
Student
Ekambarr Selvakumar

Industrial Supervisor
Greger Blennerud – Ericsson

Academic Supervisor
Jan Markendahl

Examiner
Konrad Tollmar
Abstract

The emergence of Mobile broadband media services creates high expectations among end users and constant challenges among the Mobile network operators. Due to large number of applications for voice and messaging embedded in this Mobile broadband media services, the operators are facing fall in revenue in their traditional voice and SMS services. Now it is the suitable time for the operators to make a shift in their business to provide services via Mobile broadband which could help them improve their service and increase their revenues. In this thesis, various business models that are particularly suitable for Indian market are studied. This thesis also brings out the suitable business model options for Mobile broadband Media Services that has the high possibility to emerge as a profitable business in India.

The motivation work for this thesis fundamentally emerged from the question, “How can the operators make profitable business through Mobile broadband media services in Indian market?”

To answer the above question, two different market scenarios were studied.

- **The Swedish Market pre study**
  To understand the successful collaboration model, a Swedish market pre study was done as a part of this thesis. This market pre study analyzed Mobile network operator Telia, music streaming service Spotify and the successful collaborative business model between them. Analysis was done via interviews taken with the officials of Telia as well as Spotify who worked closely in making this collaboration successful. These interview observations provided many insights and detailed information about the individual business needs and interests of Telia and Spotify and how both of them converged to make this collaboration successful.

- **The Indian market**
  An in-depth market research was done with respect to the operators, OTT players and also taking customer’s trends and mindset in India. This market research gave an exposure to the present condition of the Indian market. The Indian market has many unresolved issues like licensing, bandwidth constraints etc., those have become obstacles in implementing collaborative business for mobile broadband media services.

A number of different strategies, business concepts, and different types of co-operation and business scenarios that are suitable for the Indian market have been investigated. Some successful concepts that are available in Swedish market but not in Indian market were identified. Two overall research questions that is applicable for this market is identified for analysis.

- **What business models are used by the Indian operators and how do they collaborate with media services especially Mobile music and Mobile TV?**
- **What is the view of Indian music industry towards mobile music streaming services collaboration, piracy and customer’s willingness to pay?**
Acknowledgements

As I am completing this Master’s thesis in August 2012, I would like to recollect the past 2 years of my life in KTH, a well reputed technical university. I always had a natural aspiration towards business and my goal was to focus my career in business in combination with technical background. The flexible curriculum of Masters Studies @ KTH allowed me to study optional Management and Entrepreneurship courses in addition to the mandatory technical courses.

Master’s thesis: an important turning point in many students’ career. While searching for a thesis, without deviating from my goal; business complemented with technology, the topic “Business Models for Mobile Broadband Media Services – A case study for Indian Market” appeared to be most interesting and challenging to me.

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Glossary

RQ – Research Questions
VAS – Value Added Services
OTT – Over The Top players
ARA – Actors, Resources and Activities
ARPU – Average Revenue Per User
FSD – Full Song Download
CRBT – Caller ring back Tone
TOM – Tutor On Mobile
EA – Electronic Arts
SEK – Swedish Kronors
INR – Indian Rupees
1. Introduction

1.1. Background

Internet has become the basis for global trade, culture and fundamental to the economy over a short period of time. It has become mobile, available on more places and on more devices than one can imagine (1). Traditionally mobile operators were the dominant players in the telecom industry when the services were restricted to voice and SMS. But in recent days, due to evolution of technology and high competition, increase in number of OTT’s attracting the people with their Value Added Services; the telecom operators are facing heavy challenges. Some of their challenges include attracting the subscribers with good bundling of data, SMS and voice minutes, delivery of best possible QoE, to introduce differentiated services in Mobile broadband with respect to price and performance points that suit all users and their devices (2). As the competition between Mobile Telecom operators become severe, it becomes critical for the operators to diversify their business areas from traditional voice and SMS communication to mobile value added services to generate more ARPU (3). According to the researches, it is the Mobile broadband media services that are going to rule the future telecom market. Juniper research indicates that revenue from mobile based media services is expected to rise from $2.6 billion in 2011 to $39 billion in 2016. This research also indicates that revenue from cloud based music and video storage and download services like the ones recently launched by Amazon’s cloud drive and apple’s icloud are expected to reach $6.5 billion dollar per year by 2016. (4) A research study about the Mobile Social Media services¹ states that Mobile media services are in a technology selection stage with respect to particular markets where the operators are failing to find a valid business model (5). This thesis focuses towards detailed analysis of the Indian market to find the possible business model options for the operators with respect to Mobile Broadband Media Services.

India is one of the emerging markets in the world. In India, the number of 3G users increases rapidly. The Telegeography research (6)shows the statistical data for the number of broadband and 3G users in India by March 2011.² The below graph represent the sudden shooting up of 3G connection in 2 years.

![Figure 1 - Growth of Fixed broadband Vs Mobile broadband (6)](image)

¹ An academic research performed by TKK Helsinki University of Technology.
² Telegeographic research is a US based market research and consulting firm that conduct in-depth research and present online reports and databases.
In general, Asia has a very low penetration rate compared to Europe and America. Europe has very high penetration rate 46.3% mobile broadband subscribers per 100 inhabitants. Americas has the next high penetration rate 24.2%. Whereas in the entire Asia & pacific regions, the penetration rate is only 7.1%. ³

One of the significant applications of Mobile Broadband Media Services is Music streaming over the internet (7). Huge success of Spotify in US and EU countries and the recent collaborative models like Nokia – Voddler are some good examples to show that the people are in a stream of transformation to Mobile music streaming services and Mobile Video On Demand services. Media content providers such as Sony, Universal, the artists and producers are in need of new opportunities to sell their products that could reach the people more easily and to make more value to it (8). Considering this Mobile music streaming service with respect to Indian market, one of the major obstacles would be the piracy issues. Spotify admits that the Asian music market is still largely driven by piracy that makes many music streaming service to break through (9). A lot of research work has been done regarding the piracy issues. A recent research came up with a new method of copyright protection. This research suggests a new “No Mark Method” of protecting the copyrights than the traditional digital watermarking method. This method suggests copyright protection without embedding the data in it (10). In a specific business model to fight against music piracy written by Telecom circle mentions that, in India, still the ‘download & play’ model of pirated music is popular among the people and the retailers are making good revenue out of it (11).

Taking all the above aspects into consideration, this thesis does an in depth analysis in answering the research questions to find the suitable business model options for the operators in India with respect to Mobile Broadband Media Services. The business model options for Mobile Broadband Media Services in India need to take a complete transformation when compared to US and Europe mainly due to the piracy and copyrights issues.

1.2. Research questions

Motivation question
The motivation for this thesis fundamentally emerged from the question ‘How can the operators make profitable business through Mobile broadband media services in Indian market?’

To answer this question, a number of business concepts, different types of co-operation and business scenarios were investigated. The operators has a number of options to shift their business model towards mobile broadband media services like creating their own music streaming service platform, collaborating with already existing music streaming services or in direct collaboration with the content providers and proper bundling of data with voice minutes and SMS.

In general, two Research questions are applicable to all the players in this mobile broadband ecosystem. The first R.Q. addresses to the Indian operators about their business models and co-operation whereas the second question is addressed towards the Indian music industry.

³ “Survey about the mobile broadband penetration”, by Web optimization. Available at: http://www.websiteoptimization.com/bw/1102/
R.Q.1. What business models are used by the Indian operators and how do they collaborate with media services?

The answer to this question is the findings of present business models used by the Indian operators for their existing media services over voice network and also any business models that are being used for emerging mobile broadband media services. This question is focused to understand operator’s association with OTT players. It has been highlighted in many internet sources and theories that the Indian operators follow collaborative business model with associated players over period of time for their services through voice networks. This question may also further bring the point of any players acting intermediate in the co-operation between operators and OTT’s. Other associated concepts like value sharing and revenue sharing will be covered in this question.

R.Q.2. What is the view of Indian music industry towards mobile music streaming services collaboration, piracy, customer's willingness to pay and making a shift from “download & play” model?

The answer to this question comes from the analysis of VAS players. With increasing music streaming services, it is important to know how the music industry looks at the problem of piracy do. This will give significant knowledge about the present situation and types of piracies and people’s mindset towards piracy. Another way of answer to this question will come up with the percentage of music listeners following the traditional ‘download and play’ model of listening.

1.3. Related work

This related work section was done before digging in detail into market analysis with interviews. This section formed the basis for identification of theoretical concepts related to the research questions. A number of business journals and research papers were analyzed as a part of the related work. Analyzing the previous research papers helped in gaining valuable information about the previous work that has been done in relation to the Mobile broadband media services. A number of case studies about the operators from other countries were researched during this phase. This section helped in understanding the concepts of Research question1, about the business models followed by operators in other countries and how do they collaborate with OTT’s and other players associated with mobile broadband ecosystem. The in-depth study of the literatures also exposed to make some predictions about the Indian market before entering the market analysis. This literature study also includes a background study about OTT players, their operations, collaborations, revenue and value sharing that helped in understanding backgrounds for Research question 2. The major time of this literature study was devoted in understanding the Indian market, the operators, OTT’s, consumer trends, people’s mindset towards music streaming and 3G penetrations.

Academic researches

Opportunities, challenges and directions in Mobile Media Services

Previous research work has been done on cloud mobile media to identify the possible opportunities, challenges and directions towards the future of mobile broadband media. The below table (12) describes analysis of different categories of potential cloud mobile media services, including cloud capabilities needed, advantages derived by having the services based on cloud and challenges to make the services successful. The table from this research also brings out significant advantages as well as challenges between “Download and Storage” and “Audio/Video streaming” services (12).
Audio / video streaming based services can benefit from cloud computing resources to adapt to different devices and networks. In this research paper, the author brings out significant importance of using Audio / Video streaming mobile media service rather than Storage and Download model (12). Hence, this research could help understand the importance and benefits of music streaming rather than traditional download and storage model in answering the Research question 2, stated above, with respect to Indian music industry.

Mobile broadband media services diffusion in different countries
Previous research work has been done for the diffusion of mobile broadband media services in different countries, particularly Japan and Korea, as case studies. Couple of years ago, operators in these countries required a shift in their business model from voice services towards mobile broadband media, which is similar to present situation in India. A research about stage view model of mobile data services platform provides information about the mobile community and service platform evolution in Japan (13). Here, the author brings out the evolution of mobile broadband media services from the view point of community evolution and platform evolution. The author proposed a Community based model to provide a more holistic view of the business transitions of the mobile internet in Japan (13). This business model highlights the business ecosystem and role of packaging at each stage to help mobile broadband media service development and management. The advantage of this model is that it is universal, which means different mobile broadband media service specific to different regions can be analyzed in comparison to the proposed model. This proposed model can be utilized as a reference model for service evolution in different regions, for possible different content ecosystems, carrier strategies, regulations and cultures to drive service acceptance (13). A deep understanding of this research gives an overview of how the operators in Japan made a shift in their business models. This understanding is very relevant in answering the Research question 1, about the operators trying to make a new shift in their business models. This research was done in a broader perspective that this research can be taken into account for the operators in India also. The author put forth a question for further research to analyze about the key factors driving the operators in making the paradigm shift in the business models evolution.
Study on innovation based Mobile broadband services
A research work was done on strategic planning of innovation based mobile broadband services (14). The author provides impulse for future research on adoption and diffusion studies in the field of mobile broadband technology. The author brings out two major approaches in this research: Macro-level approach and Micro-level approach. The macro level approach tries to define constructs of the social system in deducing factors that influence the individual or decision making units with underlying conditions. The micro level approach describes the direct effect on individual adoption units such as introduction of market pull or technology push strategies. In this research, the author describes balanced approach in detail and generality on adoption and diffusion studies clearly by differentiating both adoption and diffusion strategies (14). This research work contributes in getting information about the adoption and diffusion trends which may be one of the highlighted options in this thesis.

Research on new business models
Previous research work has been done related to mobile value added services by applying new business models. As a part of this study, a research paper was published to help the operators in clarifying and identifying the target customers (3). This study proposes a Customer Classification model as cross-selling is critical for mobile telecom operators to expand their revenues and profits. The author distinguishes Mobile telecom subscribers into two types. The first type is the people who are not interested in using VAS services or they are unaware of how to use it. The second type is the people who are interested in mobile VAS but they don’t purchase it because they are unaware of the competitive prices and services. The author points out that the second type of subscribers is of great business opportunities to the mobile network operators. To validate the usefulness of the Customer Classification model, the author applies it to the real world mobile telecom company’s case in Korea (3). The author concludes that the proposed model is very useful in some areas where it requires high prediction accuracy for limited cases like identifying the potential customers that suitable for VAS services (3). This research helped this thesis to identify various customer segments and how the segments can be targeted by utilizing the resources of the operators efficiently.

Also, another research has been done to identify suitable business model for operators with respect to VAS services (15). This research indicates that mobile operators are in a transformation from “tariff competition” to “service competition”. The relativity of this research to this thesis is that the author used “Collaborative Business Model” to highlight the collaboration among the parties to maximize the subscriber benefits (15). This research concludes that it is very complex to evaluate the business strategy of mobile service providers in providing mobile value added services. This complexity is due to the fact that in collaborative business model, each player has different objectives and interests. This research helped in understanding the strategies of collaborative business model. This gave an idea to analyze the existing collaborative business model options in India and possible extensions of the model to other mobile services in India.
Market research
A market research from ABI Research group (16) highlights the constraints behind the Indian mobile market segment, complications of the current regulatory system and market drivers for future growth. This report is a part of its 4G research service and Asia intelligence research service. This report discusses the current market situation, regulatory issues and challenges faced by the industry players, with focus on 3G and 4G mobile broadband services. This research also identifies market trends and also provides forecast for 3G and 4G mobile subscribers in the Indian market. ABI’s research report (16) clearly shows the efforts the operators put forth for mobile broadband uptake in India. Some of the initiatives taken by the Indian operators for mobile broadband uptake include:

• Expanding foreign relationships with lower cost handset manufacturers such as, Huawei, ZTE, Micromax and Gfive: These handset manufacturers have the potential to attract more subscribers towards smartphone at the price of a featurephone. This could significantly contribute to mobile broadband uptake.
• Offering data plans at affordable price, lower tier options: This can motivate smartphone users to try and test services with newer data plans.
• Introducing 3G data plans along with low cost tablets from companies such as Micromax: As some potential operators in India are focusing on improving profit through tablet market, introducing 3G plans bundling with tablets could contribute for a quick mobile broadband uptake among students.

1.4. What has been researched / not founded in research

Researched

➢ A research on opportunities, challenges and directions in Mobile broadband media services is available.
➢ Research on previous case studies like diffusion of mobile broadband media services in Japan and Korea are available.
➢ Micro and Macro level approaches on study of innovation based mobile broadband media services are available.
➢ In relation to the business model analysis, a collaborative business model has been applied for research on mobile value added services which mainly includes voice, video and data.
➢ Market research reports highlighting operator’s efforts for good mobile broadband uptake in India is available.

Not founded in research

➢ A research on ecosystem of music streaming service and the players associated with it is not available.
➢ A research in collaboration between operators and mobile music streaming service is not available.
➢ The recent business model for Indian operators with respect to Mobile broadband media services is not available.

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4 ABI Research is a market intelligence company specializing in global technology markets
Contribution of thesis in the GAP

- To make a research that fills the gap of real time discussions with officials of operators and OTT players in Sweden and India.
- As a first step to fill the gap, an interview session with the officials from Telia and Spotify were done and the successful collaborative business model between Telia and Spotify were analyzed. This analysis gave a wide knowledge about the operator’s strategy and the music streaming service’s strategy separately as well as the agreement between Telia and Spotify.
- Indian market was then analyzed by interviewing operators and OTT players in India and the complexities of the Indian market, e.g. licensing issues, piracy issues such as side loading of songs, bundling of data, SMS and voice were taken into account.
- New suitable business model options for Mobile Broadband Media services will be written for Indian market.
2. Literature study

This literature study phase has been done in this thesis to identify and shortlist the business models that are suitable for deriving the conclusions. This phase describes the functions of each business model. A detailed motivation of how each of the functions of these business models has been applied in this thesis to derive the conclusions is narrated in the data analysis section of the methodology chapter.

2.1. Business models analysis

This phase mainly helped in understanding the theoretical concepts of the business models. Devoting valuable time in this phase supported a lot in grasping the ideas and strategies behind the interviews. This business model analysis contributes a significant portion of this thesis. Specific motivation for short listing each of these business models were given in the Data analysis section below.

1. Understanding basic functions in these business models helped during the market analysis of Sweden and India in section 4 & 5 and helped in deriving the answers for the Research Questions.
2. The fundamental concepts of these Business models were used in the analysis phase section 6, to analyze the data obtained from primary and secondary sources.
3. A table is made in the analysis section with the fundamental aspects of each of these business models and the obtained data is analyzed to derive the conclusions.

Chesbrough and Rosenbloom

Fundamental concepts helped in understanding the interviewee’s point of view quickly with these terminologies. According to Chesbrough and Rosenbloom, (17) the functions of a business model include

- **Value proposition** – What can the service offer that is new and unique compared to what’s available on market today.
- **Market segment** – For which segment of the market is the service useful or popular?
- **Firm organization and Value chain** – What are the capabilities of a firm to provide this service?
- **Cost structure and profit potential** – Is the production of this service matching the cost and profit potential for the given value?
- **Firm in value network** – The position of the firm with respect to value in the ecosystem
- **Competitive strategy** – The position of the firm in competition with other firms in the ecosystem

ARA (Actors, Resources and Activities)

The definition by Chesbrough and Rosenbloom lacks the element to describe technical design, functionality and relating various actors in the mobile broadband ecosystem. There are two options to include this either as a separate element or included as a part of value proposition. The report “Mobile Network Operators and Co – operation” proposed by Jan Markendahl exposed to a wide knowledge about the various actors in the market and the co – operation between them. The chapter about Network sharing and dynamic roaming dives into technical knowledge about the co – operation of different actors and agreement between them. (18) This business model helped me in relating to the actors and their co –
operation and to understand the relationship of the entire ecosystem. This ARA model is mainly used to analyze relations between actors and to identify patterns or types of co-operation (19).

Figure 3 depicts the ARA model for the Indian market and is drawn from Authors analysis and understanding of the market. This figure can be split into two sections: Operator’s collaboration and Private Music streaming’s collaboration. Considering the operator’s collaboration, the operators have direct tie up with content providers for their existing music services that are provided to the end users over voice network. These services include Music on call, Caller Ring back Tone (CRBT) etc., In this case, the billing happens at the operators end. The end users pay for listening to per song or any other package that varies with operators. The operators tend to retain ~60 - 70% of the revenue and transfer the rest to content providers.

The Second case is about the private music streaming service collaborations. This Spotify like services SAAVN, Dhingaana, etc., are legal and they have internet license for their services. These services have collaboration with the content providers for supplying online music streaming to their subscribers either over 3G or Wi-Fi. All these services are offered for free and the subscribers have to pay for their data charges.

If collaboration between an operator and music streaming service is implemented, then arises the problem of licensing issues. Though the music streaming service providers have the internet license, when the service is collaborated with the operators, it becomes a mobile service. Then it is necessary to get mobile license to make this collaboration happen. The major question here is whether the operator or music
streaming service, who is ready to pay for the mobile licensing? This licensing issue turned out to be an obstacle in implementing collaborative music streaming in India.

**Collaborative business model**

The concept of collaborative business model defines the collaboration between the operators and the other players associated in the music ecosystem. Collaborative business models have several advantages: reducing costs, increasing development capacity, accelerating the product not only for the companies but also those of external partners and so on. This collaborative business model also brings factors such as value sharing, revenue sharing, network sharing, brand recognition etc., This business model allows corporations to identify new business opportunities. These opportunities will come from the marketplace consumers, etc., though these business models are not directed towards the same customers, they still compete for resources and attention (20). Collaboration among competitors makes sense when the collaboration:

1. Creates values for both parties
2. Begins with structure and clarity
3. Involves non – differentiating processes

**Diffusion theory**

Diffusion is the process by which an innovation is communicated through certain channels over time among the members of a social system. An innovation is an idea, practice or object that is perceived as new by an individual or other unit of adoption. The characteristics of an innovation, as perceived by the members of a social system determine its rate of adoption.\(^5\)

Diffusion is a special type of communication concerned with the spread of messages that are perceived as new ideas. Also known as diffusions of innovation theory are concerned for the spreading of innovations, ideas and technology through a culture or from one culture to another (21). It states that diverse cultured people are built with many qualities that cause them to accept or not accept an innovation. There are also many qualities of innovation that cause the people to accept them or resist them.

According to diffusion theory, there are five stages of adapting an innovation.

- **Knowledge** – In this stage, the individual becomes aware about an innovation but has no detailed knowledge about it.
- **Persuasion** – In this stage, the individual is actively involved in search of knowledge about that innovation.
- **Decision** – The advantages and disadvantages of the innovation are being weighed by individuals and decide whether to accept it or not.
- **Confirmation** – After making a decision, the individual makes final confirmation whether to use it or not based on his personal experiences with it.

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**Freemium model**

Freemium is a type of business model which works by offering the services for free (22). The major transition for this freemium model is due to the digitalization of each business. There is every bit of transformation as more and more businesses become digital businesses, more services become softwares and more products became downloads, the firms are competing among themselves to provide the things more and more cheaper (22). There is a small thread of difference between the freemium and premium in which the basic features are provided with freemium business model and the advanced features are charged under premium model. The audio book provided by Chris Anderson guides us how to fit the freemium business models in digitalized services so that the client can refuse our service.  

6

**3.4. Technology penetration and acceptance**

The partnership models have been implemented in the developed countries where the technology is already penetrated and accepted towards the people. In countries like Sweden, Smartphone, facebook and 3G connections are well penetrated. This could be one of the reasons for the major successes for these collaborative models in developed markets. In emerging markets like India, the technology is in the penetration phase and the technology vs. penetration curve is rising sharply in reaching the people. The smartphone prices are also high in the market. Out of the 900 million sim card subscribers, there are around 30 million 3G subscribers. Mobile TV provider in the Indian market called Apalya alone represents 500 million subscribers. Social networking such as facebook is already well penetrated among the people whereas technologies such as 3G and services such as Mobile TV, music streaming are in the growth phase. Though these services are presently availed by very few people, the operators believe that there is a huge potential for these services in the upcoming years.

3. Methodology
The methodology consists of three sections that closely follow the Research questions to analyze and derive the conclusions. The major part of this thesis is comprised of qualitative research.

1. Approach: This is the beginning phase that consists of the steps which leads to data collection. This phase includes a clean understanding of the previous literature studies described as in chapter 2, what has been researched and not founded in research, the existence of gap and how it can be filled as discussed in Chapter 1.4 and short listing of business models, described in Chapter 2.1, that are used to derive the conclusions for the Research Questions.

2. Data collection: This phase includes both primary and secondary sources of data. There were no surveys conducted to collect quantitative data, but numerical figures with respect to the Indian market are collected during the respective interviews. Jan Markendahl’s blog about the present Indian market in “The Unwired People” and Ericsson’s consumer lab helped in the initial stage of this data collection phase in getting significant exposure to Indian market. The unwired people served as a reliable source of trust in providing information about Indian market.

3. Data Analysis: After the interviews in Indian market is done, the interview observations and findings are then analyzed with the theoretical framework and compared with the Swedish market pre study to find the suitable business model options and also to identify the successful trends from Swedish market that has high probability to diffuse into India.

3.1. Approach
This phase forms an important part of methodology in collecting data to answer the R.Q. This phase begins once the problem definition / research questions are made clear to collect and analyze data that are required to derive the conclusions. Primary source of the data comes from the interviews. The interview questionnaires are prepared well in advance before the interview date. The questionnaires were systematically prepared and split up into various functions like value sharing, brand recognition, revenue generation and sharing etc., and the questions are grouped under respective headings for the easy understanding of the interviewee. More details about the questionnaires were described in Appendix A. Before preparing the interview questions, significant time has been spent in doing the ground work: analyzing the background, operations and to collect as much information as possible about the particular firm. This helped in preparing the questions in a more clear way with prior knowledge about that organization.

The questions are prioritized in such a manner to get the answers close to the research questions and to maintain a good flow of information and reasoning throughout the interviews. Questionnaires were sent in advance to those interviewees who would like to take a look at the questionnaires couple of days before the interviews, Spotify for example. Before sending these questions, significant time was spent with supervisors and examiner to discuss these questionnaires.

As the Swedish Market Pre Study was done in combination with two other thesis workers who analyzed China and Indonesia mobile telecom markets, it was made sure that everyone’s question was included into the questionnaires under respective headings like value sharing, revenue generation etc., and prioritized
accordingly. The three thesis workers followed the win – win strategy in directing the questionnaires towards the interviewees of Telia and Spotify. Some common questions were framed for Telia and Spotify to get their needs and interests during collaboration. In the Indian market, a total of seven interviews were done covering a number of operators and OTT players. Similar set of questions were prepared for operators and the questions were slightly modified depending on their services. The approach phase of this thesis has been done in close relation with Ericsson to get the contacts of the interviewees in respective firms. Without Ericsson, the situation would be very difficult to collect the necessary data that are relevant for the thesis.

3.2. Data collection

The data necessary for this thesis comes from both primary and secondary sources. The primary source includes latest data collected during interviews with the concerned officials of operators and OTT’s. This was taken for a period of 1 month in Sweden and 3 weeks in India.

Data collection in Sweden

The major key players in this Swedish market study include Telia\(^7\) and Spotify\(^8\). Separate rounds of interviews were conducted with both of them for about an hour. These interviews were interactive and the answers were collected in the point of view of Telia and Spotify separately. The interviewee’s were asked about their opinion of Collaborative business model, any previous similar service of their own before involving in collaboration, customer acquisition, getting recent trends, customer churn reduction, value establishment, brand recognition and revenue sharing. A detailed summary of the collected data is mentioned as described in the Chapter 4.

Data collection in India

The interviewees in India are TATA\(^9\), Airtel\(^10\), Aircel\(^11\), Hungama\(^12\), Moto music\(^13\), IDEA MALL\(^14\) and Symbiotic info\(^15\). Specific to the Indian market, many common questions were framed to all the operators with respect to their business models, strategies, understanding customer trends, collaboration, value sharing and revenue sharing. But the questions to the OTT’s differ to one another as all of their operations are different and collaborated with operators in different ways. Specific questions regarding the collaborative business models, drivers and obstacles in implementing it were asked to both operators and OTT’s. A detailed summary of all these interviews are published in the Appendix B and C section at the end of this report. The secondary source includes accumulating the data that are already collected by Ericsson’s consumer lab and the unwired people\(^16\). This data collection does not include raw data such as surveys that are not included in the secondary sources. The secondary source provides data mainly numerical and figures that are used under various headings in this report.

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\(^7\) Interview with Telia on 24- February – 2012
\(^8\) Interview with Spotify on 22 – March – 2012
\(^9\) Interview with TATA on 09 – May – 2012
\(^10\) Interview with Airtel on 10 – May – 2012
\(^11\) Interview with Aircel on 11 – May -2012
\(^12\) Interview with Hungama on 23 – May – 2012
\(^13\) Interview with Moto music on 17 – May – 2012
\(^14\) Interview with IDEA Mall on 14 – May – 2012
\(^15\) Interview with Symbioticinfo on 24 – May – 2012
\(^16\) The Unwired people. Blog written by Prof. Jan Markendahl after recent his visit to India.
3.3. Data Analysis

The data collected through the collection phase are then analyzed through a set of concepts that are the functions of shortlisted business models in the literature study section. A detailed explanation of the basic functions of each of these business models are described in the previous Business Models Analysis under Literature study section 2.1. This section describes the reasons for short listing these business models and how the collected data are analyzed with each of this function in Chapter 6 to derive the conclusions.

Chesbrough and Rosenbloom

The Value proposition function of the Chesbrough and Rosenbloom (17) business model give a comparison to identify the unique service provided by both the operators as well as OTT’s in Sweden and Indian market. It also helps to identify which service is popular among which segment of the market or which is the target segment in a particular market through its Market segment function. The firm organization and value chain structure is used to understand the value establishment between two firms in a collaborative business model. This is directly related to R.Q.1 that what business models are currently used by the operators and this function helps in grasping the answer of how the value is shared between operator and music industry. The Chesbrough and Rosenbloom has the following advantages

1. The three elements firm organization & value chain, the competitive strategy and firm in the value network provides good description of how various players act in the mobile broadband ecosystem.
2. All these above functions support the co-operation strategies with respect to value chain.
3. The definitions of each of the elements in this business model focuses on detailed analysis of business. In addition, this business model have been applied in many cases and proved successful in gaining useful insights of what kind of analysis can be done.

ARA

This ARA model gives complete guidelines about various actors, their relationship and how do they coordinate with each other in an ecosystem. Upon understanding the concepts of this ARA (18) model, figure 3 is drawn for the mobile broadband media services ecosystem with respect to Indian market. This figure was drawn after the interview observations in India have been done. This model is also used in the later analysis phase section 6 of this report in drawing conclusions. This ARA model helps in understanding and identifying answer for the second half of the R.Q.1 how do the operators collaborate with media services.

Collaborative business model

A basic motivation that revolves around this thesis is there any possibility of making new collaborative business model (20) between operators and music streaming service. The market analysis in India brings out the fact that the Indian operators are following collaborative business model for their Mobile TV service and music over voice network services. This collaborative business model is used in answering the R.Q.2 of Indian music streaming service’s view towards collaboration with operators.

Diffusion theory

This diffusion theory (21) contributes significant importance to this thesis as this thesis involves two Markets: A developed market and emerging market. The Swedish market pre study: This revolves around successful collaboration between Telia and Spotify. After getting insights about this success model, Indian
market has been analyzed to find how profitable business can be developed in India with respect to Mobile music streaming services. As a part of implementing successful trends in Indian market, diffusion theory is applied to check whether there are some possibilities of diffusing the trend that contributes success in the western market that would bring significant success in India also.

**Freemium model**

During the analysis phase of Swedish Market Pre study about Telia – Spotify agreement, a part of the promotion from Telia, Spotify was offered to Telia subscribers free for 6 months those who signed 24 months contract. It is evident that in this aspect, Telia is following freemium model (22) for a period of 6 months as a way to increase its customer base from other operators. In the stage of innovating new trends in the Indian market, the above example gave an idea to introduce freemium model for some period of time as a promotion to make the product more reachable to the customers. This concept is a kind of overlapping to diffusion theory of diffusing this freemium trend.
4. Market pre – study in Sweden

To get a good overview about a successful collaborative business model in a developed market, a market pre – study was done in Sweden before analyzing the Indian market. As a part of this, Telia – Spotify was taken as reference and analyzed. Separate interviews were conducted with both Telia and Spotify to get deep understanding about operator’s as well as music streaming service’s strategy, business needs, involvement of other player in the ecosystem, value sharing, revenue sharing etc.,. The observations from the Interview in Sweden are given below.

4.1. Telia’s perspective

Telia’s motivation towards Spotify

After the penetration of smartphones, the operators in Sweden were looking out for differentiated services to optimize their revenues. Music, books and video were some differentiated services that were in the top of the list for the operators to offer to their subscribers as VAS services. Out of these three, Telia felt that music is most relevant for small screen segment to attract a lot of subscribers. The main motivation for Telia is not from the technical perspective but from the end user value, to provide services with value to the customer. Telia started its own music streaming service that had around 4.5 million songs embedded in it and offered it for 99 SEK / month. Telia also offered it as free to the customers for 6 months. But the uptake was not as good as expected. They observed that they have to explain everything to the people what it is, how it works etc. and they should invest a lot of resources in it, the perception of value Telia gave 6 months for free was very low.

By this time, Spotify was a fresh entrant in this business and conquered the market in short period of time. Telia considered this as a good opportunity to move its brand a bit more interesting, more dynamic and more reachability to users by connecting with Spotify. Also in tie up with Spotify, Telia’s investment in
resources to explain about this Spotify service is very less compared to its own music streaming service. The major value that Telia obtained from this collaboration, compelling difference i.e. the exclusive agreement with Spotify that no one else can bundle with Spotify in Sweden. As all the operators have smartphone subscribers, has 4G network, have top speed, they tend to stay in their best in some tests and also claim they have good customer service. So, it is quite hard to find these differentiating factors. This concept of music bundling combined with a six months free promotion helped reaching more people.

**Advantages of being a Telia subscriber**

Apart from the major advantage of getting 6 months free Spotify premium as being a Telia subscriber, there is another value that Telia provides its subscribers in this Spotify case. The major advantage for the Spotify subscribers is that they got huge advantage if their network service provider is Telia. When a subscriber streams Spotify, the data required to stream Spotify is debited from their data bucket invariable of any network service provider. But if a Telia subscriber streams Spotify, even if their data bucket gets exhausted their data speed for other services get throttled whereas they still can able to stream Spotify without lowering their data speed. This is one major value that the subscriber acquires being a Telia customer. This helped Telia in acquiring a lot of subscribers from other operators.

**Partnership with players**

Considering the players involved in this partnership, it was Telia and Spotify involved directly for the first time 3 years ago. For the second time, Telia wanted to move deep enough in terms of customer acquisition. Offering a 3 months free subscription was possible with the previous deal but 3 months was not big enough to attract the customers from other operators. Telia felt that it should offer at least for 6 months free subscription of Spotify. So during the recent renewal of partnership, Telia had separate discussions with Spotify, record labels, collective societies and publishers in Sweden, Europe and US. The associated players in Spotify side gave Spotify a discount so that Spotify gave discount to Telia. The entire process took 14 months to negotiate various actors to renew the second agreement. Thus, Telia also act as a reseller to Spotify by buying a lot of premium accounts from Spotify and thus due to this huge volume Spotify gives discount to Telia.

**Obstacles in business transform**

Telia consider that it has some obstacles while transferring the music streaming from Desktop to Mobile. The biggest obstacle in day to day experience is while travelling in metro: music streaming doesn’t work well in many places of the tunnel. It requires quite a lot of bandwidth. Though the mobile network in Stockholm, Sweden has one of the best mobile networks in the world, it is not sufficient for continuous listening to online music streaming service.

**Value proposition**

Value proposition are connected by means of streaming & networks. Spotify mainly focuses on user’s experience. Spotify searched for more trusted, more quality and good end to end service delivery. Telia provided all the above. Telia also added enormous trust to Spotify by being the billing provider for Spotify. From that perspective, it is of great value to Telia by means of user experience as well as brand establishment. Bundling a data plan that combines with added value was strong enough that made people to choose Telia. This took a minimum of 6 months to get recognized by people.
Revenue generation and margin
In streaming business, the revenue from end user is fixed. If Telia charges 99 SEK/month, a small margin will be taken by Telia and everything else will be given to Spotify. Bulk of the money goes to labels. Spotify also consumes a lot of other data per month. This leads to Telia an extra cost for the production of data. Telia have around 1% of that cost which they do not get paid. Telia also have extra costs for teaching the people in stores.

4.2. Spotify’s perspective

Spotify – Telia motivation
Spotify considers Telecoms mainly as a strategic partner. In Spotify’s perspective, telecoms are over established in Europe. Telecoms were looking out for new differentiated services. In contrast, Spotify was keen on converting freemium to premium customers. So, Spotify was looking out for some telecom that could sponsor for free trial.

Consequences
Spotify’s bundles were tied up with Telia’s tariffs. Telecoms usually distribute these bundles in volume. It is Spotify who invests in Telecoms by lowering their margins. But it started reaching the people more and the number of freemium to premium subscribers start increasing.

Music and Telecoms
In cultural point of view, music and telecoms don’t fit together as a success. The best example for this was looking back the history that many telecoms already tried their own music streaming service and failed. So telecoms started considering music as one of their normal differentiated VAS or product and this approach of Telecoms started reaching the people.

A simple technique turned out to be a huge hit
The major value of Spotify that reached people quickly is the introduction of offline playlist mode of Spotify in mobile. This offline playlist is available only for premium customers. The customers can listen to their favorite songs in mobile by connecting in Wi-Fi during their time in home or any Wi-Fi covered area. They can add the listened songs to their personal playlists. Once they are in travel or outside Wi-Fi, they can listen to this playlist without 3G connection. This had a huge welcome among the people as their 3G data is saved (Spotify being peer to peer consumes a lot of 3G data). The result of this is shown in the form of increase in freemium to premium subscribers. There are 3 million paid subscribers currently using Spotify. A huge part of Spotify consumption on mobile doesn’t require 3G with this technique. This feature attracted telecoms also as telecoms doesn’t want to do a service that consumes a lot of data.

Spotify’s view about the Asian markets
Spotify always keep on analyzing for new markets worldwide to launch its service. Some of the criteria that Spotify considers as a basic for entering new markets are

- Internet, smartphone and facebook penetration.
- People’s willingness to pay
- GDP’s
- Telecoms investments in the respective markets
- Piracy

Spotify’s view of piracy
Spotify is very proud that after its launch in Sweden in 2008, piracy has been decreased considerably. Since 2009, around 25% of the people using pirated music have been dropped. With the option to stream millions of tracks, occasionally supported by ads or without ads if a small amount is paid, Spotify is one of the serious challenges to music piracy. Spotify feels that it taught the people that it is very user friendly and easy to listen to any music that is readily available at any time and any place than to spend time in downloading the music illegally and also transfers it to the user’s device. So with the present increase in the number of premium subscribers, the future of legal music streaming service looks promising.

4.3. Conclusion

The above interview observations gave a clear picture about the Swedish Mobile broadband ecosystem and the co-operation between the players Telia and Spotify. This collaborative business model between Telia and Spotify clearly brings out brand recognition, value sharing and revenue sharing. Upon analyzing data from the interviews, one of the functions of Chesbrough and Rosenbloom model, “market segmentation” is well evident. The main target market segment of the Telia – Spotify partnership is the age group less than 30. Analyzing the function “Revenue generation and margins”, revenue is generated both at the operator’s end as well as OTT’s due to the common availability of credit cards. Operators retain a very small margin and transfer the rest to the collaborated player.

Evaluating the competitive strategy of the above mentioned partnership model, it was due to the compelling difference that Telia made with Spotify, other operators don’t have the chance of bundling with Spotify in Sweden. But there might be high possibilities for healthier competition in the near future due to upcoming collaborations like Tre – Voddler. Analyzing the data with the freemium business model, it is the Spotify’s 6 months free premium from Telia which helped in acquiring more customers from other operators. It is also beneficial for Spotify that it helps in converting the freemium subscribers to premium subscribers. Major factor for the huge success of Spotify’s premium account is the offline music streaming mode that favors data consumption perspective for both operators as well as subscribers.

Applying diffusion theory for the Indian market, it would be a great advantage for the OTT’s in India to consider the concept of offline music streaming. From the above interview answers, the line of reasoning is clear that it is difficult for the operators to compete with OTT’s with operators own music streaming platform. For western market, there exists a gap that music from telecoms own platform doesn’t fit together as a success package. After the successful collaboration of Telia – Spotify in Sweden, it is evident that the Swedish telecom market is successful with collaborative business models. This is further confirmed as the other operators in Sweden are also looking out for collaborative services. The operator Tre also recently made collaboration with Video streaming service Voddler.
5. The Indian market

5.1. Introduction

The Indian market is the second largest in the world with more than 900 million SIM cards and adds up to 20 million new subscribers per month. The total number of broadband connections is about 14 million in 2011 where mobile broadband constitutes about 3 million subscribers using 3G connection (23).

One of the reasons for such major explosion of mobile market in India is due to the cheap availability of GSM handsets. The GSM handsets are available in India starting from the price 15 Euros (24). There are also dual SIM phones that are widely popular among Indian subscribers. This allows the people to use two different networks to make cheap calls and messages depend on the recharge plans of individual network that favors the subscribers. Voice services and prepaid dominates in Indian market due to these cheap and dual SIM phones. The average revenue per user is around EUR 2 = INR. 140 per month. The price of call per minute is very cheap compared to Europe (25)

Fragmented market

The Indian market is very fragmented. The spectrum licenses are awarded to operators in 22 regions, also known as circles. There are around 10 -12 operators in each circle. Most of these operators would get the licenses for all the circles. There also exists state owned operators but they are not among the operators who make maximum profit. After 2008, a number of new operators entered the market. This led to an intense competition and the result was the voice prices which were already low further decreased by 60% (23)

5.2. Case study in India – Market Analysis

After the market pre study in Sweden, a detailed analysis of the Indian market has been done by interviewing operators and the associated VAS players.

Market analysis – operator’s perspective

This section of Indian market analysis covers interviews from operators in India. Major observation from these interviews were summarized and grouped under similar headings in this chapter, whereas detailed answers from these interviews are given in the “Appendix B” chapter at the end of this report. There were
a lot of similarities in Mobile TV segment and quite a few differences in music streaming service among the operators in India.

**TATA’s perspective**

TATA has launched 3G music, 3G mobile TV and Tutor on Mobile. TATA believes that out of these 3 services, it is the tutor on mobile that is going to be a major hit among the people. There already exist a few established methods for listening to music in India. But this tutor on mobile fills the existence of gap of learning through tablets. The objective of this service is to cover the entire syllabus for all levels of school education and to make the students a new way to learn from their tablets. The usability of this Tutor on Mobile will definitely shoot up after tablets reach the people. Considering between small screen smart phones and bigger screen tablets, with respect to Indian market, TATA feels that it is definitely tablets that is going to rule the market. Currently the tablet rolling out in market is approximately 40,000/month. But this number will surely shoot up when the speed and connectivity of 3G increases. The major reason behind this is the smart phones prices are still higher compared to the tablets. Companies such as Penta, Micromax, and HCL are launching tablets at a very affordable price tag between INR.6000 – INR.6500. TATA’s prediction is that Micromax will rule the tablet industry as they already proved it in mobile market. Today Micromax is the second largest mobile seller in India and sells about 3 million/month. There are also other tablets like Akash, to name a few, which are about to hit the market that already created a huge expectation among people.

**Airtel’s perspective**

Airtel agrees that their major source of revenue is through live portal and claims that feature phones contribute for the majority of the revenues than smartphones. Airtel’s WAP portal called ‘Airtel live’ is very widely consumed by the people. The previous business model of this Airtel live was that there were no browsing charges; charges were applicable only for download of data. Now Airtel has made a shift in its business model that they implement the charges for browsing but they reduced the charge of the content download. With this shift in their business model, Airtel generates revenue of INR. 50 crores/month approximately equals to 9.3 million USD. It is to be noted that the browsing charges doesn’t count in this revenue. This is exclusively from the contents download through Airtel live portal. More than 95% of this above revenue comes from feature phones.

When speaking with specific to music streaming, Airtel feels that due to their high revenues from WAP portal, this is not the right time to make a shift in their business model towards music streaming. They aim to make a shift once smartphone is highly penetrated in the market. While discussing about implementing collaborative business model, Airtel fears about the licensing issue obstacle in implementing collaboration between operator and music streaming. This licensing issue has been described in detail in section 2.1. In Airtel’s perspective the customer’s willingness to pay for music streaming service is very less. There are a lot of influencing factors for this less willingness to pay that includes high piracy, side loading of songs etc., Even if this licensing issues were solved and a collaboration has been made, Indian mobile market being pre paid driven, lack of social security number, handset vendors bundling with operators like Western countries, airtel feels that they will lose their subscriber base if they were to stop the collaborative agreement at any point of time in the future. The subscriber will just through the pre paid SIM and move on to other operator.
Aircel’s perspective
Aircel claims that one of their services CRBT – Caller Ring Back Tone is very huge hit among the people. With this CRBT activated, usually the calling party hears a song or any music set by the mobile subscriber instead of the traditional ring sound. This concept was a huge hit among the youngsters and then it captured a diversified segment of users. Aircel claims that their major portion of revenue comes from CRBT – Caller Ring Back Tones. This CRBT alone accounts for about 11 – 14% of their VAS revenues. Aircel charges Rs.30/month for a customer to avail this service.

Another service implemented by Aircel with respect to music is MOC - Music On Call. This service has a fairly good uptake among the people. The concept of this service is subscribers dial to a toll free number and listen to their favorite song over voice network. This constitutes second highest revenue for Aircel. Aircel is charging the customers Rs.30/100 minutes for listening to songs through voice channels with a validity period for 30 days and there are other such packages also depending upon customer’s requirements. If a subscriber wants to change the CRBT within the validity period, then he/she is allowed to browse the aircel’s library to pick a favorite song with an applicable charge of Rs.3/minute. Subscribers can also create a playlist of their favorites by uploading their favorite song in facebook. This constitutes approximately about 3% of their VAS revenues.

One of the other services implemented by Aircel with respect to music is FSD – Full Song Download. This service allows the users to download a full song legally from Aircel’s network. Though the FSD service constitutes less than 1% of their VAS revenues, Aircel feels that this service has a huge potential and is growing rapidly at a very fast pace. Aircel is charging Rs.5/song for this service. They also spoke about the piracy issues being rampant and they find it difficult to compete with it. When speaking about their view of Mobile music streaming service, they feel that they are open and happy to work with players like Hungama and they are least worried about the mobile licensing agreements.

Mobile TV
The Indian operators implemented Collaborative business model for their existing Mobile TV service. Apalya is the mobile TV service provider in India. All operators provide mobile TV service to their subscribers in partnership with Apalya. Though the Mobile TV service provider Apalya represents about 500 Million subscribers in total, the usage of the Mobile TV is very less among the subscribers. Less than 2% of TATA’s customer base is utilizing the mobile TV and the revenue generated from it is less than 1% of TATA’s revenue. Aircel figured it as only less than 10% of revenues come from this Mobile TV. Out of the total aircel’s subscriber base of 40 Million users, only 100000 subscribers use Mobile TV. Aircel claims that their 2G Mobile TV subscribers greater than 3G Mobile TV subscribers. Questions were put forth regarding generating revenue in mobile TV by implementing advertisements. But Airtel is very least worried about the concept of generating revenue from advertisements because the total revenue they generate in advertisements is just 20 million INR / year which is very very less compared to their other revenues.

IDEA Mall’s perspective
IDEA Mall is an app store for all mobile platforms such as android, java except windows and ios. IDEA Mall is connected to the IDEA telecom whereas for Reliance telecom, it is called R – apps. Both stores perform the same operation exclusively for 2 different telecoms. Apart from this, IDEA mall has
collaboration with other operators such as Smart from Philippines. Ericsson acts as an intermediary between telecoms and aggregators like EA. Ericsson does the entire operations from end to end, except marketing the app store. Ericsson deals with aggregators but not directly with the developers and applications. Some apps such as NFS the run from EA was first launched in IDEA mall before Google play and apple store.

In terms of fixing the price tag for the subscribers, Ericsson and Telecoms discusses among them and fixes it. This is mainly based on subscriber’s preference. As telecoms are always working towards consumers, they study the consumer’s behavior for pricing. In countries like India, the apps and OTT’s should depend on the telecoms for billing of their service. This is due to the lack of credit cards among people unlike in US or in Europe. The customers are also comfortable in dealing the money issues with telecoms rather than credit cards. The majority of e-shopping that happens in India is mainly by cash on delivery basis rather than credit card payment.

**3G Vs Wi-Fi**

When comes to 3G vs. Wi-Fi, Indian market slightly differs compared to western market. The operator support 3G connections and there would be an advertiser for promoting the product. Unlike the apple and android tabs (all these tablets are not equipped with 3G), almost all the tablets like Micromax, and Akash that targets the Indian market comes with the option of 3G SIM as well as Dongle. The major reason behind this is the lacking of numerous Wi-Fi hot spots in the country. Majority of the people are not used to Wi-Fi in all those houses where they have fixed line connectivity. But these tablets like Micromax, penta will also have the option of connecting in Wi-Fi. The top end customers who consume a lot of 3G are with Bharti Airtel, Idea and Vodafone.

**Download & play Vs Music streaming**

During discussion about operators existing music services, the operators feel that ‘Download and play’ model still dominates the industry. In this case, operators specifically focus with consumer’s psychology. Outside metro cities are the areas where the real consumption of music occurs. Operators feel that their data speed is too low to stream music. In people’s psychology, they can wait for minutes till a song gets download whereas it is highly irritating if buffer occurs in the middle of streaming. This is one of the main motivations for people to call and listen to song whenever they want and pay/ minute or pay/song depending on the operator’s package.

**Global problem**

The present global problem is that the operators are trying to implement differentiated services to their subscribers. At that time OTT players enter and swipe the entire market with their exclusive services. Now the challenge to the operators is whether to take their own services more reachable to the people or to collaborate with the OTT’s like Telia – Spotify. But unlike Telia, the Indian operators would like to take major share, an average of 70% revenue from these collaborations. Vodafone was the first operator in India to make a revolution in its business model by taking only 30% of the revenue.
Market Analysis – OTT’s perspective

Moto music’s perspective

In 2006/2007, Motorola was the first to look into the integrated services. Motorola acquired Sound buzz and thus started Moto music. Moto music was primarily the concept of download and play as the streaming services were not available in GPRS days during 2008. The main motivation of Motorola in this deal was not from revenue generation perspective but to offer value to its subscribers to make them stick to the Motorola handsets. In an indirect way, it can be mentioned that intention of Motorola is to increase its own buyer base.

Motomusic offerings

Just like many other services, this one was also offered as free for 1st six months. It was offered as a dual delivery model purchase. This service can be used in both mobile and desktops. Music for mobile phone was sent as a link through SMS which has low quality and a link was also sent to mail which contains high quality download to stream in Desktops. This dual delivery version was only offered to Motorokr and not other Motorola models. They didn’t see this as a revenue making business instead they see this as promoting a value to Motorola. They offered it in such a rate as Rs.10/song download and Rs.8/ringtone download.

Tie up with Airtel

Motomusic was allowed to access in all Motorola handsets invariable of any operators. But they made an exclusive agreement with Bharti Airtel. The agreement was that airtel users were allowed to access free for 1 month or free download 50 songs without deducting any amount for their GPRS data. In this tie up, Motorola claimed that 70% of the revenue was taken by Airtel and Motorola was given only 30% in which a huge amount should be given to the labels. Not many people had GPRS connection at that time but 90% of the Motorola people who had GPRS availed this service. The Motorola already had a billing connectivity with Airtel, Vodafone and IDEA.

Hungama

In 2004, 2005, CRBT (Caller Ring Back Tone) was very popular. The consumers were ready to pay around Rs.30/month for a caller tune. Then comes the concept of music listening. Consumers paid Rs.30 for 30 minutes to listen free music. The average time to reach music after dialing was 45 seconds to 1 min before Hungama’s entry. After Hungama entered this area, the waiting time was just 10 seconds.

OTT’s believes that Bihar state has a huge market for music consumption. Each track was priced at Rs.25. Consumer pays Rs.5 and downloads 5 songs. This generated whooping revenue of 120 million INR for Vodafone in 18 months after this service was launched. With a shift in their business model, consumer pays Rs.5/day + bandwidth charges for content. For Rs.5/day, consumer can download any content, music, video etc.,

The present big problem for 3G is the bandwidth charges that consume Rs.200 – 300 for watching Mobile TV. For a quick uptake of 3G, Hungama suggests operators to create bundles. Hungama keeps on insisting the operators either to suggest for the bandwidth not for the contents or vice versa. Hungama insists the operators to provide consumer friendly service to reduce the churn. Hungama is confident enough that if the operators provide a music service with a customer friendly bundle, then the customers are willing enough to pay for it.
**Symbiotic info**
Symbiotic info develops in-house contents. They mainly act as an aggregator. For services like games, symbiotic info aggregates between developers and operators. Their main task is customizing contents. They mainly work on WAP portal in making the headlines crispy and attractive to the users. Symbiotic has tie ups with many players like NDTV.

While speaking about the Doctor on call or Mediphone service, Symbiotic info claims that though many operators have launched that service, it doesn’t fairly take up well among the people. In order to optimize that service and to make it widely consume by people, symbiotic is presently working with Apollo. Symbiotic will be an aggregator between Apollo and the operators.

**Future Music streaming**
In the past, VAS services failed due to complexity. OTT’s believes that a large group of people still buy physical CD’s. In the past years CD sales were high in south rather than north India. Still side loading of songs (inserting pirated songs separately into memory card) claims to be one of the strongest businesses in this field. CRBT was the largest revenue contribution for all operators in terms of music. Some OTT’s believes that there is no necessity for any music streaming services in India as operators have already direct co – operation with content providers. Content providers are ready and happy to work with operators in creating music streaming service as their billing is integrated with operators. They are also working with partners like App providers. Operators are very larger in distribution and they should work on the entire commercial model keeping the value reach ability in mind. So, they feel that the operators by themselves have the potential of creating a streaming service platform. Since, the voice revenues from operators were already less, they should definitely get into VAS at least to retain their margin.
6. Analysis

The data collected from the interviews of both Swedish market and the Indian market are compared from the point of theoretical framework and research questions.

- *What business models are used by the Indian operators and how do they collaborate with media services?*
- *What is the view of Indian music industry towards mobile music streaming services collaboration, piracy and customer’s willingness to pay?*

The answer to these above research questions are derived from this analysis section. The analysis is done by considering the function of each business model as reference. The results are derived from this analysis section after the comparison of the retrieved data with theoretical frameworks of Chesbrough and Rosenbloom, freemium, ARA and collaborative business models. Analyzing with the basic elements of the business models that are used in theoretical framework, the answers for the Research questions are well structured in the conclusion section.

<table>
<thead>
<tr>
<th>Business Model</th>
<th>Functions</th>
<th>Sweden</th>
<th>India</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chesbrough and Rosenbloom (17.)</td>
<td>Value proposition – What can the service offer new and unique compared to what is available on the market today</td>
<td>The major value proposition in the Swedish market is bundling of data with voice minutes and SMS along with the handset. In Telia – Spotify case, the unique service would be the benefit of data bucket for Telia customers and offline music streaming for Spotify.</td>
<td>The major value proposition for the Indian market is the low voice and SMS rates. Apart from the already existing low voice and SMS rates, the operators can make proper bundling of data along with voice minutes.</td>
</tr>
<tr>
<td></td>
<td>Market Segment – For which target segment is this service useful or who are the target customers of this service</td>
<td>Though the Swedish market also has the concept of prepaid customers, still the market is mainly contract driven. Majority of the users are below 30 years of age. The best example is Telia – Spotify openly admits that its premium customers are this segment group</td>
<td>A very vast segmented market hugely driven by pre paid customers in all segments. Dominated by suitable price plans in voice or SMS that can be adopted by any segments like youths, students, professionals, corporate and old people.</td>
</tr>
<tr>
<td>Value chain structure</td>
<td>OTT’s gains its values from the operator and vice versa. Telia – Spotify for example.</td>
<td>Operators creates value to the customers from its collaboration with content providers directly</td>
<td></td>
</tr>
<tr>
<td>------------------------</td>
<td>-----------------------------------------------------------------</td>
<td>--------------------------------------------------------------------------------------------------</td>
<td></td>
</tr>
<tr>
<td>Revenue generations and margin</td>
<td>Revenue is generated both at the operator’s end as well as OTT’s due to the common availability of credit cards. Operators retain a very small margin and transfer the rest to the associated players.</td>
<td>Revenue is generated only at the operator’s end due to the lacking of credit card facilities. Billing is also done at the operators end. The operators retain a huge margin and transfer a small amount to the associated players.</td>
<td></td>
</tr>
<tr>
<td>Position in value network</td>
<td>Spotify tops the position in the value network compared to other players in the ecosystem. They openly admit that piracy has been considerably reduced in the market after their existence.</td>
<td>Operators top the position in the value network. This is because the operators establish significant values directly with consumers whereas the content providers and other players work in the backend with the operators. Though Spotify like players are emerging, their position in value network is lagging compared to operators</td>
<td></td>
</tr>
<tr>
<td>Competitive strategy</td>
<td>Due to the compelling difference in Telia – Spotify agreements, other operator doesn’t have the chance of bundling with Spotify in Sweden. But there exists high competition due to other collaborations like Tre – Voddler and also Spotify like service Rdio enters the market.</td>
<td>A highly competitive market among the operators in providing VAS. Some operators focusing on music oriented services whereas some operators focusing on education related services.</td>
<td></td>
</tr>
</tbody>
</table>
### ARA (18)
**Actors**
Considering the Telia – Spotify agreement, the major actors involved are Telia, Spotify and the associated players like Universal music, record labels and collecting society.

**Relations**
Telia have direct relation with Spotify. But Telia also had meetings with the record labels and content providers who gave discount to Spotify and Spotify in turn gave discount to Telia.

**Collaborative business model (20)**
The concept of collaborative business model defines the collaboration between the operators and the other players associated in the music ecosystem.

**The best example of successful collaborative business model is Telia – Spotify that worked well in this market.**

**Diffusion theory (21)**
Successful trends to diffuse to Indian market that favors the entire ecosystem.

**Offline music streaming in Spotify. Premium account holders can synchronize the tracks they listen through Wi-Fi to their playlist. It is then played in the non wifi area without 3G or 2G data connection.**

**For services like Music on call, the players involved are operators and content providers like Hungama and T-series.**

**Operators have direct relationship with the content providers for their services like Music on call.**

**Though the Indian operators are already following the collaborative business models for their services like music on call, collaboration between an operator and music streaming would be difficult due to the licensing issues that we discussed in section 2.1 of this thesis.**

**This offline music streaming is one success concept that can be diffused to the Indian music streaming services where it benefits the customers for low consumption of data charges and also favors the operators that their data pipes may not be exhausted.**
From the above table of analysis, the line of reasoning is very clear in reference to the functions of the business models. Each of the above business models used in the analysis section helped individually in various sections of this thesis to understand the market and interview findings. The primary functions of Chesbrough and Rosenbloom described in chapter 2.1 formed the basis in understanding the market concepts and trends in the Swedish Market pre study during interview with Telia and Spotify. Basic knowledge of theoretical concepts of these functions in Chesbrough and Rosenbloom helped in grasping the real time business implementations in terms of value propositions, market segment, competitive strategy, value and revenue sharing during the time of interview with the officials of Telia and Spotify.

ARA model contributed in grasping the actors involved in the mobile broadband music ecosystem and the relation between them. Understanding the ARA model explained in section 2.1 helped in drawing the overall ecosystem diagram of the actors in the Indian mobile broadband industry and determining their relation as shown in figure 3. Applying this ARA model to Indian market contributed in grasping the potentials, complexities and how these complexities turned out to be obstacles for making collaborative business models between operator and music streaming service in Indian market. A detailed explanation about these complexities some of which became an obstacle in implementing collaborative business between operators and music streaming service in India was highlighted next to figure 3 in section 2.1.

Understanding the collaborative business model during the literature study phase helped in grasping the insights in collaboration between Telia and Spotify. This collaborative business model paved way for comparing Telia – Spotify model to the Indian mobile broadband ecosystem and to look out for the possibilities of any such collaboration in Indian market. While understanding the collaborative business model of Telia – Spotify, there aroused the necessity of a theoretical framework to select the concepts that contributed for the major success factor in the western market that can be considered for implementation in Indian market. Upon deep literature study to establish this, diffusion theory was shortlisted in this list of analyzed business model. Offline music streaming of Spotify has been proved as a major success factor that accounted for the huge conversion of spotify’s freemium to premium subscribers.

During the interview observation with Telia, the concept of Telia’s offer of free Spotify premium to Telia’s subscribers for 6 months which resulted in a huge advantage for Telia in both ways; churn reduction as well as attracting subscribers from other operators. This free promotion model needed a theoretical framework to implement this in Indian market through Diffusion theory. This motivated to bring the concept of Freemium model among the shortlisted business models in this thesis. Thus a freemium concept is diffused into the Indian market as a means of increasing customer acquisition from
operator’s perspective, providing value to the customer and to attract a large number of subscribers during promotion.

Analyzing all the interviews and findings above, the Indian market is very complex in terms of the Mobile broadband ecosystem with the licensing issue being the major obstacle towards implementing collaborative business model between operators and platform providers. With all the above interviews, findings and analyzing them in relation to functions of business models, the research questions are answered.

- Indian mobile network operators follow collaborative business model with respect to their existing Music services over voice network and Mobile TV. The operators are in direct collaboration with content providers like Hungama for their music related services like CRBT, Music on call etc., the operators have collaboration with platform provider Apalya for their Mobile TV service. At this stage, it is a good option for the operators to consider collaboration with music streaming platform providers. As the operators have close observations with people's mindset, there is high possibility that majority of the smartphone users will avail the music streaming service associated with their operators if proper bundling is provided that could be beneficial for the subscribers. This is one of the ways to make the subscribers realize that it is valuable and convenient by all means to utilize the music streaming service associated with their network providers. Subscribers utilizing their operator’s related services were well evident from previous Motomusic history that 90% of the GPRS users with Motorola handsets availed Motomusic in 2007 when it was launched. For further details about this Motomusic, please refer to Appendix C.

- As per the present market scenario, there is no collaboration of the operators with the music streaming service. Due to operator’s direct relationship with content providers, they expressed comparatively less interest in collaboration with local music streaming services in India. But there are more chances for this situation to change in the near future when any one of the Indian private music streaming service crack the market. This is well evident from the Swedish Market pre study. Telia built its own music streaming service before Spotify’s entry. But after Spotify entered and cracked the Swedish market, instead of improving its own music streaming service as a competitor to Spotify, Telia preferred to collaborate with Spotify. This fact has also been mentioned in another aspect from Spotify’s interview that it is difficult for the operator’s own music streaming service to withstand in the highly competitive OTT market.

- When it comes to revenue sharing in existing collaborative business models, the Indian operators tend to retain 60 - 70% of their revenue and delivers only 40 - 30% to their collaborators. But recently Vodafone tried giving a shift by retaining 30% of their income and transferring 70% to the collaborators. Considering this in terms of Value sharing perspective, the operators add major value to the collaborators and the content providers agree that they are surviving in the Indian market only because of operators. It would be beneficial for the entire ecosystem if the operator considers changing this revenue sharing concept so that the associated players may gets benefitted.
The Indian music industry has a fair level of piracy. The players in the mobile music ecosystem feels that piracy cannot be completely eradicated but it can be cracked and suppressed by offering music service to people in such a good differentiated and bundled way that makes the people realize its better and easy to pay for legal music than opting for illegal downloads or side loading of songs. This is well evident from the emergence of Spotify. Before Spotify’s emergence as a legal online music streaming service, Sweden is considered one of the highly pirated markets. But Spotify’s interview analysis points out the fact that Spotify taught the people that it is safe and easy to use their service than using pirated music. A market research report also shows the data that piracy has been reduced by 25% in one year of launch of Spotify (26).

When it comes to the discussion about customer’s willingness to pay, the operators claim that it would be very little percentage of people who are willing to pay for listening music. This is considerably true as the subscribers are very price conscious and the market is highly pirated. Because of these reasons, it is difficult for the operators as well as the media providers to implement the same strategies that were successful in the western market. But looking back at the history of Motomusic, it was evident that almost 90% of GPRS users during 2006, 2007 availed Motomusic. This signifies that there are higher possibilities for subscribers to avail the music service if the operators provided it as adding value to the service with a proper bundle along with voice and data. There are good chances that this bundling may make the people feel that it is worthy to migrate to pay for legal music than downloading illegal music. It also depends on what level the legal music services applications makes the people feel easy and sophisticated in using them for day to day listening. The Indian operators could also consider the results of similar market analysis for China which insists the Chinese operators to make a proper bundling so that the subscribers pay only for the data and content are available for free. The author of this research mainly derived this conclusion from people’s mindset that the people in China are well used to free internet services and it is very difficult to penetrate a premium model into them (27). Research study results for a similar market Indonesia where the Customer’s willingness to pay is low just like India and China. The author of this paper comes up with the suggestion that this willingness to pay can be increased to a considerable extent if the operators fixes different pricing tiers with flexible pricing options to attract different segments of customers (28).

Considering music legally, it was well evident from Bharti Airtel’s interview that still the mindset of Indians is inclined towards ‘download and play’ model of listening to music. As they are dealing very closely with their customers in understanding their mindset, they claims that people are patient enough in waiting for few minutes for a song to get download and save it in their mobile than listening to music. This may be true for the Indian market considering the present situation with respect to 3G uptake and bandwidth constraints outside metro cities. But this situation may change when the bandwidth constraints were solved in the near future. It is to be a noted fact that even in developed countries like Sweden where the operators claim they have one of the best networks in the world, Telia admits that bandwidth constraints is still an obstacle for music streaming in many places in metro. But despite these obstacles, it proved the people that paying for listening to music are a worthy value for money.
7. Conclusion and future work

In Indian market scenario, the mobile network operators are facing a number of challenges. The revenues from the dominated service such as voice and SMS were decreased. 3G uptake is not so good. But the 3G services deployed so far has a fair amount of popularity among the people. In the near future, mobile broadband access services will get adopted and the demand for 3G services will get increase.

The motivation question of this thesis is “How can the operators make profitable business through Mobile broadband media services in Indian market?” In order to understand the current ecosystem, three important players’ operators, content providers and platform providers were interviewed. A number of strategies, different types of co operation and business models have been investigated.

All the Indian Mobile Network operators partnered with Apalya for their Mobile TV service. The operators claim that only single digit percentage of revenue comes from Mobile TV. One of the ways to optimize the revenue from Mobile TV segment, the operators may consider implementing advertisements in Mobile TV. This could be one of the sources of generating income in Mobile TV segment. There are quite a few types in this revenue generation by means of advertisement. Operators can generate revenue either with respect to the number of times the advertisement is played or number of subscriber clicks in the advertisement. A real time example for this could be the case study of China Mainland (27). In this market, the revenue from advertisements is the major source of revenue for online video business. The author of this research claims that market cap of revenue from advertisements in China Mainland gets increase of 81.1% year by year (27).

Other actors such as SAAVN, Dhingana etc., entered the market and gradually reaching the people in a market where mobile network operators are the traditional dominant players. These market players are offering value added services to the people at a free of cost. This allows people only to pay for their consumed data for these services. A similar market analysis for Indonesia claims that Indonesian operators also follow the same business models that they provide their own music streaming services by charging only for data and content is offered free to the subscriber for listening (28).

The Indian operators claim that mobile licensing issue being a major obstacle for implementing collaborative business between an operator and existing music streaming service. The major question raised during the discussion is who is ready to pay for the license. One possible solution for this could be the Spotify like services as they already acquired internet rights, could consider paying for the mobile license also. This payment may be balanced in terms of revenue sharing with the operators. Similar issue has been tackled in China mainland market (27). When it comes to content licensing in China market, the internet company has legal contents and pay licensing fees to labels. Whereas the operators doesn’t pay licensing fee for the legal contents but due to collaborative business model, the revenue sharing is used when operators offer these legal services through their own channel and pays to the record labels when the subscriber utilized these services (27).

In this present situation, it would be beneficial for the operators if they start looking out for bundling the data. Due to the increasing 3G consumption by the people, there are high possibilities that operators data pipes to get fill by providing proper bundling services. The concept of bundling though is not widely popular in India like western countries; this would make a considerable revenue management once 3G is
well accepted among the people. Present Indian market has high costs for 3G data and this is one serious issue for the operators to bring the 3G costs down.

One way of attracting more number of 3G subscribers is by identifying the smartphone subscribers and offering them limited free 3G data as promo. In a similar way, India’s potential operator Bharti Airtel is promoting to its customers. Bharti Airtel identifies its subscribers with smartphones and offers them 200 MB free data per month as a part of the promotion campaign. Proper bundling like paying certain amount for data, voice minutes or SMS’s as a package. India being a voice driven market, there are high chances for such bundling to get huge success among people. But the question arises here is the cost of production of voice data vs bundling revenue from 3G services.

Through Diffusion theory, one successful technique that can be diffused into the Indian music streaming services is the supporting of offline music streaming in mobile. (26) This offline music streaming is of great benefit to the customers as they can listen to their favorite songs in Wi-Fi and can synchronize their playlist to their mobile. This will enable the user to listen to songs without data connection during non-Wi-Fi areas.

Indian operators may consider deploying Wi-Fi hot spots in as many areas as possible. Today Wi-Fi hot spots are available in important areas like airports, but not all the operators have deployed their Wi-Fi. Only a few operators give free access of 20 – 30 minutes to their customers. Deploying Wi-Fi hot spots could also be one of the sources of revenue generation. The Wi-Fi service deployed in airport or malls can be offered free for 20 – 30 minutes and then they can be charged on per hour basis or per Mega Byte basis. From a normal subscriber’s perspective, deployment of these Wi-Fi hot spots makes a considerable difference in attracting customers towards smartphones and 3G. It has been mentioned in various parts of this thesis report that Indian market has a good penetration of fixed line broadband but all the houses that has the fixed line connection doesn’t have Wireless router. This is one of the acceptable facts that all the smartphone users may not have tried the VAS services in their smartphones. Deploying Wi-Fi hot spots will reduce this barrier to a considerable extent and make the people aware about the 3G services. This suggestion has been put forth after understanding the research on Business models heading under section 1.3; Related work. In this research, the author mentioned two categories of people in his customer classification model in which the people of second category are interested in mobile VAS but they don’t purchase it because they are unaware of the competitive prices and services. Deploying Wi-Fi hot spots will help the operators in targeting this category in creating awareness to the people who are interested in VAS services and giving them an opportunity to use these services (3).
8. Bibliography


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23. **Markendahl, Jan I.** *Indian telecom market is very dynamic and differs a lot from Europe.* s.l. : The Unwired People, 2012.


31. market, Interview observation with operators and players in Indian. May 2012.

List of interviewed people in Sweden

1. Telia - Lars Roth – Vice President, Consumer
2. Spotify - Andreas Liffgarden – Business Development

List of interviewed people in India

1. TATA Docomo - Jamshed Gilani, Senior Manager at TATA Teleservices ltd
2. Airtel - Andesh Bhatti – Head – Data services
3. Aircel - Pradeep Rao – Head – VAS Marketing
   Rajkumar Sathiyamoorthy – Business Manager – Mobile Broadband
   Arvinder Gujral – GM – New product development
   Smarak Rath – VAS head – Music
4. IDEA Mall - Vineet Kaul, General Manager, SaaS, Ericsson
5. MOTO Music - Srini Miriyala, Senior Manager, New product development at Motorola (Past)
   Director, India & SWA at Myriad group AG (Present)
6. Hungama - Hemant Jain, Senior vice president
7. Symbioticinfo - Sunil Kumar, CEO
## 9. Appendix

### 9.1. Appendix A – Questionnaires

**Market Pre-study questionnaires**

<table>
<thead>
<tr>
<th>Functions</th>
<th>Questions</th>
<th>Telia</th>
<th>Spotify</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Value Chain</strong></td>
<td>What is the motivation behind collaboration of Spotify with Telia and vice versa?</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td></td>
<td>Who are the other actors involved in this partnership?</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td></td>
<td>How is the music industry players interact in this cooperation?</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td></td>
<td>What value do you think Telia, as a mobile operator, add to this mobile music streaming service and vice versa?</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td><strong>Value proposition</strong></td>
<td>What is the major value proposition that Spotify shares with Telia?</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td><strong>Business transform</strong></td>
<td>What do you think are the obstacles when music streaming service immigrates from desktop to Mobile device?</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td><strong>Revenue generation and margin</strong></td>
<td>What are elements of consideration for the prizing and bundling?</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td></td>
<td>What are the elements of spotify’s service marginal cost per subscriber?</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td></td>
<td>What is the revenue sharing model used between these involved actors?</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td><strong>Value network and competitive strategy</strong></td>
<td>What things need to be modified if the model similar to Spotify-Telia partnership is used in these 3 markets?</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td><strong>Network load &amp; Capabilities</strong></td>
<td>What are major consequences for Telia to get involved in the digital music industry, in term of network load perspective point of view?</td>
<td>Yes</td>
<td>No</td>
</tr>
</tbody>
</table>
What kind of network capabilities in terms of billing, traffic and user management can improve end user experience in this service?

If you go to higher bit rates such as video, do they consider other values you have in terms of related to the network, billing, operations, support system, capabilities, knowledge about the end users whereabouts,

Table 2 – Market Pre study in Sweden – Author’s questionnaires

Interview questionnaires for India
The operators interviewed are Airtel, Aircel, TATA, and IDEA Mall
The OTT’s interviewed are Hungama, Motomusic, and Symbiotic info

<table>
<thead>
<tr>
<th>Services</th>
<th>Questions</th>
<th>Operators</th>
<th>OTT’s</th>
</tr>
</thead>
<tbody>
<tr>
<td>Prioritization</td>
<td>There are many value added services Mobile TV, Music store etc that operators has provided to the customers. From these value added services, how does operators prioritize the order of the services with most focused one on top?</td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td>Mobile TV</td>
<td>What are the major obstacles in migrating the Mobile TV from Desktop to mobile?</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td></td>
<td>What makes the operators unique among its competitive operators in these services?</td>
<td>Yes</td>
<td></td>
</tr>
<tr>
<td></td>
<td>What are all the circles that are using this Mobile TV service to the maximum?</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td></td>
<td>There are about 60 channels that can be used from this Mobile TV. How do the operators collaborate with all these channels?</td>
<td>Yes</td>
<td></td>
</tr>
<tr>
<td></td>
<td>What value does an operator adds to these collaborated channels and vice versa?</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td></td>
<td>What are major consequences for the operators to get involved in the mobile TV, in terms of network load perspective point of view?</td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td></td>
<td>How does advertisements have been implemented in Mobile TV?</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Music service “Download and play” or “Dial &amp; listen”</td>
<td>What steps were taken to attract the customers to utilize this service instead of using the pirated download and play music? How music industry does consider the problem of piracy with respect to this music store concept?</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Customers of which specific circle are maximum availing this service?</td>
<td>Yes</td>
<td>Yes</td>
<td></td>
</tr>
<tr>
<td>How are the music industry players such as content providers, record labels associated with this? Who are all the players associated?</td>
<td>Yes</td>
<td>Yes</td>
<td></td>
</tr>
<tr>
<td>What is operator’s perspective of an ideal music streaming service?</td>
<td>Yes</td>
<td>No</td>
<td></td>
</tr>
<tr>
<td>Pocket learning</td>
<td>A number of operators have launched a similar service called “Pocket Learning.” One of the distinguishing features that cover in TOM is the conferencing. What are all the features that make TOM unique among the users?</td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td>In which geographical area does this service most popular among users?</td>
<td>Yes</td>
<td>No</td>
<td></td>
</tr>
<tr>
<td>Does the operator’s see any major change in the percentage of their users availing this service?</td>
<td>Yes</td>
<td>No</td>
<td></td>
</tr>
<tr>
<td>Apart from operators and experts, are there any other players involved in this co – operation?</td>
<td>Yes</td>
<td>No</td>
<td></td>
</tr>
<tr>
<td>What value does operators adds to these experts and vice versa?</td>
<td>Yes</td>
<td>No</td>
<td></td>
</tr>
<tr>
<td>How is the revenue shared between the operators and experts?</td>
<td>Yes</td>
<td>No</td>
<td></td>
</tr>
</tbody>
</table>

*Table 3 – Interview summary for India – Author’s analysis*
9.2. Appendix B - List of interviewed operators

9.2.1. TATA Teleservices

Overview
The entire meeting took 1 hour. The meeting was very open and the productive. This meeting gave a completely different insight about the Indian market which I have not come across in my literature study phase. The entire revenue from wireless internet is Rs.400 crore/month out of which Rs.350 crore/month comes from Dongle. Considering TATA’s revenue, it is around Rs.150 crore/month and around Rs.140 crore/month comes from Dongle.

Discussion about tablets
Considering between small screen smart phones and bigger screen tablets, with respect to Indian market, it is definitely tablets that is going to rule the market. Currently the tablet rolling out in market is approximately 40,000 tablets/month. But this data will surely shoot up when the speed and connectivity of 3G increases. The major reason behind this is the smart phones prices are still higher compared to the tablets. Companies such as Penta, Micromax, HCL are launching tablets at a very cheaper price tag between Rs.6000 – Rs.6500. There are also other tablets like Akash to name a few which are about to hit the market. There is a strong feeling for everyone that Micromax will surely rule the tablet industry as they already proved it in mobile market. Today Micromax is the second largest mobile seller in India and sells about 3 million mobile/month. But the only thing Micromax is much worried is about their brand value recognition in the tablet market. Usually the working model of these tablets would be more like they have backend tie up with app provider for supplying the apps. The operator supports for 3G connection and there would be an advertiser for promoting the product.

3G vs. Wi-Fi in India
When comes to 3G vs. Wi-Fi, the Indian market slightly differs from the western market. Unlike the apple and android tabs (all tabs are not equipped with 3G), almost all the above mentioned Indian tablets comes with the option of 3G SIM as well as Dongle. The major reason behind this is the lacking of numerous Wi-Fi hot spots in the country. Even Wi-Fi is not available in all those houses where they have fixed line connectivity. But the tablets also have the option of connecting in Wi-Fi. It is only RIL who have PAN – India license. So everyone is expecting Reliance to deploy 3G all over India whereas other operators have licenses specific to some circles or regions.

TATA’s 3G focus
The top end customers who consume a lot of 3G are with Bharti Airtel, Idea and Vodafone. It is to be noted that for IDEA, 90% of the revenue comes from Internet. For operators like TATA and Aircel, the GPRS speeds are good enough for the people to listen to music due to the less consumption of data by people. Though TATA has launched a variety of 3G services, all these services are hardly less or even not consumed by the people. So at present, TATA’s focus is on 3G customer acquisition rather than expanding or improving 3G services.

TATA’s 3G services
While speaking about 3G services from TATA, it has launched 3G music, 3G mobile TV and Tutor on Mobile. TATA believes that out of these 3 services, it is the tutor on mobile that is going to be a major hit among the people. There are already a lot of established methods for listening to music in India. But this
tutor on mobile is a completely new service to reach the people. The service covers the entire syllabus for all standards. The graph of this Tutor on Mobile will definitely shoot up after tablets reaching the people. Considering the Mobile TV service, TATA is using the Mobile TV from service provider Apalya. Usage of the Mobile TV is very less. Less than 2% of TATA’s customer base is utilizing the mobile TV and the revenue generated from it is less than 1% of TATA’s revenue.

**9.2.2. Airtel**

**Introduction**

Airtel is the dominant operator in India and they have a variety of diversified services. They have a total subscriber base of 180 million subscribers. Out of this huge base, there were only 30 million internet users and only 15 million of them are active users. I got a chance to meet Head, Data services at Airtel. The 1 hour discussion was quite informative and very productive. Here is the summary of the entire meeting.

**Airtel’s idea about 2G/ 3G datas**

Airtel’s live portal called ‘Airtel live’ is very widely consumed by the people. The previous business model of this Airtel live is that there will not be any charge for browsing but airtel only charges for download of data. With this Airtel live, it generates a revenue of Rs. 50 crores/month approximately equals to 9.3 million USD. It is to be noted that the browsing charges doesn’t count in this revenue. This is exclusively from the contents download through Airtel live portal. >95% of this above revenue comes just through feature phones. Now Airtel has made a shift in its business model that they implement the charges for browsing but they reduced the charge of the content download. With this shift in their business model, Airtel generates more revenue than the previous values with just this Airtel live portal. Airtel feels that the cost of production of data is very high that costs about 60 paise for 1MB of data. This leads to high data charges but this will come down in the future

**Airtel's issues about music streaming**

The ecosystem of the music industry is a kind of different in India. The licensing issue is a bit complicated like there are two licenses. Separate licenses for Internet and mobile. The music streaming services like SAAVN, Dhingana or Ghaana to name a few, has license for internet but they do not have license for mobile. But their apps are available for iphone as well as android and people are using it through 3G. Discussing this issue in operator’s perspective, Airtel feels that it is fine as long as it is provided by the music streaming service provider and consumed by people in 3G handsets. But if any of these services is partnered with mobile operator, then it becomes a mobile service and the licensing issues for accessing through mobile pops up. In this stage, due to its high revenue of Airtel from its other services, it doesn’t want to take a foot at this specifically. But the condition may change in the future.

Apart from these licensing issues, Indian mobile market is largely driven by pre paid SIM cards. Lack of social security number, handset vendors bundling with operators like Western countries, airtel feels that they will lose their subscriber base if they were to stop this agreement at any point of time in the future. The subscriber will just through the pre paid SIM and move on to other operator.

**Download and play or Listen a song**

When speaking about Airtel’s music services, Airtel feels that still the ‘Download and play’ model is dominated among the people. In this case, Airtel specifically focus with consumer’s psychology. When it comes to Airtel’s bandwidth, it has around 2kbps outside metrocities. These are the areas where the real
consumption of this music occurs. Airtel feels that this speed is too low to streaming. In people’s psychology, they can wait for minutes till a song gets download whereas it is highly irritating if buffer occurs in the middle of streaming. This is one of the main motivations for people to call and listen to song whenever they want and pay/minute or pay/ per song.

**Mobile TV**

When it comes to collaboration in India, the operators want to retain maximum amount of the revenue. Discussing about the Airtel’s Mobile TV, I came across this interesting information. There is a mobile TV service provider in India called Apalya. All operators who supply mobile TV partners with Apalya. The business model of Airtel with Apalya is like consider Airtel charges Rs.50/monthsubscriber for its Mobile TV. Airtel will keep Rs. 40 and the remaining Rs.10 was distributed to Apalya where in turn Apalya distributes Rs. 2.50 to the TV channels. Now the situation in India is like the TV channels are demanding Apalya the same amount of rupees for Mobile TV / subscriber similar to the revenue they get in big screen. In Airtel’s perspective, they are very least worried about their advertisements because the total revenue they generate in advertisements is just Rs. 2 crores/ year which is almost nothing compared to their other revenues.

**9.2.3. Aircel**

**Introduction**

I had total of 2 – 3 hours discussion with separate people focusing on each service. I started with the discussion with Pradeep by sharing my work on Telia – Spotify. It was a very good conversation and the officials at Aircel were very open to music streaming compared to other operators. They already have a fairly good knowledge about Spotify and they also have good knowledge about the labels investments on the OTT like Spotify that is also a drive for their success.

**Music on Call**

The highest revenue of Aircel comes from CRBT – Caller Ring Back Tones. This constitutes about 11 – 14% of their VAS revenues. The second highest revenue comes from their MOC – Music on Call. Aircel is charging the customers Rs.30/100 minutes for listening to songs through voice channels. This constitutes approximately about 3% of their VAS revenues. The concept of FSD – Full Song Download constitutes <1% of their VAS revenues. The Aircel folks feels that this service is growing at a very fast pace. Aircel is charging Rs.5/song for this service. They also spoke about the piracy issues being rampant and they find it difficult to compete with it. When speaking about the licensing agreement, they feel that they are open and happy to work with players like Hungama and they are least worried about the mobile licensing agreements. This is one statement in contrast with Bharti Airtel where those folk’s main worry was the licensing agreement with services like SAAVN, Hungama etc.,

**Mobile TV**

Aircel first launched its Mobile TV in August 2011 at a speed of 30 – 40 kbps in 2G data for Rs.100/month. The mobile uptake was very low when offered in 2G. But in 3G, this was offered at a speed of 200 kbps. The Mobile TV app was available for the platforms such as Android, Symbian, JAVA and also on the WAP store. Like its competitive operators, Aircel also offering its Mobile TV service through the provider Apalya. But one significant difference is Aircel created its own channel called Aircel Popcorn apart from the channels that were offered from Apalya. This was created in tie up with UTV. They also launched a DVR service on Mobile TV. The concept behind this is to record the programmes
from TATA sky and offer it to the customers whenever they demand a request SMS. Aircel did it based on the concept of recording it somewhere offline and playing it as a VOD service. But both of these services don’t have a good uptake because of the licensing concerns or they feel it’s too expensive to run it. They figured it as only single digit % of revenues comes from this Mobile TV. Out of the total aircel’s subscriber base of 40 Million users, only 100000 subscribers use Mobile TV. When it comes to the subscriber base, 2G Mobile TV subscribers > 3G Mobile TV subscribers. It is also to be noted that the service provider Apalya represents about 500 Million subscribers in total.

9.2.4. IDEA Mall

Introduction
IDEA Mall is an app store for all mobile platforms such as android, java except windows and ios. IDEA Mall is connected to the IDEA telecom whereas for Reliance telecom, it is called R–apps. Both stores perform the same operation exclusively for 2 different telecoms. Apart from this, IDEA mall has collaboration with other operators such as Smart from Philippines. Ericsson acts as an intermediary between telecoms and aggregators like EA. Ericsson does the entire operations from end to end except marketing the app store. Ericsson deals with aggregators but not directly with the developers and applications. Some apps such as NFS the run from EA was first launched in IDEA mall before Google play and apple store.

Revenue sharing
Invariable of any apps, the revenue sharing model of IDEA mall is like Telecos withheld 50% of the collected amount from subscribers and transfers the remaining 50% to Ericsson. Ericsson in turn transfers 60 – 80 % of the amount from the 50% it received from Telecos. For the question about Ericsson’s plan to expand tie up with operators, Ericsson is not in a plan to plan to make many tie ups. Ericsson can’t do well on e-stores globally.

Mobile TV
IDEA mall is making IDEA TV available to the customers in the collaboration with Apalya mobile TV just similar to other competitive operators. When it comes to advertisements in mobile, IDEA TV implements the traditional advertising pattern of advertising in the bottom of the screen.

Fixing the subscriptions
In terms of fixing the price tag for the subscribers, Ericsson and Telecoms discusses among them and fixes it. This is mainly based on subscriber’s mindset. As telecoms are always working towards consumers, they study the consumer’s behavior for pricing. In countries like India, the apps and OTT’s should depend on the telecoms for billing of their service. This is due to the lacking of credit cards among peoples like in US or in Europe. The customers are also comfortable in dealing the money issues with telecoms rather than credit cards. The majority of e-shopping that happens in India is mainly by cash on delivery basis rather than credit card payment.

Music
IDEA mall doesn’t have any mobile streaming apps in its store. There are a number of reasons for this. When it comes to India, t – series, hungama, BPL, saregama controls everything about the music in India. They have the licensing rights to the tracks. If Spotify plans to enter the Indian market, Spotify has to tie up with all these providers, the major problem comes here. The Indian telecoms already have tie up with all
these providers for their existing services such as Music on call, ring back tones etc., Then comes the questions from the operator side what is the necessary for them to make a tie up with music streaming again? And also getting mobile rights is a major obstacle for the Indian operators to make tie up.

**Global problem**
The present global problem is that the operators are trying to implement differentiated services to their subscribers. At that time OTT players come and swipe the entire market with their exclusive services. The best example for this could be Telia – Spotify. The Indian operators consume major revenue from these collaborations. They consume about 70% of the revenues. Vodafone was the first operator to make a revolution in its business model by consuming only 30% of the revenue.

9.3. Appendix C – List of interviewed VAS providers

9.3.1. Motomusic

**History**
Moto music was launched by Motorola after the acquisition of online and mobile music distribution company Soundbuzz in 2008. But later on the Motomusic India was shut down on 15 – July – 2009.  

**Introduction**
Moto music was primarily the concept of download and play as the streaming services are not available in GPRS connection during 2008. In 2006/ 2007, Motorola was the first to look into the integrated services.

**Acquisition**
Motorola didn’t want to strike deal with labels directly. So, it acquired Soundbuzz. This was not only a streaming service but also it had the technology to deliver the service for what Motorola was looking for.

**Motivation**
The main motivation of Motorola in this deal was not to generate huge revenue but to make the subscribers stick to the Motorola handsets. In an indirect way, we can say it as increasing its own buyer’s base.

**Motomusic offerings**
Just like many other services, this one was also offered as free for 1st six months. It was offered as a dual delivery model purchase. Music for mobile phone was sent as a link through SMS which has low quality and a link was also sent to mail which contains high quality download to stream in Desktops. This dual delivery version was only offered to Motorkr and not other Motorola models. They didn’t see this as a revenue making business instead they see this as promoting a value to Motorola. They offered it in such a rate as Rs.10/song download and Rs.8/ringtone.

**Tie up with Airtel**
Motomusic is allowed to access in all Motorola handsets invariable of any operators. But they made an exclusive agreement with Bharti Airtel. The agreement is the airtel users are allowed to access free for 1

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month or free download 50 songs without deducting any amount for their data. In this tie up, Motorola
claims that 70% of the revenue goes to Airtel and Motorola was given only 30% in which a huge amount
should be given to the labels. Not many people had GPRS connection at that time but 90% of the
Motorola people who had GPRS availed this service. The Motorola already had a billing connectivity with
Airtel, Vodafone and IDEA.

Licensing issues
I asked about the licensing issues to Motorola. But in this case, Soundbuzz already had license for both
Internet as well as Mobile. So Airtel doesn’t have any problems with this tie up. It was also claimed by
Motorola that Airtel also negotiated with the labels and get a discount.

9.3.2. Hungama

Introduction
India is basically a voice driven market. In 2004, 2005, CRBT (Caller Ring Back Tone) was very popular.
The consumers were ready to pay like Rs.30/month for a caller tune. Then comes the concept of music
listening. Consumers paid Rs.30 for 30 minutes to listen free music. The average time to reach music after
dialing was 45 seconds to 1 min before Hungama’s entry. After Hungama entered this area, the waiting
time was just 10 seconds.

Traditional WAP business run by Hungama
Hungama believes that Bihar has a huge market for music consumption. Each track was priced at Rs.25.
At that time the introduction of Rs.1 model was a huge hit. Consumer pays Rs.5 and downloads 5 songs.
This generated a whooping of 120 million INR revenue for Vodafone in 18 months after this service was
launched. Then comes a shift in this business model. Consumer pays Rs.5/day + bandwidth charges for
content. For Rs.5/day, consumer can download any content, music, video etc.,

Problems with 3G
But with the latest 3G service, the biggest challenge that Hungama feels is that the operators didn’t
communicate properly. The present big problem for 3G is the bandwidth charges that consume Rs.200 –
300 for watching Mobile TV. For a quick uptake of 3G, Hungama suggests operators to create bundles.
Hungama keeps on insisting the operators either to suggest for the bandwidth not for the contents or vice
versa. Hungama insists the operators to provide consumer friendly service to reduce the churn. Hungama
had daily, monthly and weekly packs for music services. Consumers started from daily packs and moved
to monthly packs. Hungama is confident enough that if the operators provide a music service with a
customer friendly bundle, then the customers are willing enough to pay for it.

Music landscape in India
In the past, VAS services failed due to complexity. Hungama believes that a large group of people still
buys physical CD’s. In the past years CD sales where high in south rather than north. Still side loading of
songs claims to be one of the strongest businesses in this field. CRBT was the largest revenue contribution
for all operators in terms of music. In India, there are separate licenses for Internet, Mobile, and Radio &
Broadcasting. Hungama believes that there is no necessity for any music streaming services in India as
operators have already direct co – operation with content providers. Hungama also working with partners
like App providers and billing integrated with operators. Operators are very larger in distribution and they
should work on the entire commercial model keeping the value reach ability in mind. So Hungama feels
that the operators by themselves have the potential of creating a streaming service platform. As already the voice revenues from operators were low, they should definitely get into VAS at least to retain their margin.

9.3.3. Symbiotic info

Introduction
The 1.5 hours of discussion with M. Sunil was very effective. He is such a nice and open guy that he shared a lot of general information about the present 3G condition in India and how it will be in the future. After speaking with him, I got many insights about mobile broadband from customer’s perspective.

Present work
Symbioticinfo develops in-house contents. They mainly act as an aggregator. For services like games, symbiotic info aggregates between developers and operators. If a game costs Rs.100, Symbiotic gets 22% of the share from operators. Their main task is customizing contents. They mainly work on WAP portal in making the headlines crispy and attractive to the users. Symbiotic has tie ups with many players like NDTV. In this tie up, symbiotic gives 60% of the share to them.

View on existing services
While speaking about the pocket learning, he claims that in future, if the 3G data is affordable by everyone, then probably by that time, the internet would be very cheap. So everyone in the tablet segment uses internet. So, what would be the necessity for e-books then? If the operators are seeing the pocket learning as their potential service in tablet space, then they should bundle and offer a differentiated service and syllabus that people should not get deviation about going to the internet instead.

While speaking about the Doctor on call or Mediphone service, he claims that though many operators have launched that service, it doesn’t fairly take up well among the people. In order to optimize that service and to make it widely consume by people, symbiotic is presently working with Apollo. Symbiotic will be an aggregator between Apollo and the operators.

Future 3G
It is a kind of difficult to predict that how exactly 3G will be in the Indian market in future. But it is for sure that there will be a lot of Wi-Fi hot spots in public places like Malls, theatres etc., they will charge the people like Rs10/hour. At present, some operators like Aircel have implemented this in airports where it allows their subscribers to browse free for 20 minutes. The real success is when we take this to rural and semi urban areas. 3G video calling will be free of charge the day handsets becomes cheap. The operators should look more into attracting customers with proper bundling of 3G like the customers can pay for the data and avail some free voice minutes or SMS.