaku-Uta-Furu 2004/11	Music-On-Demand 2002/11
U-Music (Ubiquitous Music)	A service that allows subscribers to download full-track music via both mobile and PC-based internet, to be replayed on MP3 phones, PCs, and portable MP3 players on monthly fee basis. Subscribers can also enjoy streaming music to mobile handsets and PCs. SKT and LGT in Korea first launched the service. It is currently not available in Japan.	-	U-Music 2004/11

Note:

1. The service name is not a general term, but the most popular name used by particular firms.
2. Before the mobile internet ringing melody, a similar service was provided in SMS format in both countries. In addition, full-track music download service was provided on PHS networks earlier in Japan. However, none of these previous services used internet as the distribution channel.

Table 2. The Music Business Market in Japan and Korea

Unit: Million US Dollar

		2000	2001	2002	2003	2004
Japan	Offline	6,174	5,934	5,808	5,319	5,202
	Online	134	519	689	929	1,149
	PC-based Internet	-	16	25	32	50
	Mobile Internet	134	503	664	897	1,099
	Total	6,308	6,453	6,497	6,248	6,351
Korea	Offline	410	373	286	183	134
	Online	44	91	134	184	201
	PC-based Internet	14	28	5	8	17
	Mobile Internet	30	63	129	176	184
	Total	454	464	420	367	335

Note:

1. The data exclude the karaoke, concert, and broadcasting markets, while including the rental CD market.
2. No data is available for the PC-based internet market in 2000 in Japan.
3. There are different statistics available for the Japanese mobile internet market. For instance, MCA, Inc. estimated 700 million US dollar in 2001, 980 million US dollars in 2002, and 1.1 billion US dollars in 2003. This estimate is larger than the number shown in this table. MCA also estimated that the ringing melody service accounted for 50% of the total, which is larger than the number shown in this table (40%).

Source: Digital Content Association of Japan, Music Industry Association of Korea, Korea IT Industry Promotion Agency.

Table 3. Music Industry Royalties in the U.S., Japan, and Korea (2001)

Unit: Million US Dollars, %

	U.S.A.		Japan		Korea		World	
Performance-Based Income	914.7	47.1	358.9	38.5	34.0	82.1	3,686.3	49.0
Reproduction-Based Income	655.0	33.8	432.4	46.4	7.2	17.5	2,754.0	36.6
Distribution-Based Income	331.9	17.1	56.3	6.0	0.2	0.4	812.8	10.8
Interest Investment Income	37.1	1.9	0.6	0.1	0.0	0.0	168.8	2.2
Miscellaneous Income	1.8	0.1	83.3	8.9	0.0	0.0	99.5	1.3
Total	1,940.4	100.0	931.6	100.0	41.4	100.0	7,521.3	100.0

Note:

1. Performance-Based Income includes radio, TV/Cable/Satellite, and live performance. Reproduction-Based Income includes phono mechanical, synchronization, private copy, and reprint of printed music. Distribution-Based Income includes sales of printed music and rental/public lending.
2. The left column is income and right column is percentage for each country. Data in the World column includes 49 leading countries.

Source: National Music Publishers' Association, Inc.

Appendix: A Short History of Mobile Music Business in Japan and Korea

		Japan	Korea
1996	7	AMEI,JASRAC, and wired-karaoke companies reached an tentative agreement on copyright fee guideline.	
	9	Mobile handset with ringing melody function was first introduced in Japan.	
1997	3	NTT DoCoMo started mobile data communication service.	
	5		Home PC-VAN companies started music download service.
	6	Toyo Astel started ringing melody service for PHS handset.	
	8	Network Music Rights Conference (NMRC) was founded.	
	9	AMEI, JASRAC, and wired-Karaoke companies agreed on the official copyright fee guideline. /NMRC proposed JASRAC to hold regular meetings to coordinate network music copyrights.	
1998	5		Home PC-VAN companies stopped music download service after copyright coordination failed with recording companies.
	7	A guide book to input ringing melody manually made bestseller.	
	11	JASRAC and NMRC reached a tentative agreement on network copyright fee.	
1999	2	NTT DoCoMo launched i-mode service.	Yaho started ringing melody service in SMS format. /Korean government legislated Cultural Industry Promotion Law.
	6	GIGA Networks started free manual ringing melody guide on i-mode to NTT DoCoMo subscribers.	
	9	GIGA Networks commercialized manual ringing melody guide.	
	10		Doremi Record launched Doremi Music, an MP3 download service on PC-based Internet.
	11		Korean government officially announced the policy to deregulate collective institutional body to mediate music neighboring copyright.
	12	GIGA Networks started ringing melody download service on i-mode to NTT DoCoMo subscribers. /Sony Entertainment launched Bit-Music, a music download service on PC-based Internet.	
2000	2		Bugsmusic started free music streaming service on PC-based Internet.
	4	JASRAC and NMRC reached the second tentative agreement./ Major recording companies launched Labelgate,a joint venture for Internet music download service.	
	5		Soribada started free P2P file exchange service.
	7		Music copyright was revised to recognize Digital Transmission Right.
	8	JASRAC and NMRC agreed on the official network copyright fee.	Yaho started mobile Internet ringing melody service with three mobile carriers.
	11	DDI Pocket started Keitaide Music service.	
2001	1	NTT DoCoMo started M-stage Music.	Music copyright instituiions and recording companies brought case against Soribada.
	6		Korean Ministry of Culture and Tourism announced Contents Korea Vision 21, the cultural content industry promotion plan.
	7	Major recording companies founded Label Mobile, a joint venture for ringing song service.	
	10	NTT DoCoMo started FOMA as 3G mobile service. /Copyright Management Business Law took efect.	
	11		Music copyright institutional bodies and recording companies brought case against Bugsmusic.
2002	3		Witcom started ring-back song service to SKT subscribers.
	4	KDDI started 3G mobile telecommunication service in CDMA 2000 1x standard.	
	5		KTF launched Fimm, the 3G mobile telecommunication service.
	11	KDDI started ringing song service.	SKT launched JUNE as 3G content service, and started ringing song and full-track music download services.
	12	Vodafone started Vodafone Global Standard, the 3G mobile telecommunication service.	
2003	2		Korean government announced First Online Digital Contents Industry Development Plan(2003-2005).
	3		KAPP, the government-recognized agency, was established to collectively manage and mediate music neighboring copyright.
	4		Manine Media, the private copyright publishing organization, was founded by major recording company.
	9	NTT DoCoMo started Merodi-Coru(ring-back song) service.	
	12	Vodafone launched ringing song service.	
2004	1	NTT DoCoMo started Chaku-Motion(ringing song) service.	
	3		Bugsmusic announced to stop free service and to observe official copyright guideline. /Negotiation to regulate MP3Phone failed.
	4	Labelgate renewed its PC-based music download service as Mora.	LGT started to sell unregulated MP3 phones.
	8	Fair Trade Commission began investigating antitrust concerns about Label Mobile.	
	9	KDDI launched full-track music download service.	
	11		SKT started Mellon, the U-Music service. LGT reached copyright agreement with music copyright institutional bodies and recording companies.
	12	Vodafone launched longer version of ringing song download service.	LGT started Music On, the U-Music service with free 6-month promotion plan.
2005	1		Recording companies were recognized to hold Digital Transmission Right.
	3	Fair Trade Commission issued recommendation to five major founders of Label Mobile to allow the useage of ringing song copyrights more openly.	Music copyright institutional bodies acquired 60 percent of Bugsmusic's ownership.
	5		KTF launched Dosirak, the U-Music service. SKT acquired YBM Seoul Records.
	7		LGT began charging Music On service.
	8	Vodafone started full-track music download service. /Apple launched iTunes Music Store in Japan.	Court ordered Soribada to stop service.