BACHELOR THESIS

Cloud Computing - Marketing Strategy for the Music Industry

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Thesis: Cloud computing is an innovative technology which can be integrated within the marketing strategy of music companies and create new business model for the music industry

I N D E X

Abstract: The music industry has experienced serious downturn during the last ten years. The emergence of peer-to-peer online file-sharing systems has caused significant damage to record companies and artists in terms of dramatically decreased music sales, due to illegal downloading. However, the technological pace brings to light an innovation that can re-vitalize the music business and take it out from the ditch. The name of this new technology is Cloud Computing. This paper examines possible ways of integrating cloud computing into a successful marketing strategy within the music industry. The research is based on elaborate literature review and theoretical frameworks from the field of marketing, cloud computing technology and music digitalization.

Introduction

The music industry has experienced a lot of changes during the last decade. The pace of technological innovation has been a driver of permanent improvements in terms of music recording, storage and distribution (from producer`s perspective), as well as perceived quality, convenience and price (from consumer`s perspective). Along with the evolution of music production and music consumption mechanisms, business models within this entertainment sector also change and take different shapes.

In recent years scientific researches have been conducted aiming to put light on what the newly emerged digital industry is and what would be its impact on a variety of life aspects. One of those aspects turns out to be music and all kind of different activities related to it. The latest technology that seems to hide promising opportunities for the music business is called "Cloud Computing". The amount and quality of research made in that field is still limited, thus the information about possible implications of that new technology is vague and insufficient.

My desire is to focus particularly on cloud-computing and the way it affects the future of music companies in terms of marketing strategy. The investigation which I would like to conduct will be based on previous findings and concepts with the intention of elaborating more into detail and adding value to the exploration of new business models into the music industry.

This research is not only meant to have scientific relevance, but also to present results which will be feasible and practically applicable. Shaping the optimum business model and setting the building blocks of a successful marketing strategy through online data mining is, by now, crucial for all people who take part in production, distribution, selling and also consumption of music. Therefore, the contribution to solving these issues will be considered as main priority for this paper.

While carefully observing the field of music industry and its current status, a customer need can be clearly identified - *the need for direct online streaming of wide range of music files on any type of mobile device regardless of time and location*. In order to satisfy that need and turn it into a successful and profitable business, a smart way for music companies to adopt the

already existing technological innovation (cloud computing) should be figured out. Therefore, the following problem statement is being formulated:

How can cloud-computing technology be integrated within a successful marketing strategy that will benefit the music industry?

A number of sub-questions that should be answered in order to get to the final conclusion are stated further:

- What is cloud-computing?
- How was the market for music developed during the years? What is the current market situation?
- What is the current marketing strategy of the music companies?
- What are the alternatives for integrating cloud-computing into the marketing strategy of music companies?

Answers to those questions will be pursuit with each and every step of the analyses.

The nature of the proposed research is exploratory. Relevant theoretical and practical concepts together with various findings and approaches to the problem will be discussed first. Then, after careful examination and evaluation, all the information will be interpreted in a way that will facilitate giving the desired answers. The development of music business will be followed briefly and also a clear definition will be provided of how it is working at the present moment. However, the main purpose is to analyze what are the ongoing changes resulting from the emergence of cloud-computing and to try to come up with an adequate idea of how to fit this new technology into the already existing marketing strategies or into a completely different ones.

Exploring the already stated field of interest will take the form of literature review. A decent collection of available articles, books and research papers has been gathered. All materials relate to the topics of digitalization, cloud-computing and music industry.

Music industry and the need for marketing strategy innovation

The most appropriate way to start the research is by observing how music industry has reached its current state and where does the need for a marketing strategy innovation come from. In 2011, in the Journal of Retailing and Consumer Services, an article called *"Music Marketing: A history and landscape"[1]* was published. The main focus of this publication is giving a historical overview on the music market as well as providing a current landscape of the music marketing industry. Several facts can be extracted from it.

The first important thing that should be pointed out is that the origin of music marketing is related to the interpersonal connection between an artist and a listener. That is also called the first level of music marketing (Ogden J., 2011). It is based on the emotional response of consumers (listeners) with regard to the performance of producers (artists). Through different emotions, a word-of-mouth is being generated, which utilizes the effect of a nontechnical social media. In that sense, the only way for music to be traded back in the days was by performing live and delivering the already mentioned interpersonal connection to the customers.

In 1877, American scientist Thomas Edison introduced the first sound-recording machine, called *phonograph* succeeded later on by the *gramophone.* Those inventions opened new opportunities for music marketing by letting artists sell their product as a physical good.

The next step in the historical development of music was marked by the emergence of radio and television. Audio and video recordings began to be broadcasted and music became one of the most profitable businesses world-wide.

At the dawn of this new fast-growing industry, there were large number of independent studios and record labels that take care of the artists. However, by the late 90s the power gradually shifted from the many small independent companies to just a few large ones which control more than 70% of the market (Jobs, 2007). The dominating music companies are four:

- Universal Music Group   - Sony BMG Music Entertainment
- Warner Music Group   - EMI Music

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[1] James R.Ogden, Denise T.Ogden, Karl Long, *"Music marketing: A history and landscape",* Journal of Retailing and Consumer Services 18 (2011) 120–125 via ELSEVIER, accessed May 2011

They have had a significant monopolistic effect on global sales and emphasized the corporate side of the business. They have been pushing the commercialization of music really hard, trying to modify consumer tastes and take the lead in setting the prices for the sake of their own profits.

The business model which these companies used at that time is called the *Traditional Business Model* (Hughes & Lang, 2003). It includes the mass production and distribution of physical goods. The whole process goes from manufacturing the product (e.g. mainly CDs) to distributing it via brick-and-mortar stores, direct mail clubs, online e-tailors, as well as artists selling their CDs at concerts.

In 1999, Shawn Fanning, a student at Northeastern university revolutionized the music industry by creating Napster – a digital file-sharing technology that enabled users to share music with one another through the Internet. It works based on illegal, unauthorized P2P (peer-to-peer) music file trading. This activity gained huge popularity and was acknowledged as being a separate business model – *The Renegade Business Model.* Its existence is enabled by organizations providing software that empowers millions of consumers to become unauthorized mass distributors of music for free.

The *Renegade* pioneer Napster was followed by many other organizations, which recognized opportunities in providing similar services. For example, one of the most common P2P file-exchange methods nowadays is *Torrent* downloading. It consists of two main segments. First, there are *BitTorrent websites* containing the whole database of files converted in a special format, which uses *BitTorrent protocol.* Second, there are software programs through which users open *torrent* file and execute the P2P sharing.

As people were given the chance to simultaneously obtain unlimited amount of data through the internet, the traditional way of doing business in the music industry was put in jeopardy. The Recording Industry Association of America (RIAA) stated in 2010 that: "the illegal downloading of music has caused 71,060 U.S. jobs lost and causes $12.5 billion of economic losses every year". It can be claimed that the emergence of the *Renegade Music Business Model* became the reason for the downfall of the *Traditional Music Business Model*. In order to counteract to this downfall, RIAA undertook series of lawsuits not only against providers of renegade services, but also against individuals who were involved in file trading. Now, more than 30,000 lawsuits have been filed by RIAA against individual pirates (Kravets, 2008).

In 2007, the CEO of Warner Music Group, Edgar Bronfman, acknowledged the issues facing the music industry. In his speech, delivered at the GSMA Mobile Asia Congress[2] he made the following statement:

"We used to fool ourselves. We used to think our content was perfect just exactly as it was. We expected our business would remain blissfully unaffected even as the world of interactivity, constant connection and file sharing was exploding. And of course we were wrong. How were we wrong? By standing still or moving at a glacial pace, we inadvertently went to war with consumers by denying them what they wanted and could otherwise find and as a result of course, consumers won."

According to Mr. Bronfman, the majority of music business representatives focus too much on restricting the new technologies, rather than trying to incorporate them and take advantage of the new opportunities in hand.

The first serious attempt for embracing the idea of digital music came in 2003, when *Apple* launched their *iTunes* platform. It was the first successful online music retailor with rising sales from less than $1 million, in its first year, to $10 billion in 2010. (*Figure 2, Appendix*) The marketing strategy of Apple was based on a "pay-per-download" model. Customers were charged $0.99 per one song. However, getting a song for $0.99 does not seem as attractive as getting it for free.

Despite the outstanding success of *iTunes,* by the end of 2009, U.S. music sales were reduced to $6.3 billion, according to *Forrester Research*[3]. For comparison, in 1999, that revenue figure has been estimated at $14.6 billion (*Figure 3, Appendix*). Industry insiders, experts and analysts all agree that the massive downturn in the business is a result from the digitalization of music. The demands of how, when and where people are listening to music have been changed and the music industry has failed to adjust. CD sales have been vanishing and no one has come up with an idea for a profitable substitution.

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[2] *GSMA Mobile Asia Congress* is the combination of the world's largest exhibition for the mobile industry and a congress featuring prominent Chief Executives representing mobile operators, vendors and content owners from across the world

[3] *Forrester Research* is an independent technology and market research company that provides its clients with advice about technology's impact on business and consumers.

This paper suggests that companies operating in the music business should realize that digital music must be perceived as being the greatest opportunity, rather than being the worst threat. While harming music sales significantly, the Internet has exposed consumers to more music than ever before. The best thing that companies could do in that case is: <u>try to manage and monetize the accessibility of the product, rather than its availability.</u> Lately, awareness has been spreading through companies regarding that brilliant idea. A lot of producers started licensing ringtones, licensing music on popular Internet radio stations like MySpace Music and Pandora and licensing music videos on YouTube. Digital licensing revenue reached $84 million in 2009 (David Goldman, 2010). However, it is still not enough to compensate for the lost sales.

Ever since, the internet has been made available and affordable for the mass population anytime and almost anywhere, music consumption behavior has changed. Now, many people use internet constantly on many different devices (laptops, PCs, mobile phones, tablets, MP3 players, etc.). Usually, those people need their information (including music) to be synchronized so that they have instant access to all their data regardless of what device they are using. That, exactly, is what experts believe to be a mile-stone for the music industry.
The market is simply asking for finding profitable ways of satisfying that particular need for instant access to music.

Cloud Computing is one of the most innovative technologies and it is assumed in this paper that it is fully able to solve the issues of the music industry. The main characteristics of Cloud Computing are presented in the next chapter.

Cloud Computing

In general, computing can be defined as the process of designing and building hardware and software systems for a wide range of purposes (Computing Curricula, 2005). It is the computer-specific part of information technology.

Computing has been part of our lives for many years now and is believed to become the "fifth utility" (after water, electricity, gas and telephony). Such utility should enable users to access services regardless of where these services are hosted or how they are delivered. Several paradigms seem promising for the future of computing: *Cluster computing, Grid computing* and more recently - *Cloud computing*.

In the simplest of terms, *Cloud computing* represents IT as a service. It allows businesses and individual users to access applications from anywhere in the world on demand. Instead of building their own IT infrastructure to host databases or software, users outsource those activities to third party, which maintains everything needed in its large servers. These third parties can then profit from their added value, in terms of IT hosting, by selling instant access for their servers to end users over the internet.

The shift from traditional computing approaches to cloud computing is mainly shift in the geography of computation. The aim is to concentrate computation and storage in a core, where high-performance machines are linked by high-bandwidth connections, and all of these resources are carefully managed. The combination of software and hardware that users should now own and manage by themselves will be put into a single internet browser and maintained by third parties. The only thing which the end user will need to have, in order to execute any computational action, is a device (PC, laptop, mobile phone, tablet, etc.) with sufficient internet connection and access to the "cloud".

Cloud computing has five major advantages over other computing technologies:

a. **Cheap:** IT provider will host services for multiple companies; sharing complex infrastructure is cost-efficient and users pay for what they actually use

b. **Quick:** The most basic cloud services work out of the box; for more complex software and database solutions, cloud computing allows users to skip the hardware procurement and capital expenditure phase

c. **Up-to-date**: Most providers constantly update their software offering, adding new features as they become available

d. **Scalable**: Cloud systems are built to cope with sharp increases in workload

e. **Mobile**: Cloud services are designed to be used from a distance. Access to databases is available on the go

Consumers rely on Cloud computing companies to satisfy their computing needs. The specific type and level of service delivery must meet each individual user objectives and his/her demand for sustainable operations. Therefore, the structure of a market oriented cloud is based on certain 'Quality of Service' (QoS) parameters, negotiated between the software-as-a-service (SaaS) provider and the user. The most critical QoS parameters to be considered are time, cost, reliability and security. Qos requirements may also change over time due to changing consumer demands and operating environments. Thus, there should be greater focus

on consumers. The traditional system-centric resource management architecture is no longer applicable. Market-oriented resource management strategy is needed instead in order to regulate the supply and demand of cloud resources to achieve market equilibrium.

A high-level market-oriented Cloud computing service provider strategy is shown on *Figure 1* in the Appendix. Four are the main entities involved in it (Buyya at all, 2009):

- Users/Brokers: Users or brokers acting on their behalf, submitting service requests from world-wide locations to the Data Center and Cloud to be processed
- Service Level Agreement (SLA) resource allocator: This entity acts as an interface between the Cloud service provider and external user/brokers. The SLA resource allocation constitutes of six main activities: service request examine and admission; pricing; accounting for actual usage; monitoring of Virtual Machines (VMs); execution of the service request by dispatchers and monitoring of the execution.
- Virtual Machines: Multiple VMs can be started and stopped on-demand on a single physical machine to meet accepted service requests.
- Physical machines: The Data Center comprises multiple computing servers that provide physical resource to meet service demands

Music Digitalization

The digitalization of the music industry is defined by two recent events.

The first one is the invention of the MP3 format by German engineers. In 1995, MP3 became the official format for digitalized audio. Near-CD quality was achieved at a high rate of compression. Combined with the growing capacity and decreasing prices of hard drives, that enables the storage of CD quality audio files at a very low cost on electronic devices.

The second event was the emergence of file sharing online services which turned out to be a highly efficient mean of distributing MP3 files at insignificant cost. Due to peer-to-peer (P2P) distribution networks (such as Napster, KaZaA, YouTube, Pirate Bay etc.), music is nowadays characterized by non-excludability. It is perceived as a public good and, normally,

the revenue from selling such type of good to customers is limited because of possible free-riding.

Digitalization has affected the music industry in several ways. Numerous researches have been conducted in order to identify those effects. Some of them focus on the slight quality differences. Other, investigate the network externalities from illegal file sharing. The experience good aspect is also taken into account arguing that the Internet facilitates marketing of digital music by increasing consumer`s willingness to pay and decreasing promotional costs.

The emergence of digital music was accompanied by changes in producing and consuming attitudes, and respectively - business models. A lot of artists launch themselves through social media like Myspace and YouTube allowing their fans to download or stream their production for free. The positive externalities from illegal file sharing stimulate artists also to concentrate on signing contracts with concert-promoters rather than record companies. The structure of the market is changing from CD sales in physical stores to Web-based music stores like Apple`s iTunes Store. Significant decline in music prices can be also seen – the average price for a CD was approximately 20 dollars just fifteen years ago, while now one can purchase that same album for 10 dollars through iTunes.

Therefore, the music industry ends up with two options for a marketing strategy:

One is the "open source" strategy where music files are distributed freely or at a very low price and intellectual property rights are ignored. Producers and artists will then hope to attract the attention of the audience and sell concert tickets, ringtones and many other types of merchandise.

Another possibility is the "pay-for-access" strategy which is being analyzed in this paper. In such approach musicians would sell their products to businesses which in turn will store those products in large digital database and sell access to that database to consumers.

Criteria for successful marketing strategy in the music industry

The purpose of this research is to give a clear idea of how music industry can benefit from the digitalization by integrating the cloud computing technology within a successful marketing strategy. So far, digitalization and cloud computing have been discussed separately. This section aims to set up a clear standard, which should be met in order for a music marketing strategy to be called successful. The following analyses refer to the theoretical framework of the research.

The most primitive definition of marketing is – meeting customer needs profitably. One successful marketing strategy should, on one hand, satisfy certain need in the market and, on the other hand, coincide with the company`s objectives.

Regarding the market for music and its current development state, it has already been mentioned that a need has risen for *instant on demand online streaming of audio files on any type of device at any location and any time*. The new marketing strategy should satisfy that need. The vision of this research is that cloud computing is able to do it.

For the purpose, first of all, a new participant in the music delivery process must be introduced. That would be a new business entity, which will take care of the whole cloud computing system.

The relationship between this new entity and all other ones should be put into a clear frame by an agreement for suitable conditions under which that process will take place. The legal justification will prevent everyone`s actions from being criminalized.

After these arrangements, the dataset of music files should be gathered by the cloud computing operator. That will further constitute its product offering. Given that music consumption depends strongly on consumer tastes, the database must be as wide in range as possible. The more diversified the portfolio is - the bigger the market share would be.

The next step is spreading awareness amongst potential customers about the new technology. People who are supposed to buy the cloud computing music service must be convinced that it really delivers significant value and is, therefore, better than the other known ways of music consumption.

Further, proper segmentation of the market should be made. Based on that segmentation the online service provider should create different offerings which will most efficiently capture the end users.

When the target groups are established, prices of the offered portfolio products must be set. For each target group, the most appropriate price should be given in order to get the highest possible profit. Prices must be low enough to extract as much as possible from the consumer surplus, but high enough to cover service costs.

Sustainability of service provision must be also guaranteed. That means - the available resources should be sufficient enough to permanently deliver the product according to the negotiated QoS parameters. In other words, the cloud computing service provider should not offer more than it is able to take.

Customer relationship management is also vital for the success of the strategy. The whole usage activity of the customers should be monitored closely and all the customer data should be kept carefully. That would enable more personal contact with each individual user which will increase the level of customer loyalty.

Current Marketing Strategy within the Music Industry

Currently, three major segments of the global music industry can be distinguished: music recording, music licensing, and live music. All three components are still in great dependency with big companies such as *Sony, Universal, Warner and EMI*. However, those four major players in the industry have been losing market share lately and the power for making strategic marketing decisions is switching gradually to small record labels and artists (as it was in the past). Despite of declining music sales, a reason for this role-switch has been the limitations that multinational corporations put on artists. The contracts signed between those two parties, obligate artists to follow strict marketing directives for production, distribution, promotion and sales.

Big music companies have been using the pure marketing ideology for selling their products for many years. Their value delivery strategy was based on three concepts: **commercialization, bundling** and **copyright protection.**

Commercialization

In the early `80s, music companies began using the marketing techniques which were standard in many other industries, and started selling music as a typical mass product. Special surveys, researches and market analyses were made in order to identify what the mass audience is listening to. The musicians were told what kind of music would sell best and their production was driven by the desire of the companies to realize bigger profits. With respect to that, only artists who create products for the mass market were tolerated, leaving behind those who would satisfy the needs of the many niche markets.

Bundling

During the transition from vinyl to CDs, record companies set the standards for further development of the production. They established a strategy of selling CDs as a bundle of around twenty songs, for a price of around 15-20 euros. From twenty songs in a CD, usually, three-four would be really good, while the rest is there just to fill up the space and put it into the market. That model works in a way that consumers are expected to pay more than they are willing to for owning those three-four good songs. For many of the consumers that was not the case. Therefore, the model seems to put constraints on the market share growth and businesses do not earn as much as they could.

Copyright protection

When digitalization of music started and unauthorized file-sharing systems were invented, record companies had two choices – cooperation and rejection. They chose to reject the innovation and for many years now they were trying to counteract to illegal downloading by using the copyright protection law. Companies have been concentrating substantial resources in prosecuting all kind of parties participating in the p2p sharing.

Many critics defined the litigations as being ineffective. They argue that the illegal music trading issues could be considered solved only if the process stops completely. What happens in reality is that, no matter how many law suits the industry undertakes, the scale of

unauthorized music sharing will not decrease substantially. Therefore, music industry executives end up investing huge amounts of money for no reason.

In addition, the public response to that massive exploitation of copyright protection has always been highly negative. All the lawsuits have been detrimental to the industry`s reputation. People know see it as business which prosecutes its own customers and is not in line with technology development.

It is high time now that representatives from the music sector correct their initial mistake of choosing to reject the technological innovation. Protecting copyrights proved to be unsuccessful and cooperating with internet services seems the right way to go.

Alternative Music Marketing Approaches

As the main purpose of this research is to shape a better business model for selling music, several alternative solutions are being generated. Those alternatives aim to differentiate from current approaches described in the previous section by avoiding some of the major mistakes that the music industry representatives made in the past.

Artist-centric

Piracy and illegal downloading was not the only externality that resulted from the advance of the internet technologies and the digitalization of music. Another very significant effect was the power switch from record companies to artists themselves. Now everyone can produce a recording and distribute it through the world-wide-web all alone. The bargaining power of the artists towards record labels is rising at a high rate. The number of musicians that refuse to cooperate with corporate music business entities is getting bigger. As anything else, being a sole-producer has both advantages and disadvantages.

The positive side of that alternative is being independent. On one hand that gives the artist more liberty, which is essential part of music as an art. There are no specific frameworks and standards to be kept in the processes of creating, producing and selling. With those assumptions, the quality of the products is expected to increase resulting in higher producer, as well as customer satisfaction. On the other hand, sole-producing rewards artists with much

higher profits compared to a situation, in which, one is part of a big record company. Not sharing a revenue percentage with corporate partners entitles the artists to a more reasonable return on their efforts.

The negative side is that the artists-centric approach has multi-tasking character. A musician who decides to operate alone has to take care of not only the creative work, but also the business aspect of connecting to the customers. Being an artist and a businessman at the same time requires a lot of time and effort. Therefore, from that point of view, the musician will not be able to fully concentrate on creating songs or at least there could be production delays. The other negative externality is the limited amount of financial resources. If one decides to choose the artist-centric strategy, he/she will have to invest not only human capital, but also financial capital in order to execute all operations that are part of the production, distribution and sale of the products.

Company-centric

That strategy suggests that a business entity, namely – the record company, is responsible for all the marketing management procedures regarding products of the artists. In most of the cases, such companies have their own vision and organizational goals and the artists who sign contracts have to fit in a specific concept to market their music. This leads again to the paradigm of commercialization.

By choosing that model, artists can benefit from the external investment they are going to get and from the core competence of the record companies. Here, the marketing operations are being outsourced to third party, which enables musicians to focus more on what they are really good at.

The disadvantage of a company-centric model is the empowerment of record labels. Their main goal is profit maximization. Therefore, they will always push the artists to produce what would sell the most. Moreover, as companies will invest in the business, they will expect a reasonable return on their investment, which will decrease the revenues of musicians.

Two more alternatives will be given further on. They are related to the type of integration which can be used for cloud computing technology.

Vertical Integration

Vertical integration of cloud computing suggests that every record company or sole-producer would take care of its own cloud and provide its own computing services. That is, in fact, not a really good option and there are number of reasons which support this claim.

First of all, not every single record label or artist will be able to maintain such addition to the business. In some of the cases, there would probably be lack of competence, or the physical and financial resources may not be sufficient. In such situation, the producer would rather prefer to outsource this activity or not commit to the innovation at all.

In addition, the existence of many different clouds with different content will confuse the customers. Different service offerings will have different price ranges and different quality-of-service parameters. That would be highly cost-ineffective and inconvenient both for producers and consumers.

Horizontal Integration

The horizontal approach, applied into the integration of cloud computing, refers to the emergence of a business entity that specializes in maintaining the virtual data base and offering the computing service. Normally, such entity would try to gather as much songs as possible from all existing small record labels or big companies. Then those songs would be stored and arranged in portfolio of service offerings depending on the preference of the customers.

That option seems far more favourable than the vertical approach. The production business units (companies and artists) only have to agree on a method through which to sell the copyrights of their products to the cloud computing company, which will further take care of the distribution and sale procedure. The addition of this extra-element in the value-delivery chain will play major role in integrating cloud computing technology, which in turn has been defined so far as the most appropriate solution to the issues of the music industry.

In *Figure 4* from the Apendix you can see a table with the alternative strategies presented in this section.

Integrating Cloud Computing within a successful music marketing strategy

From the ongoing analysis it has already been figured out that being a sole-producer and working for a record company are approaches that both have positive and negative effects. It depends on artist`s choice and willingness to give away his/her independency in exchange for business competence. However, regarding the problem of cloud computing integration, it is clear that horizontal strategy is the way to go. In order to set clear paths for how to implement it, I am going to use the 4 Ps marketing mix model.

PRODUCT

In general the product that is being marketed by this strategy refers to ***Music-as-a-service.*** This product is owned, maintained and delivered to the customer by a cloud computing business entity. The structure of the product itself is far more complicated than it looks like.

The first element that constitutes the **music-as-a-service** offering is the physical resource in terms of physical and virtual machines. Those would be the basis of the *cloud,* on which the large music database will be stored. The amount of resource needed is supply driven. The storage space that the *cloud operator* should provide depends on the quantity of music supplied. The quality of the cloud computing technology is, on the other hand, demand driven. Given the fact that, a lot of users will have instant access to the database, the system may be easily overloaded if it does not have the capacity to execute all the requested operations at one time. Therefore, the higher the number of customers willing to use the service, the better the quality of computing performance should be.

The second element of the product is the music itself. In this case, music refers to the gathering of songs in MP3 or other digital format, which is easily accessible over the internet.

The cloud computing companies should aim to expand their portfolio over the *long tail*[4]. The main reason for this is the nature of music. There is countless number of artists and, therefore, countless number of songs created worldwide. It is a matter of taste for a single person to actually like a song or not, but in general every song may have at least one potential listener.

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[4] Long tail -The retailing strategy of selling a large number of unique items in relatively small quantities – usually in addition to selling fewer popular items in large quantities.

Therefore, in order to attract more customers, the music cloud must offer as many different songs as possible.

In addition, demand and preferences of the customer base depends on other factors such as location, gender, age, social groups, etc. Thus, the cloud computing company should perform a very careful segmentation of potential customers and define clearly its target market. In that sense, the types of songs within the product portfolio will be chosen according to the target market.

Another issue of shaping the product is the already discussed bundling. In the traditional business model, a problem was discovered concerning the grouping of up to 20 songs (or even more) in one market offer. The problem was that a lot of people were not willing to pay the total price of the bundle, because their actual desire was to purchase just two or three of the songs. Apple`s iTunes is the first company to introduce the pay-per-song model, which solves the issues of lost consumer surplus. With the cloud computing technology, a completely new model is being introduced. As researchers already came up with the conclusion that "with the increase in the number of customers, the price per song approaches zero", music cloud operators must take advantage of this. It is even a possibility that the product may include full access to the whole music database available at the moment.

There is one last part of the package. Namely, there must be an appropriate software, which should be adjusted and modified to take advantage of all technological opportunities of the cloud. That software should serve as a common platform that will be used by all the customers to play their songs, make their own playlists, sort and search the database and many other activities supported by the music-as-a-service client.

PRICE

Under the assumption that the market for music is price sensitive, because of the existence of illegal downloading, and given the objective for maximum market share, the market-penetration pricing method applies perfectly within the cloud computing music marketing model. The market-penetration pricing is characterized by setting the lowest possible price with the idea that by reaching higher sales volume, the costs per unit will decrease. This would further lead to higher long-run profits.

As there is no available data with the actual costs, which a music cloud company would encounter, an exact prediction of prices and price ranges cannot be given. However, inferences can be made about the possible payment plans.

Normally, the music-as-a-service product can be offered as a subscription on a monthly, quarterly or yearly basis. Discount rates must be included for purchasing subscription for a longer period. This pricing technique is called *Cumulative Quantity Discount Pricing* and has the objective of extracting maximum consumer surplus by offering lower payment rates for bigger quantities purchased at once.

Another consideration could be the usage rate per customer. It seems more than reasonable for customers who demand higher computing capacity (because of more frequent usage of the cloud) to pay higher prices. Therefore, it makes perfect sense to differentiate between several usage rates and price them differently, with the most expensive offer to be the one with unlimited instant music streaming from the cloud.

Criteria for price setting could also be the number of devices used by one user to access the cloud. The idea behind this is, simply, charging higher prices for every additional device that a single customer is using for the music service. However, such strategy would be in a conflict with the concept of the added value of cloud computing in the music industry. The purpose of this innovation is to let people stream music instantly from any device. Therefore, a price differentiation between customers, based on the number of devices used, does not sound adequate and is rejected from the model.

PLACE

The new business entity (the cloud computing provider) is supposed to be strictly a pure-click company. This means that all the operations related to it are to be performed online. Customers should be enabled to purchase and use the service at any given location worldwide. Of course, such high level of music cloud network coverage cannot be reached immediately. It will take years until the innovative music service gets to every single point of the Earth. Therefore, the cloud computing company must very carefully consider which regions are most appropriate to start from.

Since the ultimate goal is gaining big market share as quickly as possible, one should think about countries where there is sufficient technological capacity (mobile networks, broadband internet connection, high number of mobile devices own by the population, etc.), as well as

high level of technological innovation acceptance among the population. Most probably, those regions will include developed countries like: United States, Canada, Japan, United Kingdom and countries from Western Europe. The music industry may start by integrating cloud computing first in those several countries, and only after the innovation has gained solid grounds there, the integration of the new technology can proceed slowly through other regions.

PROMOTION

Since, integrating cloud computing into the music marketing is completely new to the world, it will require substantial promotional effort. Promotional activities should aim to spread awareness through both producers and potential users of the service. The promotional strategy must succeed in convincing both parties that this particular innovation adds value to the already popular models of music trading.

The first step could be, forcing the publication of scientific papers and articles in journals, magazines and newspapers with the intention of reaching music industry professionals who will, in turn, appreciate the new opportunity for business development.

Further, music marketing seminars can be organized capturing the same group of professionals. Those seminars will appear as an attempt for face-to-face demonstrations of the new model. The willingness of the music industry representatives to support the initiative is considered to be the main driver for integrating the cloud computing service. Therefore, the personal interaction between them and the music cloud entrepreneurs would be the best way for achieving recognition and trustworthiness.

Still, the question of digital copyrights of the artists is vital. Copyright owners and cloud computing operators should come to mutually beneficial and fair terms. One reasonable approach is such that the cloud computing company pays royalties to every copyright owner based on the popularity of his/her product. In this case popularity is measured by the count of online streams per song.

From consumer`s perspective, the *'good news'* about the newly emerged music cloud computing service should reach potential consumers by any possible means. The promotional effort should go all the way from television advertisements, internet banners and billboards to social networks, event sponsorship (mainly concerts and other music events), flyers and brochures. Each of those instruments will contribute more to fulfilling the general task –

reaching the end customer. However, it could be that not all of the mentioned methods are fully applicable, mostly because of financial issue. Promotional effort must be in line with the company`s financial capacity.

Additional financial capital could be generated through selling advertising space on the music cloud platform. This can take the form of banners that appear on the audio player, or recorded audio advertisements that are played occasionally while a user is streaming. This incorporates the idea of *cross-promotion*[5]

A very popular marketing approach is also the free-sampling method. It refers to letting people use the product for free. In the case of music cloud, free-sampling could be, giving away allowance for free usage of the service for a certain period.

Practical Examples

Currently there are two successful companies who are selling products based on the legal usage of digital music – iTunes and Spotify. They both include the cloud computing paradigm in their concepts. In this section, a brief description of the models of these two companies will be presented.

 Apple`s music platform, iTunes, is a "digital jukebox" for organizing, sharing and listening to music on both the Macintosh and PC platforms (Amy Voida, 2005). Each music file can be tagged with a name, artist, album, genre, and rating. These tags can then be used to sort libraries. In addition, genre, artist and album tags can be used as filters on a library, filtering out all but the genre, for example. A user can also search within music libraries. The model of iTunes is such that, users have to pay per download, where the price is $0.99 per song.

In iTunes, music files reside only on their host machine and, when shared, are streamed to another user`s computer. One side effect of this mechanism for sharing is that when a music sharing host shuts down iTunes, his/her music is no longer available to anyone who might be listening.

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[5]Cross-promotion - is a form of marketing promotion where customers of one product or service are targeted with promotion of a related product.

In May 2011, Apple introduced their new product, called iCloud, which main function is to synchronize data between different apple devices (iPod, iPad, iMac, MacBook, etc.). iTunes is already taking advantage of this innovation by letting users synchronize songs, libraries, playlists simultaneously after being purchased. So, in simple words, when one obtains a song on iTunes through his/her iPod, it automatically goes also on his/her iPad, iMac, MacBook. That is how Apple integrates the idea of cloud computing within the iTunes model.

On 20th May 2011, Bloomberg reported that three of the four big record companies are interested in cooperating with Apple and their anticipated streaming music service. Apple, through iTunes, already operates the world's largest music store. In the next step of iTunes, according to widespread reports, high-quality copies of the music labels' songs would be stored on Apple's servers. Then, with the users' permission, Apple would scan their Macs or Windows PCs to see what songs they owned. Users would then have free access to those songs on Apple's servers whenever they wanted and on any device they owned.

A visualization of the iTunes client can be seen on *Figure 5* from the Appendix.

Spotify is a streaming music service using peer-to-peer protocol. The service has a library of over 8 million tracks, allowing users to freely choose tracks they wish to listen to and to seek within tracks. Data is streamed from both servers and a peer-to-peer network. The service launched in October 2008 and now has over 7 million users in six European countries.

The service is offered in two versions: a free version with advertisement, and a premium, pay-per-period, version. The premium version includes some extra features such as the option to stream music at a higher quality, and to synchronize playlists for offline usage. Both versions of the service allow unlimited streaming, and a large majority of users prefer the free version. The music catalog is the same for both free and premium users with exception of some pre-releases exclusive to premium users. However, due to licensing restrictions, the tracks accessible to a user depends on the user`s home country.

One of the distinguishing features of the Spotify client is its low playback latency. The median latency to begin playback of a track is 265 ms (milliseconds). The service is NOT

web-based, but instead uses a proprietary client and protocol. The platform is closed-source software available for free download. To use it, a Spotify user account is required. The software automatically updates, and only the most recent version is allowed to access the service.

The user interface is similar to those found in desktop mp3 players. Users can organize tracks into playlists which can be shared with others as links. Finding music is organized around two concepts: searching and browsing. A user can search for tracks, albums, or artists and can also browse – for instance, when clicking on an artist name, the user is presented with a page displaying all albums featuring that artist.

Recently, Spotify offers three music service products:

The first one is called Spotify Open and refers to the free version of the client. It gives access to the full database of music. However, it has several drawbacks – usage restriction for no more than 20 hours of streaming per month, enabled audio advertisements, no offline mode and not available for smartphones.

The second one is Spotify Unlimited. Its price is $4, 99 per month and the advantage of owning it is that it puts no limit to the usage time and cuts off the audio advertisements.

Spotify Premium delivers the highest value at the price of $9, 99 per month. Customers who own it are allowed to use the Spotify services unlimited, on any mobile device, in both online and offline mode, without advertisements.

Even though, the four big record companies (Sony Music, EMI, Universal Music and Warner Music) initially agreed to those terms, they are now trying to force Spotify to put some more restrictions to the users of Spotify Open. The number of users who actually pay for the Spotify services is not as big as expected. That is why the company will most probably have to scale back the free offering. The proposition is that free streaming allowance drops from 20 hours to 10 hours per month. In addition, users of the free version will be limited to only five plays per song and will have to buy it afterwards or pay for a premium subscription at Spotify.

At the moment, the executives of Spotify are preparing their marketing strategy for a roll-out in the United States.

A visualization of the Spotify client can be seen on *Figure 6* of the Apendix

Conclusion

The purpose of this scientific research was to observe the opportunity for innovation in the music industry through the technology of cloud computing. It has been clearly shown that Cloud Computing has big potential and is perceived as the future of digital music.

Producers and artists have been experiencing substantial financial losses during the era of *Renegade Models* and illegal online file-sharing. That is why they should seriously consider incorporating the music-as-a-service model in their marketing strategies. It will help a lot in generating revenues and revitalizing the industry, while at the same time deliver value to consumers.

Previous marketing approaches have been thoroughly discussed and based on them, a new course of action, with integrated cloud computing technology, has been proposed. However, exact parameters and numbers are omitted in the proposition. Therefore, future researches on the topic are possible, exploring more specific details of the music marketing strategy.

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A P P E N D I X

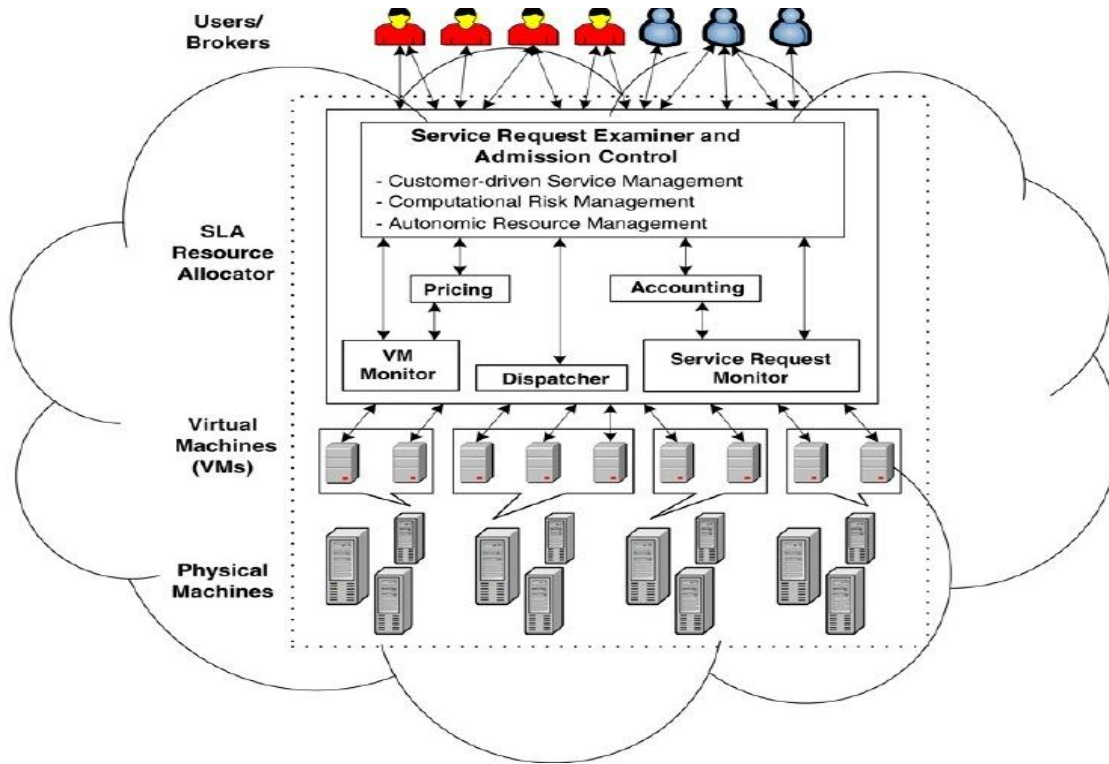*Figure 1:* **High-level market-oriented cloud architecture**

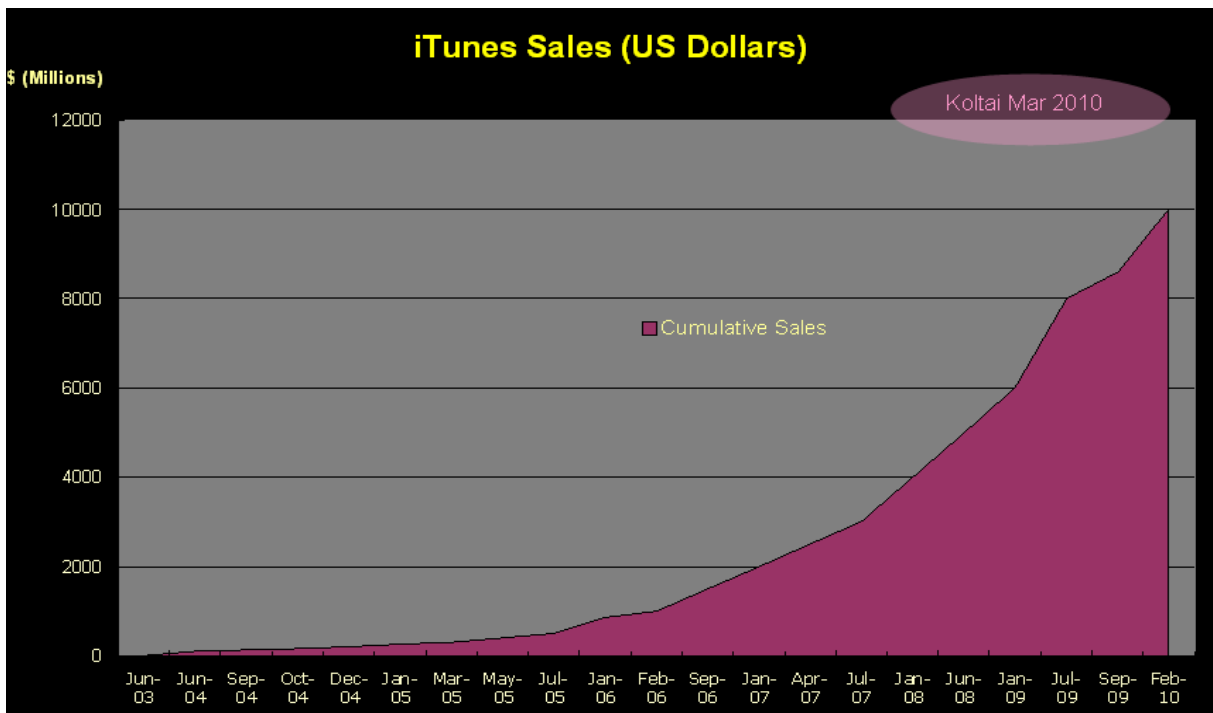*Figure 2:* **iTunes Sales for the period June 2003 – February 2010**

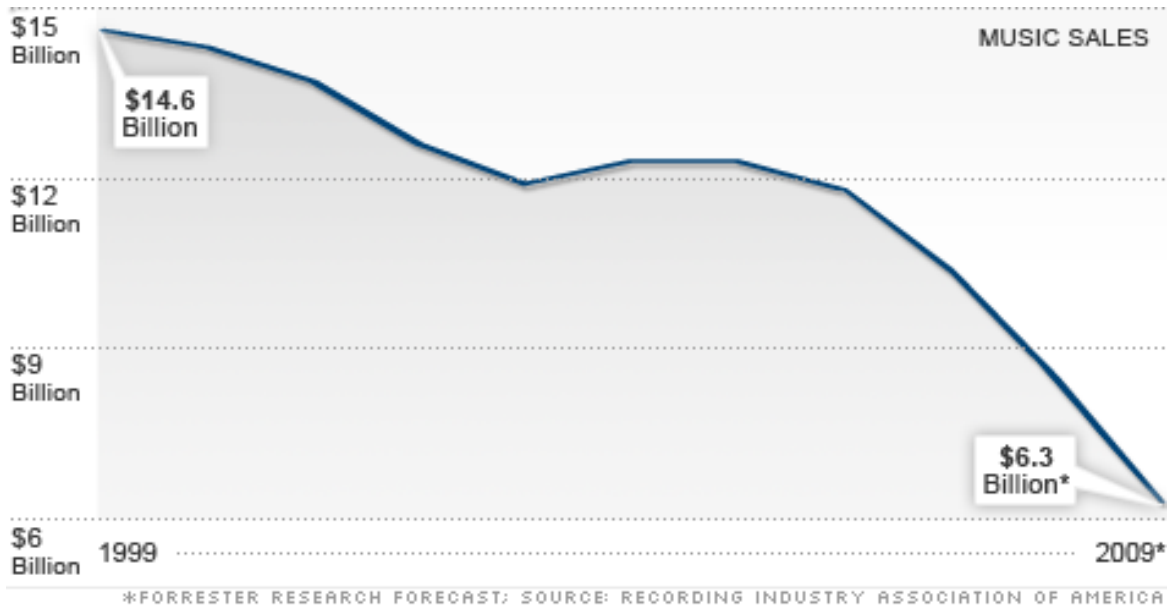*Figure 3:* **Music sales in the United States for the period 1999-2009**

Figure 4: **Alternatives for integration of Cloud Computing in a music marketing strategy**

Figure 5: **iTunes Client Layout**

Figure 6: **Spotify Client Layout**