‘Pricing and its influence on mobile Internet growth in emerging markets: The case study of Opera Mini’

MSc in Innovation and Entrepreneurship

Kien Trung Nguyen
20.05.2011
© Kien Trung Nguyen

2011

Pricing strategy and its influence on Mobile Internet growth in emerging markets: The case study of Opera Mini

Kien Trung Nguyen

http://www.duo.uio.no/

Print: Reprosentralen, Universitetet i Oslo
Abstract

This research is focusing on low income earners in Brazil, Russia, India, and Indonesia, for pricing Opera Mini to increase the penetration related to population. Opera Mini is still in the early stage, the product launched worldwide in 2006, so there’s still tremendous opportunity for market growth in emerging markets. Whereas emerging markets are known for having low penetration on PCs and high penetration on mobile phones, besides the consumers have low income and are price sensitive. However, by browsing the web with Opera Mini can save the consumer’s phone bills up to ten times. Besides Internet on PC have existed in the market for a long time now, will this prevent future growth on mobile Internet? These incentives mentioned above were leading to the followed research question: *How much share-of-wallet are consumers willing to spend on mobile Internet in emerging markets?*

To answer the research question, both primary and secondary data were collected. The primary data was interviews, and other materials from Opera Software. The secondary data are collected from various reliable sources.

The conclusion of this research is low income earners in Brazil, Russia, India, and Indonesia offers Opera Mini and mobile operators a tremendous opportunity for growth. The mobile Internet has grown dramatically fast compared to the PC Internet did and also the optimal price for mobile Internet is between 2 and 5 percent share-of-wallet.
Acknowledgement

First of all, I would like to express my gratitude to my supervisor Erling Maartmann-Moe for his patience and guiding me through the whole thesis writing process.

I would also like to thank Centre for Entrepreneurship at the University of Oslo for giving me 2 years of amazing journey and the opportunity to get to know my wonderful classmates.

Last but not least, I would like to express my gratitude to Sean D’Arcy, Director of marketing at Opera Software, for offering me this project and providing me useful informations, which made this research more validity and reliability.
Table of Contents

1 Introduction ........................................................................................................................ 1
  1.1 Background .................................................................................................................. 1
  1.2 Purposes ....................................................................................................................... 1
  1.3 Opportunities ............................................................................................................... 2
  1.4 Challenges ................................................................................................................... 3
  1.5 Limitation .................................................................................................................... 4
  1.6 Research Question ....................................................................................................... 4
  1.7 Research Objectives .................................................................................................... 5
  1.8 Structure of the project ................................................................................................ 5

2 Literature Review ............................................................................................................... 6
  2.1 Pricing Strategy ........................................................................................................... 6
  2.2 Pricing Objectives ....................................................................................................... 6
  2.3 The Demand ................................................................................................................ 8
    2.3.1 First-degree price discrimination ......................................................................... 8
    2.3.2 Second-degree price discrimination .................................................................... 9
    2.3.3 Third-degree price discrimination ....................................................................... 10
    2.3.4 Bundling ............................................................................................................. 10
  2.4 Pricing Methods ......................................................................................................... 10
  2.5 Operator’s Charging Method ..................................................................................... 12
  2.6 Emerging Markets ..................................................................................................... 13
  2.7 Maslow’s Hierarchy .................................................................................................. 14

3 Methodology .................................................................................................................... 16
  3.1 Methodological methods ........................................................................................... 16
  3.2 Research approach ..................................................................................................... 16
    3.2.1 Qualitative Research ......................................................................................... 16
    3.2.2 Quantitative Research ...................................................................................... 17
  3.3 Data gathering ............................................................................................................ 17
  3.4 Collection of data ....................................................................................................... 17
    3.4.1 Secondary data ................................................................................................... 17
    3.4.2 Interviews ........................................................................................................... 18
    3.4.3 Data from Opera Software ................................................................................. 18
4 Empirical Data .................................................................................................................. 20
  4.1 Mobile and Internet penetration ................................................................................ 20
  4.2 The demand of Mobile Internet and lifestyle in BRII countries ................................ 25
  4.3 Data plans .................................................................................................................. 29
  4.4 Growth ....................................................................................................................... 30
5 Analysis ............................................................................................................................ 34
  5.1 Pricing Objectives ...................................................................................................... 34
  5.2 Opera Mini and desktop Internet comparison ........................................................... 34
  5.3 Price sensitivity .......................................................................................................... 36
    5.3.1 Maslow’s theory ................................................................................................. 37
    5.3.2 Willingness to pay .............................................................................................. 38
6 Conclusion ........................................................................................................................ 40
  6.1 Recommendation for further research ....................................................................... 40
Reference .................................................................................................................................. 41

Figure 1 Maslow's hierarchy .................................................................................................... 15
Figure 2: stats over how much the customer pays its primary operator per month ............... 21
Figure 3: Willingness to pay for mobile Internet per month in Brazil ................................ 22
Figure 4: Mobile Operator charge in Indonesia ..................................................................... 24
Figure 5: Willingness to pay for unlimited data per month in Indonesia ......................... 24
Figure 6: The mobile phone penetration in BRII countries ..................................................... 25
Figure 7: Euromonitor International .................................................................................... 26
Figure 8: Reason for using mobile Internet in Brazil ............................................................. 27
Figure 9: The frequency a computer is used among mobile Internet users in Brazil .......... 27
Figure 10: On Device Research, Mobile Internet in India ................................................... 28
Figure 11: Reason for using mobile Internet ......................................................................... 28
Figure 12: Frequency a computer is used............................................................................. 29
Figure 13: User growth between May 2010 and April 2011 in Brazil ................................... 31
Figure 14: User growth between May 2010 and April 2011 in Russia .................................. 31
Figure 15: User growth between May 2010 and April 2011 in India ................................... 32
Figure 16: Opera Mini users in Indonesia ............................................................................ 33
Figure 17: Opera mini users and broadband subscribers by countries, December 2010 .... 36
Figure 18: Positioning mobile Internet in BRII countries ..................................................... 38
Figure 19: Price elasticity for BRII countries ...................................................................... 39
1 Introduction

1.1 Background

Opera Mini is a web browser that is designed for mobile phone, smartphones, and PDAs (Personal digital assistant) made by Opera Software. The application is offered free of charge and first released back in year 2005 in Europe only, and officially launched worldwide on January 24, 2006. Opera Mini\(^1\) is unique compared to other native browsers that are available at today’s market. The application requests web pages through Opera Software’s server, which process and compresses the data being sent to the mobile phone. This allows consumers to load webpages much quicker than other native browsers and save money.

Since the worldwide release of Opera Mini in 2006, the use has increased up to 100 million users worldwide as of February 2011, by help from its partnership with network operators. Opera Software has executed a number of deals with dominating network operators in recent years to promote Opera Mini. Companies like Vodafone, MegaFon Russia, MTS Russia, Telkomsel Indonesia, Telenor Group, TIM Brazil, and TATA Teleservices are among Opera Software’s partners.

1.2 Purposes

The purpose with this project is to do research in pricing for Opera mobile browsers to increase market share and mobile Internet penetration related to population, by analyzing current competition between mobile operators, and major mobile browsers in emerging markets. Opera Software cooperate with different mobile operators around the world, to promote Opera Mini, while its partner offers the co-branded application to their subscribers. Hopefully, this paper can give a better understanding of what role Opera Software has and what types of deals are involved within partnerships with mobile operators.

As this thesis is a part of the master program in Innovation & Entrepreneurship, the research for this project consist more from Entrepreneurial perspective, rather than a clean strategic marketing research paper. Opera Mini is still in early stage, the product officially launched worldwide in 2006, so there’s still huge opportunity for market growth. Entrepreneurial

\(^1\) http://www.opera.com/
marketing always seeks novel opportunity to create value for desired customers and build customer equity (Morris, Schindehutte et al. 2002).

A plural number of people in BRICI (Brazil, Russia, India, China, and Indonesia) countries cannot afford to buy personal computers, while 1.8 billion already have mobile-phone SIM card subscriptions. Today, Opera browsers are facing competition in Mobile Internet industry. The major players are iPhones’ Safari, Blackberry (native browser), Android (native browser), and Novarra acquired by Nokia. However, Novarra can be evaluated as direct competitor; Novarra is a mobile web browser that compresses and reformats web sites for phones that can’t display them in their native form, a product which have some similarities as Opera Mini, even though they are not innovative as Opera, in this paper, the mobile browsers that’s been mentioned is not the biggest concern for this research. However, Novarra has the potential to become supplier for the operator in emerging markets. This paper will be focused on bargaining power of buyer, as consumers in emerging markets are price sensitive, there are different elements that needs to be evaluated, in order to set a more accurate price to make Opera Software and its partners to grow in volume.

1.3 Opportunities

It has been mentioned among media several times that the number of mobile internet users will surpass the number of users browsing on a desktop in the future. Today, on personal computers “internet is the most disruptive technology of all times” says Vinay Goel2. According to a press release by Boston Consulting Group (BCG), the numbers of people with internet access in BRIIC (Brazil, Russia, India, Indonesia, and China) countries will double by 2015, as BRIIC are the five biggest emerging markets. Those countries are key factor in the future growth of the world economy; they can offer tremendous growth opportunities for Opera Software or any other companies from industrial countries. BRICI also represents about 45% of the world’s population and about 15% of global GDP (September 2010, BCG). The penetration for personal computers in BRICI is low while the penetration for mobile phones is extremely high. Mobile Internet usage is ramping up substantially faster than desktop Internet usage did (Ingram 2010). In 2010, 3G subscriber penetration exceeds 20% and has been predicted to grow over 40% by 2014, concentrated in developed countries.

---

2 http://yourstory.in/news/4471-qinternet-is-the-most-disruptive-technology-of-all-times-says-vinay-goel-google-indias-head-of-products
Emerging markets are nations with rapid growth and industrialization in business or social activity. Using Opera for browsing the web with mobile phone can save the consumer’s phone bills with Opera Mini. According to Vodafone, a key feature to attract users in emerging markets by making them pay less for data and can still get Internet access under “more challenging [network] conditions,”. With Opera Mini, users will have the same user experience on every phone, whether it is a smart phone or a feature phone. Its ability is simple, lightning fast and cost savings on data charges.

According to StatCounter[^3], Opera mobile browser has established a strong brand. However, Nokia’s Novarra is no less strong in emerging markets; they are market leader in Brazil, second in India, third in Indonesia, and fourth in Russia. Today, even though the number of Opera Mini users is continuously growing, but not at the same speed as the market is growing[^4], Opera Mini is market share leader in the mobile internet industry, but it has decreased for the last 12 months (March 2010 – March 2011), while other mobile browsers are growing in market share. However, Opera Mini still have the opportunity to maintain market leader in emerging markets, as Vodafone has launched customized Opera Mini version to run on low-end handsets on 2G networks, which can make people who have never experienced Internet before get the chance to experience it for the first time[^5], especially from rural areas or smaller towns. Mobile penetration has been growing tremendously in emerging markets for the last ten years, whereas mobile phones are no more a luxury, but a necessity[^6].

1.4 Challenges

This research is written internally from Opera’s perspective where the challenge will be external analysis on different mobile operators, and also evaluate the market in emerging markets. Besides, I have to understand how Opera corporate with its partners, as each company have different pricing objectives. This paper is about to seek for a recommended price for Opera Mini in emerging markets.

As emerging markets attract foreign companies to enter the market, the competition will be bigger. However, every foreign company needs to identify and adapt into the market

[^3]: gs.statcounter.com
characteristics of the nation (Keller 2003). Companies should consider the market conditions or other elements (i.e. economic, political, and cultural) in the foreign environment.

The challenges are to analyze:

- Disposable income by market
- The penetration of:
  - PC
  - Mobile
  - Mobile Internet
  - Internet
- Data tariff
- Opera Mini uptake analysis

1.5 Limitation

Since Opera Software is a multi-national enterprise (MNE), the culture is different from nation to nation. The study within this topic will focus on emerging markets in BRII (Brazil, Russia, India, and Indonesia) within consumer’s perspective in mobile Internet. Therefore, this paper may not be suitable for mobile operators in industrial countries due to cultural and economic environment.

1.6 Research Question

The Mobile Internet penetration in BRII countries is still low compared to the mobile phone penetration. The major issue is that people cannot afford to buy a PC and they may have to visit Internet cafés as the only way to get access to the Internet. Broadband Internet is also not affordable for a huge number of people in emerging markets. However, Mobile Internet service has just recently established in BRII countries and it is affordable for most of the people. So basically there is still a vast potential growth for Opera Software with its unique
product Opera Mini, at the same time help consumers to save data charges up to ten times. This research will focus on consumers with low income and see how much they are willing to spend out of their disposable income, on Mobile Internet to seek for improvements on data tariffs.

_How much share-of-wallet are consumers willing to spend on mobile Internet in emerging markets?_

### 1.7 Research Objectives

- What is the consumer’s disposable income
- Figure out the share-of-wallet spending on mobile internet services
- Identify the current positioning of Opera Mini
- What role do Opera have within partnerships?
- Will PC broadband decelerate mobile Internet growth?
- Focus on emerging markets in Brazil, Russia, India, and Indonesia

### 1.8 Structure of the project

The aim of the introduction chapter in this paper is to present the overall problem background and discussion. Furthermore, the research question is stated. The second chapter contains the literature review which includes the theories that are relevant to this research. The third chapter explains how and why the research is done in the way it is presented. Chapter four represents the results from the collection of both primary and secondary data. The analysis chapter presents the discussion and analysis of the data that has been collected. The last chapter presents the discussion on the answer to the research question and the reflection of the research.
2 Literature Review

2.1 Pricing Strategy

A good start of defining pricing strategy is to define both management strategy and pricing strategy. According to Chandler, “strategy can be defined as the determination of the basic long-term goals and objectives of an enterprise, and the adoption of courses of action and the allocation of resources necessary for carrying out these goals” (Chandler, 1962). The price is a sometimes-overlooked element of the marketing mix. It has a large impact on both gross margins and sales volume\(^7\). And it is the most important element of the marketing mix, as pricing supports the 3 remaining elements. It costs to produce and design a product; it costs to distribute a product and costs to promote it\(^8\). Market leaders are required to chase for an effective pricing strategy in order to maintain their market position, because pricing issue is a sensitive aspect. Pricing a product also need an evaluation of the value provided to customers. Pricing the product high can only be achieved when the product is highly valued by customers (Kotler, Armstrong et al. 2008 p.281). Price cut is usually a poor decision financially, even though it is the quick and effective way to reach sales objectives. Even product differentiation, advertising, and improved distribution doesn’t increase sales at the same speed as price cut (Nagle and Holden 1987). Reconsidering pricing will force a company to focus more on customers’ needs. To implement pricing strategies, it requires a thorough understanding of consumer pricing psychology and a systematic approach to setting, adapting and changing prices (Kotler, Hansen et al. 2009 p.578).

Either pricing a product too high or low will lead to disadvantages for the organization. Even though Opera Mini is market leaders in Mobile Internet industry, pricing issue is a particularly sensitive aspect to protect their market position. Not only pricing is sensitive but also being innovative is a sensitive aspect, Opera products itself is downloadable for free.

2.2 Pricing Objectives

Pricing objectives is usually decided before setting the price. It describes the role of price in an organization’s long-term, short-term plans, or both. As the firm’s objectives are set, the

\(^7\) http://www.websitemarketingplan.com/techniques/pricing2.htm
\(^8\) http://www.learnmarketing.net/Price.htm
easier will it be to develop marketing strategies. The five major objectives are: survival, maximum current profit, maximum market share, maximum market skimming, and product-quality leadership (Kotler, Hansen et al. 2009). An empirical research by Diamantopoulos (1991) indicated that companies’ objectives are multifaceted in that the viability of companies rests on a combination of different pricing objectives, which is flexible and change over due to organizational or environmental conditions (Shipley and Jobber 2001).

**Survival**

Companies pursue survival in situation such as market decline and overcapacity. Where pricing objective can be enough to cover the costs to make sure the company stays in business. This pricing objective is a short-plan (Kotler and Keller 2006).

**Maximum current profit**

Companies estimate the demand and costs associated with alternative prices to maximize the unit profit margin, and recognizing that quantities will be low. This pricing objective is a long-term plan and may sacrifice the effects of other elements in marketing-mix, competitors’ reactions and legal restraints on price, because of emphasizing current performance (Kotler, Hansen et al. 2009).

**Maximum market share**

Companies set to maximize the number of units sold, by grow in volume will lead to lower unit costs and higher profit in long-term. The conditions favors for adopting a market penetration pricing strategy are as follows (Kotler, Hansen et al. 2009):

1. The market is very price sensitive and a low price stimulates market growth
2. Production and distribution costs fall with accumulated production experience
3. A low price reduces direct and threat of potential competition.

**Maximum market skimming**

Companies releasing a new product with advantage by setting high prices and slowly reduce the prices as competitors enter the market. The pricing objective is being set under following circumstances:
1. A sufficient number of buyers have a high current demand.

2. The unit costs of producing a small volume isn’t high, in case of the company have to cancel the advantage of charging.

3. The high initial price doesn’t attract more competitors to enter the market.

4. The price tells that it is a high quality product

2.3 The Demand

It’s important to understand the impact of pricing on sales by estimating the level of demand curve for the product. The demand curve consist the relationship between price and quantity demanded per period. Usually if the price is too high, the level of demand may fall. The first step in estimating demand is to evaluate the understandings of consumer’s awareness on price sensitivity. The consumers are less price-sensitive when:

- There are lack of substitute product or cannot compare the quality of substitutes
- The product is more unique
- The product is inexpensive with respect to their income
- The product is assumed to have more quality, prestige, or exclusiveness.

The most common methods companies use for measure their demand curves are surveys, price experiments, or statistical analysis. For this project, it looks more convenient to use statistical analysis of past prices, quantities sold and other factors for estimating demand curve. According to Varian(2001, p. 13) price discrimination is important in high tech industries because of low-marginal cost products often leads to significant market power with the usual inefficiencies, therefore the price will often exceed marginal cost, this is another pricing issue that can also be decided.

2.3.1 First-degree price discrimination

First-degree price discrimination or personalized price means that price varies for every individual consumer according to their willingness to pay for the product. This phenomenon
is also known as “mass customization” or “personalization” (Varian 2001, p.15). Today, few mobile operators offers customized data plan, but Verizon is one of the few who do offer a pricing model close to first-degree price discrimination. They offer customers more customized options for data plans and devices to match their lifestyle needs. Verizon’s focus is to make their network more unique and personal for every individual costumer\(^9\). Sellers are depending on “owning the consumer”, means that they can understand customer’s purchasing habits and needs, this can lead the firm to a competitive advantage (Varian 2001). This will of course raise privacy issues, but it will also raise customer’s satisfaction. The author Varian(2001, p. 14) found two research articles done by Ulph and Vulkan named “Electronic commerce and competitive first degree price discrimination” and “E-commerce, mass customization and price discrimination”, they find that consumers tastes are not dramatically different, the intensified competition effect dominates the surplus extraction effect, making firms off and consumers better off with competitive personalized pricing than with non-personalized pricing.

### 2.3.2 Second-degree price discrimination

Second-degree price discrimination, also known as product line pricing, market segmentation, or versioning, means that price varies according to quantity sold. The more units being sold the price per unit will decrease. This kind of pricing model can be a problem issue among many mobile network operators, because it is expensive to build 3G networks, by decreasing the price, the possibility for attract consumers to use Mobile Internet will be bigger which leads to heavy data traffic, then mobile network operators have to expand their 3G network (Yaipairoj and Harmantzis 2004). A common form of price discrimination or versioning for each operator is different network speed with different prices, often consumers with high willingness to pay will be attracted by lower-priced products that are targeted towards consumers with lower willingness to pay (Varian 2001). As Varian (2001) mentioned in his article, versioning is good in that it allows markets to be served that would otherwise not be served. Versioning is being highly adopted in high-tech industries and a huge trend for big companies like Microsoft offering Microsoft Office in different versions, Apple sells their product with different specifications, etc.

The Opera Mini uses only a tenth of the bandwidth, compared to other mobile browsers\(^\text{10}\). A product like Opera Mini can make it possible for mobile operators to reduce the price on mobile data and also help them to drive data traffic, and increase ARPU.

### 2.3.3 Third-degree price discrimination

Third-degree price discrimination also called *group pricing* is selling at different prices depending on target group or by location which is widely used and a classic form.

### 2.3.4 Bundling

Bundling is joining two or more distinct goods together for a single price (Varian 2001). This is widely used in the telecommunication industry where they offer a package with different services for a single price. It significantly improves firm profit and efficiency, but at the cost of a reduction in consumer surplus. Quite few mobile operators offer a bundle with Opera Mini included, Telenor in Serbia are one of the few who does, they offer a bundle of Internet services called “Telenor klik” which includes Opera Mini, and Telenor Communicator contains social media, and email services\(^\text{11}\). Bundling a large number of goods are more profitable compared to the small ones (Bakos and Brynjolfsson 1999).

### 2.4 Pricing Methods

A company sets pricing method according to its pricing strategy, the pricing method may be based on cost, competition, or demand. The methods are defined as a process which helps companies to take pricing decisions for its product. Avlonitis and Indounas (2005) have identified 12 pricing methods which is categorized into 3 large categories namely cost-based, competition-based and demand-based (Avlonitis and Indounas 2005; Kotler, Hansen et al. 2009)

- Cost-based methods


- Cost-plus method, a simple method which require little information, a common method is to calculate the costs and simply add additional amount to represent profit

- Target return pricing determines the price that would yield the target rate of return

- Break-even analysis, determine a price at a point where total revenue are equal to total costs

- Contribution analysis, only the direct costs of a product or service are taken into consideration

- Marginal pricing is to make sure that the marginal costs is covered by pricing below total and variable costs

- Competition-based methods (going-rate pricing)
  - Pricing similar to competitors or according to the market’s average prices
  - Pricing above competitors
  - Pricing below competitors
  - Pricing according to the dominant price in the market

- Demand-based pricing:
  - Perceived-value pricing is based on several elements, such as the buyer’s image of the performance, the ability to deliver on time, the warranty quality, customer support, and softer attributes such as the supplier’s reputation, trustworthiness and esteem.
  - Value pricing is offer a high quality offering with charging fairly low price
  - Pricing according to the customers’ needs and satisfaction
2.5 Operator’s Charging Method

Today, mobile operators always seeking to offer new solutions for service offerings based around content, m-commerce, and communication to charge consumers. As they may need more flexible payment options in order to reduce the expenses with new services. Current charging methods are as followed:

**Metered charging**, the subscriber is charged for the metered usage. The charge is a monthly basis and can include a certain amount of free metered units. This method is usually used in 2G networks for charging voice traffic.

**Fixed price charging**, the subscribers can either call or use the mobile Internet as much as possible by paying a flat fee. The charging method does not offer any additional revenue for the operator when the network of usage is over the average.

**Packet charging** is charged by counting number of transmitted or received packets, without considering the time of usage. This model can be very costly because it can end up with huge number of packets that have been exchanged without the subscribers are noticing.

**Expected capacity charging**, involves an agreement between the subscriber and the network operator regarding the amount of network capacity will be received by the user and the fee for that service. The prices are therefore fixed which allows the network operator to budget correctly for network usage. This enables the network operators to have more stable capacity planning.

**Paris metro charging** based on differentiated levels of services. The model combines the concept of travel class, as used on public transport systems. The subscribers get the chance to prioritize network traffic by assigning a preferred travel class with an associated cost for their network traffic (i.e. e-mail, streaming, browsing, etc.). However, this model can be very complex to implement the subscriber can get the chance to decide tariff class which can create overhead to the network.

**Volume based charging**, based on the amount of data transferred, where the subscriber gets charged for the amount of data being sent or received.
**Time based charging**, the subscriber gets charged by the time being connected to the network. This model is easy for mobile operators to implement since the network usage time is the only parameter that will be recorded.

**Market based reservation charging**, based on the concept of bidding and auctions used for items. The subscribers place monetary bids that will influence the quality of service they will receive for each of their serving network. The operator has to maintain a preference profile for each subscriber. In that way the network operator can use subscriber’s profile to route the network traffic. The disadvantage with this model is that the operator can introduce uncertainty for some subscribers.

### 2.6 Emerging Markets

Multinational enterprises (MNEs) often focus on the marketing challenge of capturing the huge market in emerging markets such as Brazil, Russia, India, and China. From small to big companies invest in emerging markets, they find potential markets for making money by charging customers in low income with less than $1500 a year which means less than $4 a day, and it is too little if the whole family have to live from that amount of money. Prahalad and Hammond (2002) have dubbed that market segment as “the bottom of the pyramid”, 65% of population worldwide which equals 4 billion people are in that segment. Usually even if they don’t have any money, they are always seeking to improve quality of life, whereas status is important.

A lot of MNCs (Multi-National Companies) today have successfully established its business in development countries, however, among those MNCs targets on selling to upper-middle-class market instead of the bottom of the pyramid segment. Even though people in emerging markets are very price sensitive, they often do buy “luxury” items, taking as an example, buying a house is not realistic for people at the bottom of the pyramid in Mumbai, they prefer to invest on other things like household appliances, telephones, pressure cooker, etc. (Prahalad and Hammond 2002).

The goods in emerging markets are super cheap; this makes potential competitors believe in entry barriers. But they are wrong, according to Prahalad and Hammond (2002), consumers at the bottom of the pyramid pay higher prices on most of the goods compared to middle-class consumers. Urban slum dwellers in development countries pay between 4 and 100 times
spend as much for drinking water as middle- and upper-class consumers. Middle-and upper-class also have different point of views on values, as they spend more money on education.

We may believe poor people from rural poverty have difficulties with adapting into advanced technologies. In India, woman from coastal villages learned using PCs to analyze real-time satellite pictures to locate the best fishing areas, and woman in Bangladesh have no difficulties using GSM cell phones (Prahalad and Hammond 2002). Since poor rural communities adapts quickly to new technologies, there’s a huge potential market for high-tech industry to target its business within the bottom of the pyramid segment, whereas 60% of India’s GDP comes from rural areas.

Usually MNE first-movers in emerging markets are often connected to the government (Hoskisson, Eden et al. 2000), having close ties with the government can offer tangible benefits for the company, such as obtaining license to establish its company in emerging market which is a big challenge, as the number of licenses is often limited by a government.

### 2.7 Maslow’s Hierarchy

Abraham Maslow (1908 - 1970) developed a content that proposes human psychology is motivated by five categories of needs (Maslow, Frager et al. 1970):

- Physiological
- Safety
- Social
- Esteem
- Self-actualisation

In this hierarchical model, when the need is satisfied it will no longer motivate you and will after that try to get a level higher in the pyramid. At the bottom of Maslow’s hierarchy, you will find the priority of need like air, clean water, food, and shelter the most basic needs for human survival. While the higher levels in the pyramid are of no relevance, as survival is the most basic human component. Due to people’s disposable income in emerging markets is low compared to developed nations. The opinion on money spent on luxurious products are also different, as people with low income are willing to spend on luxurious products even if they have no money left to spend. People with low income are fighting for to receive enough money to spend on food and water every day, but still they have luxurious products. That’s why Maslow’s theory will also be evaluated on this research.

Figure 1 Maslow's hierarchy
3 Methodology

3.1 Methodological methods
The thesis is designed in form of case study research theories developed by Yin (1984) which brings researchers an understanding of a complex issue or object and also add strength to previous research. It has been discussed that this case study method for the study of a small number of cases can end up with lack of establishing reliability or generality of findings. This literature has been chosen because it has been recommended for the Innovation & Entrepreneurship program, and there is no such thing as a “perfect” research methodology out there (Lee, 1989). The case study research method by Yin (1984) has been a success with carefully planned and crafted studies of real-life situations, issues, and problems it is structured and divided into six steps:

- Define research question
- Select relevant previous research papers
- Select and analyze previous conclusions that might be helpful for the assignment
- Prepare to collect the empirical data like interviews
- Evaluate and analyze the empirical data
- Write up the report

3.2 Research approach

3.2.1 Qualitative Research
According to Newman and Benz (1998), qualitative research is where you focus on multiple method, involving an interpretive, naturalistic research approach to the project. The research approach involves the collection of various empirical data such as case study, personal experience, introspective, life story, interview, observational, historical, interactions, and

---

12 http://www.ischool.utexas.edu/~ssoy/usesusers/l391d1b.htm
visual texts (Newman and Benz 1998). The qualitative are defined as “detailed descriptions of situations, events, people, interactions, observed behaviors, direct quotations from people about their experiences, attitudes, beliefs and thoughts and excerpts or entire passages from documents, correspondence, records, and case histories” (Newman and Benz 1998).

3.2.2 Quantitative Research

Quantitative research is based on the measurement of quantity or amount, which is experiments and surveys, and collects data on predetermined instruments that yields statistical data. To do quantitative research, it requires explanations and predictions that will generalize to other persons and places. The whole essence with quantitative research is to observe and measure. The advantage of this research approach is that the results give a very high level of precision because of the reliability in measurement and control is ascertained by sampling and design (Wilson 2010).

3.3 Data gathering

Primary data are considered as useful when secondary data are not available or cannot be used to answer the research question, as secondary data are information that have already been collected for different purposes than the problem at hand13, these data are easier to obtain and also less time consuming compared to primary data. If a plethora of data exist, then it’s not necessary to engage in primary data.

3.4 Collection of data

3.4.1 Secondary data

The secondary data was gathered mostly via Internet with awareness of information’s erroneousness that exits in Internet. In order to make sure that it’s reliable, the focus was mainly on popular websites (i.e. network operator’s website, institute websites, the central organization, etc.).

Opera case study

Opera Software have published different case studies on its website those case studies are being used to give an overview of its partners.

**Promotion price**

The promotion prices for mobile Internet usually appear on operator’s website. The promotion prices for mobile Internet was collected on major operator’s website in BRII countries.

**Public stats**

Public stats that were published on the Internet and collected are:

- Internet penetration
- Broadband penetration
- Mobile penetration

### 3.4.2 Interviews

Interviews are a very important input of information because a lot of information cannot be found on the Internet. In order to find the information, I contacted the marketing department at Opera Software and interviewed the employees who have experience with the mobile Internet market in BRII countries. The interviews were “semi-structured” because usually the interviewees have then the chance to share information that might also be helpful for this research and also the freedom to talk. However, the main focus was to ask following questions:

- How much do people with low-income earn?
- Is Opera Mini popular in rural areas?
- Who uses Opera Mini?

### 3.4.3 Data from Opera Software
I received results from a survey that Opera Software conducted (in summer 2010) on Opera Mini users in Brazil, Russia, India, and Indonesia. The data and information were regarding the use and opinions of Opera Mini, where Opera Software focused on questions regarding users’ mobile lifestyle. I also had the access to all the statistics for Opera Mini which is highly confidential. I received analyzed results from a company named On Device Research via Opera Software. On Device Research is a company that provides global consumer panels for research agencies and the mobile industry. They provided Opera Software generic data on Mobile Internet in Brazil, India, and Indonesia.
4  Empirical Data

4.1 Mobile and Internet penetration

Today, advanced mobile users usually come from, youth, young professionals, micro entrepreneurs, and average users. The users are usually innovative people who adapts quickly to new services and technologies. However, only 5 – 20 percent of operator’s revenue comes from those advance users in south-east Asia such as Indonesia (David Michael September 2010). Often the operators in emerging markets believe it’s possible to secure revenues from advanced users by increasing penetration with competitive pricing, in conjunction with ARPU by investing in customer retention, reward programs, or Customer Relationship Management (CRM), i.e. India’s lifetime subscription plans attract large volume of new subscription. However, the ARPU is not sustainable, this can only be used as short-term strategy to get more customers.

In emerging market, the Internet penetration divided by the population is still low compared to countries in developed countries like United States and Japan, where the penetration is believed to be about\(^\text{14}\) ¾. In India and Indonesia, the penetration is around 10%, while in Brazil and Russia is around 40%, those two countries also have the highest PC penetration among BRII with the rating high as Internet penetration, while in India and Indonesia is slightly lower than the Internet penetration. Meanwhile, the number of mobile users in BRII is already high, where India and Indonesia have the penetration ranging between 41 – 66%, and Brazil and Russia are between 86% - 141%. In Russia, the percentage of mobile penetration is believed to be below 100%, because there’s a tendency for users to own multiple SIM cards.

In Brazil, LAN houses (Public Internet Centers) are the principle point of Internet access\(^\text{15}\) with charging ranging between $ 0.40 to $ 1.50, this is very popular among youth people with low-income in both rural and urban areas. The Brazilian Association of Digital Inclusion Centers (ABDIC) estimates 108,000 active LAN houses in the country, which has become the only source for 79% (Lemos and Martini 2010) of people with income below $ 1.26 (BRL 2.040) per month. According to internet world stats\(^\text{16}\), Brazil reached 68 million internet users.

\(^{15}\) http://cbrayton.wordpress.com/2008/03/16/brazil-tupis-are-in-the-lan-house/
\(^{16}\) www.internetworldstats.com
at the end of 2009, where 48% among them use LAN houses as the primary means, the prices for internet broadband is getting lower which will become more likely that the number of Internet users will keep growing. Today, broadband is still expensive for many people, and available mainly in high- and middle income neighborhoods with 15.4 million\(^{17}\) (dec., 2010) subscribers, while 3G is affordable but not available in many areas. It may sound rare that Brazil is among the top ten countries with Internet users, Brazil are regardless the world’s fifth-largest population. Mobile Internet usage relatively fresh in Brazil with only 17% of Internet users, while there are 175 million mobile-phone subscriptions with most of them are 2G or 2.5G. However, there is a common trend where consumers have more than one phone. According to On Device Research, a data that Opera Software shared with me shows that about 46% pays less than $15.5 for mobile phone services per month, while the rest pays above.

![For your primary mobile phone service, which operator do you use?](image)

**Figure 2: stats over how much the customer pays its primary operator per month**

Another interesting data from On Device Research, shows that half of mobile Internet users are prepared to pay $6.2 (R$10) per month for unlimited data, while the rest are willing to pay above.

---

In **Russia**, the largest telecom market in Europe with fast growing Internet penetration due to the size of its population, the number of broadband subscribers are 18 million\(^{18}\) (dec., 2010). Other than that, they have the lowest price for Internet connection among BRII countries. However, the price varies by different areas; like in big cities have fairly low prices compared to small cities. The mobile-SIM penetration is already huge in Russia because of having multiple SIM cards is a common practice where the consumers uses different mobile plans for different needs. Today, the penetration is almost 150%, while the penetrations in the two major cities are close to 200%, according to Advanced Communications & Media(Lennighan 08/2010). However, BCG estimated that mobile phone penetration is between 75 – 80%.

In **India**, are among the BRII countries with low penetration on PCs with only 7% as they are known for having among the highest PC costs, since there is limited reach for desktop Internet, India have shown that there is a huge potential for Mobile Internet. Today, Mobile Internet is the only option to get access to the Internet for many people, which is also a cheaper and easier alternative to get access to the Internet, while there are only 8.8 million\(^{19}\) broadband subscribers (dec., 2010). However, India(july 2010) has released a $35(Rs.1.500) tablet PC for students and teachers in Schools, Colleges, and Universities with help from the government by providing 50% subsidy per sale, this will most likely make PC penetration grow even faster. Meanwhile, the mobile market has already matured with the penetration up

\(^{18}\) http://www.rustele.com/russian-broadband-access-market-2010.html
\(^{19}\) http://www.dot.gov.in/plans/telecommta.pdf
to 56% announced by Gartner (Shetty 2010), while they have also estimated that the percentages will increase to 72.5% in 2012. Today, most of the phones are low-end models where there are technical limitation activities. However, India has started to import Chinese handsets with good functionalities that are much cheaper than mobile phones with established brands, where it most likely will continue to grow in the future as the mobile penetration is still low in rural areas for instance because the network coverage and distribution channel is still low. However, Opera Software believes that the mobile penetration will grow rapidly in the near future. According to statistics from On Device Research:

58% believe that $1.1 (Rs50) per month is a fair price for unlimited mobile Internet usage

### In Indonesia

In Indonesia, the world’s fourth largest population are among the BRII countries with low penetration on PCs and insanely low on broadband penetration as 0.6% (1.4 million subscribers\(^{20}\), September 2010), the major factor is its low disposable income due to the effects of economic crisis back in 1997-98 (Wire 2005). That’s why Internet Cafés or so called warnet are extremely important for especially young digital consumers, warnets are available in many places with price as low as less than $1 (Rp 6,000) per hour. Meanwhile the penetration of 3G is highest among BRII countries with 19% at CQ2 2010 (Dawson 2010). On Device Research statistics:

67% pays less than $5.8 (Rp 50,000) to its primary mobile phone operator per month

Figure 4: Mobile Operator charge in Indonesia

65% believe Rp 20.000 per month for unlimited data is a fair price.

Figure 5: Willingness to pay for unlimited data per month in Indonesia
4.2 The demand of Mobile Internet and lifestyle in BRII countries

MI (Mobile Internet) availability in emerging markets is still limited, even though MI users are growing tremendously, as consumers in BRII (Brazil, Russia, India, and Indonesia) adapts quickly with online habits on cell phones and it has been suggesting to expand the network and price cut for MI as the costs reduces. The statistics in BRII from Opera Software shows 70 - 90% of active Opera Mini users are at the age below 37. According to Boston Consulting Group aka BCG (David Michael September 2010), 60% of Internet users in BRICI (Brazil, Russia, India, China, and Indonesia) are below that age, whereas 40 - 60% among the active users in Brazil, India, and Indonesia have used OM under 1 year, while OM is already a well-established product in Russia. Because of the penetration on Personal Computers is low, while the penetration on mobile phones is high, over 50% among active Opera Mini users spend more time on browsing with its mobile phone. Whereas the PC penetration in Brazil and Russia is around 32%, while India and Indonesia is low as about 5%. In the meantime, Mobile phones are already a popular device with 1.8 billion connections, according to the BCG. Browsing the Internet tend to be cheaper than any other options. In Brazil, fixed-line broadband price is unreasonable for many people; in Russia, the price varies depending on which area, some areas are inexpensive but it is not available for everyone; In India, the
infrastructure is bad, whereas cable Internet is unstable\textsuperscript{21}(2010). According to Euromonitor International, in terms of per capita annual personal disposable income, among the BRII countries, Brazil ranks the highest at end of 2010 with a per capita annual personal disposable income of capita $6,919.6. Russia ranks the second with $6,056.7, while Indonesia and India had the lowest.

![Average disposable income in BRII](http://www.euromonitor.com)

**Figure 7: Euromonitor International\textsuperscript{22}

In Brazil, Opera Mini just recently established where only a small percentage of active users have used the application over a year, as huge number of people use computer to access the Internet via LAN houses that are still popular with only $0.40-$1.00 per hour. However, among the active Opera Mini users have now the possibility to access the Internet at home via its mobile phone, they use it for education, communication, reading news, and downloading music or videos are the following activities that are being done on the Internet among them. It’s also common for the consumers to pay a flat fee for Internet access in Brazil. The results from On Device Research show that:

40\% of active mobile Internet users only use the mobile phone to browse the Internet and 45\% of active mobile Internet users either never or infrequently, use the desktop internet.

\textsuperscript{21} http://www.economist.com/node/16944020
\textsuperscript{22} http://www.euromonitor.com
Figure 8: Reason for using mobile Internet in Brazil

43% of active mobile Internet users spend their time mostly on the Internet at home.

In Russia, Opera Mini is very popular right now where it’s very common to have unlimited internet access. They use it every day mostly at home (40%) by young people under 37 years old who either are an employee or a student, where most of the time is being used on communicating with others, or downloading (music, videos, or pictures) when online.

In India, Opera Mini have established for a while now, slightly over 50% among the active consumers have used Opera Mini over a year. Since Mobile Internet is cheaper than broadband Internet, they all use Opera Mini multiple times per week mostly at home by young people with aged between 13 and 34\(^{23}\) dominated by males. Half of them pay a flat fee to get access to the Internet because they all use Internet frequently. According to Opera

Software and plugged, between 40 and 49 percentages that are using the mobile Internet have either never or infrequently used the desktop Internet. On Device Research shows that:

41% of mobile browsers don’t have the option of using the desktop Internet

![Figure 10: On Device Research, Mobile Internet in India](image)

**In Indonesia**, a country where mobile Internet or Internet cafés are the only options for Internet access among huge number of people, that’s why it’s obvious for Opera Mini consumers are using it multiple times per week at home. The statistics from On Device Research show that:

48% among active mobile Internet users in Indonesia use its phone to browse the Internet because it’s the only way to access the Internet

![Figure 11: Reason for using mobile Internet](image)

---

http://www.mobikontech.com/blog/?p=49
34% among active Mobile users in Indonesia go to Internet café when they use the Internet on a computer.

![Chart: Frequency a computer is used]

**Figure 12: Frequency a computer is used**

### 4.3 Data plans

The data plan prices were collected for only the top 3 major mobile operators for the given emerging market. Three elements for data charges were collected for each mobile operators namely data charges (pre-paid/post-paid), and unlimited data plan charges.

**Brazil**

The third largest mobile operator TIM Brazil offers the lowest mobile internet tariff among three biggest mobile operators, with as low as $0.3 (R$0.5) per day for unlimited access. As TIM Brazil is taking the advantage of Opera Mini by lowering the price, in a country where 3G is still not affordable for many people. Claro do expected capacity charging method starting at 150MB for $4.2 (R$6.9)/15 days.

**Russia**

The three largest Russian mobile operators MTS, Megafone, and Beeline are Opera Software’s partners, all of them offer unlimited mobile browsing services using Opera Mini. However, the competition is quite tough where their pricing strategy is competition based method; they charge low/high/similar to its competitors or according to the market’s average.
prices. Around 35-40 percent of Beeline mobile internet subscribers use Opera Mini for browsing, according to Telecompaper\textsuperscript{25}.

**In India**, the mobile operators use *Expected Capacity Charging* method which makes the mobile operators budget correctly for network usage. Bharti Airtel the leader in India with 152.49 million subscribers, charges lower than other mobile operator does. However, Bahrti Airtel offers only free browsing quota up to 2GB at 2.2 USD (98 Rupees) per month, while Vodafone\textsuperscript{26} offers a monthly rental from 2.2 USD (Rs.100) for 100MB up to 5GB for $27.9 (Rs.1250) and $0.23 (Rs.10/MB) after exceeding the limit. Reliance communication is the company that charges its customers highest with monthly rental from 100 rupees for 100MB up to 21GB for 47 USD (2100 rupees). This method makes it easier for mobile operators a better overview of capacity planning.

**Indonesia**

Telkomsel, a clear leader in mobile telecom industry in Indonesia with 93.136 million subscribers, they promote Opera Mini by offering bundle pack with Opera Mini unlimited surfing for $0.20 (2000Rp) per day. While its competitors doesn’t offer a value added service with unlimited data plan for a much lower price like Telkomsel has to offer. Thanks to Opera Mini, Telkomsel are able offer subscribers unlimited data plan for Opera Mini with a low price, while Indosat offers high speed mobile Internet subscription for $35 per month.

**4.4 Growth**

**Brazil**

In April 2011, the number of users has increased 112% since September 2010. Due to fewer days in February, Opera Mini had some minor decreases on users in that month. Meanwhile the data consumed has increased with 152% between September 2010 and April 2011 on the public version.

\textsuperscript{26} http://www.vodafone.in/3gworld/pages/3g_serivces.aspx?hc=5&cid=del
Russia

In April 2011, the number of unique users has increased 46% since May 2010. Meanwhile the data consumed has increased with 150% between September 2010 and April 2011 on the public version.

India

In April 2011, the number of unique users has increased 161% since May 2010. Thanks to the partnership has given Opera Software a vast marketing effort to drive mobile Internet use like
marketing efforts\(^\text{27}\). Meanwhile the data consumed has increased with 157% between May 2010 and April 2011 on the public version. Analyzing the growth rate between unique users and data consumed, we can clearly see that growing speed are slightly the same, which tells that data usage on each users are not a huge difference.

![Unique Users in India](image)

**Figure 15: User growth between May 2010 and April 2011 in India**

**Indonesia**

In April 2011, the number of unique users has increased 33% since May 2010. Meanwhile the data consumed has increased with 11% between September 2010 and April 2011 on the public version.

Figure 16: Opera Mini users in Indonesia
5 Analysis

5.1 Pricing Objectives

The objective for Opera Mini is to maximize quantity and market share. As Opera Mini is a free product where you can just download from its website, some people would say that the marginal costs for such products like Opera Mini is zero (Varian 2001). However, the marginal cost isn’t quite zero, Google is losing hundred millions of dollars a year by running YouTube, because of high costs on IT infrastructures to keep the high traffic alive. Opera Mini is no different; the traffic is also very high. In April 2011 Opera Software announced that they have reached again 100 million active users for the month of March. They will probably spend more costs to improve its infrastructure later on as Opera Mini grows in volume. According Phillip Kotler (2009), scalable businesses believe that a higher sales volume will lead to lower unit costs and increase in revenue in the long-term.

With Opera Mini, mobile operators in emerging markets do have the capability to fulfill the conditions to maximize market share. Consumers in emerging markets are highly price-sensitive, with less probability for mobile operators face high GPRS traffic and avoidance to improve 3G network, it will be more feasible for mobile operators to grow tremendously in volume by reducing price.

5.2 Opera Mini and desktop Internet comparison

Brazil has the lowest mobile Internet penetration among BRII countries but the 3G handsets has increased by 120% between February 2010 and March 2011, still it is only 10.9% of all cell phones. Besides, the pricing on mobile Internet in the country is still relatively expensive for people in the lower class level. However, TIM Brazil is the only operator who charges an acceptable price for the lower class level. Since the partnership between Opera Software and TIM Brazil back in September 2010 to April 2011, Opera Mini users have increased by 130%, and about 40% use Internet browser on PC more than on Mobile phone among Opera Mini users. On the other hand, the number of broadband subscriptions are as much as 15.4

million, compared to how many people uses Opera mini is still quite small and also LAN houses (Internet cafes) are very popular. However, the 3G mobile handsets are continuously increasing in Brazil; Opera Software believes that Opera Mini users in Brazil will one day overlap the number of broadband subscribers whereas people who go to LAN houses will start to use Opera Mini because it's cheaper especially via TIM Brazil and they also have the chance to browse at home.

Opera Mini in Russia has become very popular, where the number of active Opera Mini users has almost passed the number of broadband subscriptions which is 18 million back in December 2010. As mentioned earlier that the mobile SIM penetration is about 200%, but is has been estimated about 86% of populations have at least one cell phone. According to Opera Software’s statistics, about 20% of active Opera Mini users spend more time on browsing the Internet with its PC rather than browsing on its mobile phone.

India is another country where mobile Internet is popular, as the number of active Opera Mini users has surpassed 8.8 million broadband subscriptions, where the PC penetration in India is among the lowest in BRII countries, because it’s basically cheaper to use the internet on mobile phone and 20 percent of people who use mobile Internet don’t have a computer. There is significant overlap between PC Internet and mobile Internet users. About 45 PC Internet users use both PC and mobile phones to access the Internet, which also means that they have internet either at home (about 45 percent) or work (about 20 percent). However, nearly 28 million households in urban areas have now a PC, the penetration has increased dramatically for the last three years from 19 percent to 38 percent in urban areas.

Opera Mini users in Indonesia are insanely high compared to how many people who have broadband subscription. The major blame for such low Internet penetration is the lack of telecommunication infrastructure and also because of low purchasing power among consumers where the average disposable income is as low as $1,500 (in year 2010), which makes investment in telecommunication, is considered as expensive. That’s why the major elements for growth on Internet penetration are Internet cafés and mobile Internet. The statistics from Opera shows that only 10 percent use the Internet mostly on computers among active Opera Mini users. Because the low penetration on broadband subscription, the mobile

31 http://www.siliconindia.com/shownews/PC_penetration_in_urban_India_has_doubled_in_3_years_Study-nid-70908.html
Internet has become a necessity for young peoples, whereas the most visited among top ten websites in Indonesia are Twitter and Facebook.

The broadband Internet in BRII countries is limited, due to segment of the market, about 40 – 50 percent of active mobile Internet users don’t have other options than to use its mobile phone to access the Internet. Which mean that PC penetration is low, and also BoP market can’t afford to buy a PC. In rural areas are also limitations on network coverage, because of expanding broadband will face huge costs.

![Diagram: Opera Mini vs. Broadband subscription](image)

**Figure 17: Opera mini users and broadband subscribers by countries, December 2010**

### 5.3 Price sensitivity

The finding shows that the consumers who use Opera Mini in BRII countries are in the age 11 – 37 bracket, where almost half of them don’t have the option to use desktop Internet. Taking Brazil as an example, the Brazilian Network Information Steering Committee showed that 79% of people with income below $ 1.26 (BRL 2,040) per month have LAN houses as the only option to access the Internet. As browsing with Opera Mini via TIM Brazil can be even cheaper, there is huge potential growth by targeting people Prahalad and Hammond(2002) has dubbed that market as BoP (Bottom of the Pyramid). Today, 65% of world’s population are BoP, which is 4 billion people earn less than $2000 per year. Together, BoP constitutes a $5 trillion global consumer market(Prahalad and Hammond 2002). The BoP in India itself is
already large, whereas 27.7 million households from urban areas and 159.3 million rural areas are BoP, estimated by Indicus\textsuperscript{32}.

Opera’s pricing aim is demand-based because mobile phones and Internet is now no longer a luxury but it’s a necessity product, so the pricing are accorded to the customer’s needs and satisfaction. As emerging markets are very price sensitive, the operators must avoid completion based method, because short-term strategy it won’t sustain revenue generation in the long run(Kotler, Hansen et al. 2009).

5.3.1 Maslow’s theory

From the data that has been collected, I will then assume that mobile Internet in BRII countries today can be positioned somewhere at the bottom of the of the Maslow’s hierarchy, the users are dominated by young males who’s technology driven where the mobile Internet has become a social and safety needs among them, which influences their daily life. Mobile Internet can help people to bridge the gaps in everyday living environment, as the statistics from Opera Software shows a common trend that they are depending on Internet for using it for education or work, and more or less for social communication. Usually low income earners are always seeking for an opportunity to improve the quality of life and as long as mobile Internet can meet their needs and affordability, then they will probably stimulate their willingness to pay for the service, as people with low income are willing to spend money on luxury item because they think that buying a property seems to be unrealistic (Prahalad and Hammond 2002).

\textsuperscript{32} http://www.indicus.net/blog/index.php
5.3.2 Willingness to pay

On Device Research results, 59 percent among the respondents in Brazil earn less than $3724, 59 percent in India earn less than $222 (Rs10 000), 66% in Indonesia earn less than $584 (Rp5 000 000) per year. In order to capture the BoP market, I believe mobile Internet subscription should be priced around $6.2 (R$10) in Brazil, $1.1 (Rs50) in India, and $2.3 (Rp20 000) in Indonesia are the optimal prices per month to capture the BoP market. The use of mobile Internet incentives in Brazil and Russia is slightly the same, the way how much they use the Internet, where they use, and the age bracket is the same. First and foremost, the average disposable incomes are at the same level. Both countries also present the same patterns of consumer behavior. This leads to that I believe that the optimal price for ultimate data plan is $5.4 per month in Russia.
The price recommendation for both India and Indonesia may sound a little bit high, because of their daily income is as low as $1 or $2. However, developing countries pay far more for communication than developed countries by their share of wallet\textsuperscript{33}, as long as the mobile operators meet the right price for the demand of mobile Internet, in order to make Internet on mobile grow even faster. It sounds also obvious that Russia and Brazil spend minor share-of-wallet on mobile communication, as the average income in both country is higher compared to India and Indonesia. Also the demand for mobile Internet in India and Indonesia are much higher compared to Russia and Brazil, because of broadband Internet is already well established and the penetration on broadband Internet is also much higher compared to India and Indonesia.

---

\textsuperscript{33} http://www.economist.com/blogs/dailychart/2011/05/telecommunications?fsrc=scn/tw/te/dc/talkischeaper
6 Conclusion

The conclusion of this research will be that the market at the Bottom of the Pyramid in BRII countries offers Opera Mini and mobile operators a tremendous opportunity. Today, the mobile Internet has grown dramatically fast compared to the PC Internet, as the network coverage for broadband Internet in rural areas is limited, that’s why this is one of the major factors where mobile Internet is the only option for accessing the Internet, and also affordability on PCs. After an evaluation on comparison between broadband Internet and mobile Internet, around 50% among active mobile Internet users have also access to Internet on PC; they still use the internet actively on both mobile phone and computer. So even though the broadband penetration is almost as high as the penetration of Opera Mini, it won’t prevent Opera Mini to grow continuously. Mobile phones are no longer just a voice communication device. They use its phone for sending text messages, taking pictures, listening to music, and sending e-mails besides using it for making phone calls and browsing the Internet. The point is that mobile Internet has evolved from mobile phones and therefore will not become a substitute for Internet on PC or opposite. Today, the percentage of mobile Internet is the only option for accessing the Internet is high, in emerging markets like Brazil has 45 percent, India has 49 percent, and Indonesia has 48 percent. BoP market in India and Indonesia are also willing to spend 5 percent share-of-wallet, while Brazil and Russia are willing to spend 2 percent share-of-wallet. People in BRII countries are using the Internet for the same incentives, and they are also on the same age bracket. Besides the broadband penetration in Brazil and Russia is already high, so they are more familiar with the technology and the demand for mobile Internet is lower.

6.1 Recommendation for further research

This research paper is more focused on consumer’s perspective on what pricing would be optimal to make Opera Mini successful, rather than the operator’s perspective of pricing mobile Internet data, which means that the financial aspects from the operators haven’t been taken into consideration. Therefore, I recommend that the further research will take a deeper research on operator’s perspective, in order to make the pricing more realistic.
Reference


David Michael, M. A., Vladislav Boutenko, Vaishali Rastogi, Arvind Subramanian, Yvonne Zhou (September 2010). "The Internet’s New Billion: Digital Consumers in Brazil, Russia, India, China, and Indonesia."


Appendix

Mobile lifestyle

Brazil

OM is quite new for many, about 4/5 (78.5%) have used OM less than 1 year

How long have you been using Opera Mini?

- Less than 3 months: 9.3%
- 1 - 2 years: 12.2%
- 3 - 12 months: 33.3%
- 2+ years: 45.2%

58.6% use mostly Opera Mini to access the Internet

Which do you use more to access the Internet?

- A browser on a desktop or laptop computer: 41.4%
- Opera Mini on a phone: 58.6%

About % (77.1%) approximately use Opera Mini multiple times per week

Approximately how often do you use Opera Mini?

- Every day: 4.1%
- Multiple times per week: 4.3%
- Multiple times per month: 14.5%
- Once a month: 25.9%
- Less than once a month: 41.2%

OM is quite new for many, about 4/5 (78.5%) have used OM less than 1 year

How long have you been using Opera Mini?

- Less than 3 months: 9.3%
- 1 - 2 years: 12.2%
- 3 - 12 months: 33.3%
- 2+ years: 45.2%

58.6% use mostly Opera Mini to access the Internet

Which do you use more to access the Internet?

- A browser on a desktop or laptop computer: 41.4%
- Opera Mini on a phone: 58.6%

About % (77.1%) approximately use Opera Mini multiple times per week

Approximately how often do you use Opera Mini?

- Every day: 4.1%
- Multiple times per week: 4.3%
- Multiple times per month: 14.5%
- Once a month: 25.9%
- Less than once a month: 41.2%

OM is quite new for many, about 4/5 (78.5%) have used OM less than 1 year

How long have you been using Opera Mini?

- Less than 3 months: 9.3%
- 1 - 2 years: 12.2%
- 3 - 12 months: 33.3%
- 2+ years: 45.2%

58.6% use mostly Opera Mini to access the Internet

Which do you use more to access the Internet?

- A browser on a desktop or laptop computer: 41.4%
- Opera Mini on a phone: 58.6%

About % (77.1%) approximately use Opera Mini multiple times per week

Approximately how often do you use Opera Mini?

- Every day: 4.1%
- Multiple times per week: 4.3%
- Multiple times per month: 14.5%
- Once a month: 25.9%
- Less than once a month: 41.2%

OM is quite new for many, about 4/5 (78.5%) have used OM less than 1 year

How long have you been using Opera Mini?

- Less than 3 months: 9.3%
- 1 - 2 years: 12.2%
- 3 - 12 months: 33.3%
- 2+ years: 45.2%

58.6% use mostly Opera Mini to access the Internet

Which do you use more to access the Internet?

- A browser on a desktop or laptop computer: 41.4%
- Opera Mini on a phone: 58.6%

About % (77.1%) approximately use Opera Mini multiple times per week

Approximately how often do you use Opera Mini?

- Every day: 4.1%
- Multiple times per week: 4.3%
- Multiple times per month: 14.5%
- Once a month: 25.9%
- Less than once a month: 41.2%

OM is quite new for many, about 4/5 (78.5%) have used OM less than 1 year

How long have you been using Opera Mini?

- Less than 3 months: 9.3%
- 1 - 2 years: 12.2%
- 3 - 12 months: 33.3%
- 2+ years: 45.2%

58.6% use mostly Opera Mini to access the Internet

Which do you use more to access the Internet?

- A browser on a desktop or laptop computer: 41.4%
- Opera Mini on a phone: 58.6%

About % (77.1%) approximately use Opera Mini multiple times per week

Approximately how often do you use Opera Mini?

- Every day: 4.1%
- Multiple times per week: 4.3%
- Multiple times per month: 14.5%
- Once a month: 25.9%
- Less than once a month: 41.2%

OM is quite new for many, about 4/5 (78.5%) have used OM less than 1 year

How long have you been using Opera Mini?

- Less than 3 months: 9.3%
- 1 - 2 years: 12.2%
- 3 - 12 months: 33.3%
- 2+ years: 45.2%

58.6% use mostly Opera Mini to access the Internet

Which do you use more to access the Internet?

- A browser on a desktop or laptop computer: 41.4%
- Opera Mini on a phone: 58.6%

About % (77.1%) approximately use Opera Mini multiple times per week

Approximately how often do you use Opera Mini?

- Every day: 4.1%
- Multiple times per week: 4.3%
- Multiple times per month: 14.5%
- Once a month: 25.9%
- Less than once a month: 41.2%
In addition to using Opera Mini, what else do you use your phone for?

- Making calls
- Sending pictures
- Listening to music
- Making a call
- Email
- Editing documents
- What I don't know

Most of the respondents use Internet for education, communicating with others (including E-mail), read news, and downloading media entertainments. Surfing the www, the number respondents that do is increasing, young people, and work when online is quite high.

What things do you most when online?

- Almost all of the respondents use Internet for education, communicating with others (including E-mail), read news, and downloading media entertainments.
- Surfing the www, the number respondents that do is increasing, young people, and work when online is quite high.

In a normal week, how much time do you spend on the Internet (browsing, chatting, downloading, etc)?

- Less than 3 hours
- 3 - 8 hours
- 9 - 20 hours
- 21 - 35 hours
- More than 35 hours
- I don't know

81,7% of respondents are males

- Male
- Female

Almost all of the respondents use Internet for education, communicating with others (including E-mail), read news, and downloading media entertainments.
- Surfing the www, the number respondents that do is increasing, young people, and work when online is quite high.

About ¾ (76,2%) are between 18-37 years old

- Less than 18
- 18-27
- 28-47
- 48+

About 2/3 (62,3%) of respondents are more technical than average

- Not very
- A little less than average
- A little more than average
- Very
About 2/3 (64.6%) have a job

- Full-time student: 14.3%
- Part-time student: 15.7%
- Full-time employee: 14.1%
- Part-time employee: 8.2%
- Self-employed: 0.6%
- Stay-at-home parent: 42.1%
- Retired: 1.4%
- Currently unemployed: 0.7%

Slightly over 2/3 (68.4%) have used OM over 1 year

- Less than 3 months: 40%
- 3 - 12 months: 22%
- 1 - 2 years: 28%
- 2+ years: 10%

About ½ (52.7%) have below higher education level

- Elementary school: 11.1%
- High school: 12.9%
- Technical school: 26.1%
- Some College/University: 8.5%
- Master's degree, MSc: 8.2%
- Doctorate, PhD: 5.0%
- Other: 36.0%

79.3% use mostly Opera Mini to access the Internet

- A browser on a desktop or laptop computer: 21%
- Opera Mini on a phone: 79%

Russia

Almost every single respondent (95.7%) approximately use Opera Mini multiple times per week

- Every day: 18%
- Multiple times per week: 77%
About 2/5 (40.2%) use Opera Mini mostly at home

Where do you use Opera Mini the most?

- At work: 24%
- At school: 15%
- At home: 40%
- On the road: 8%
- Other: 13%

Over 2/3 (68.6%) of respondents are more technical than average

How technical are you?

- Not very: 22%
- A little less than average: 11%
- A little more than average: 47%
- Very: 20%

Besides using Opera Mini, over half of respondents also use its phone to make phone calls, SMS, taking pictures, listening to music, email, playing games.

However, under half of the respondents do editing documents (30.1%), and maintaining a to-do list (20.6%).

About 2/5 (40.2%) use Opera Mini mostly at home

What things do you do most when online?

- Education/Investigation: 84%
- Email: 74%
- News: 65%
- Entertainment: 45%
- Playing games: 20%
- Other (I don’t know): 11%
- No: 10%
- Yes: 13%

About 2/5 (42.8%) spend 3-20 hours in a normal week

In a normal week, how much time do you spend on the Internet (browsing, chatting, downloading, etc)?

- Less than 3 hours: 19%
- 3-8 hours: 14%
- 9-20 hours: 24%
- 21-35 hours: 15%
- More than 35 hours: 22%

About 4/5 (82.4%) are young people between 0 – 27 years old

Age

- Less than 18: 3%
- 18-27: 44%
- 28-37: 23%
- 38-47: 59%
- 48+: 3%
69.5% of respondents are males

Sex

Male: 70%
Female: 31%

Slightly over 3/4 (76.4%) are either students or employee

Work situation

- Full-time student: 1%
- Part-time student: 4%
- Full-time employee: 11%
- Part-time employee: 25%
- Self-employed: 37%
- Stay-at-home parent: 5%
- Retired: 4%
- Currently unemployed: 1%

Over ¼ (53.1%) of the respondents have used OM over 1 year

How long have you been using Opera Mini?

- Less than 3 months: 31.1%
- 3 - 12 months: 19.2%
- 1 - 2 years: 22.0%
- 2+ years: 27.7%

The educational level of respondents varies

Education level

- Primary School: 25%
- Secondary School/High School or equivalent: 13%
- Vocational/Technical School: 25%
- Some College/University: 13%
- College/University Graduate: 13%
- Master’s Degree (MSc, MA): 5%

88.3% use mostly Opera Mini to access the Internet

Which do you use more to access the Internet?

- A browser on a desktop or laptop computer: 11.7%
- Opera Mini on a phone: 88.3%
Approximately how often do you use Opera Mini?

- Every day: 14.7%
- Multiple times per week: 4.6%
- Multiple times per month: 1.2%
- Once a month: 1.0%
- Less than once a month: 78.6%

Almost 2/3 (66.2%) spend from 0 – 20 hours on the internet in a normal week about ¼ (28.8%) spend 3 - 8 hours

In a normal week, how much time do you spend on the internet (browsing, chatting, downloading, etc)?

- Less than 3 hours: 5.8%
- 3 - 8 hours: 17.8%
- 9 - 20 hours: 19.6%
- 21 - 35 hours: 10.1%
- More than 35 hours: 28.8%

About 2/3 (66.7%) of the respondents use Opera Mini mostly at home

Where do you use Opera Mini the most?

- At work: 4.0%
- At school: 11.8%
- At home: 66.7%
- On the road: 11.7%
- Other: 4.0%

Over ¼ (58.7%) of respondents are more technical than average

How technical are you?

- Not very: 27.2%
- A little less than average: 14.3%
- A little more than average: 21.9%
- Very: 34.8%

Almost all of the respondents use internet for education, communicating with others (including E-mail), read news, downloading media entertainments and playing games

What things do you do most when online?

- Not at all: 4.0%
- Some: 31.8%
- Occasionally: 28.8%
- Regularly: 31.7%
- Almost all: 6.5%
Over 9/10 (91.2%) are young people between 0 – 27 years old

Most (96%) of respondents are males

Slightly over 2/3 (71.4%) are students

OM is quite new for many users, about ½ (51.6%) have used OM less than 1 year

About 2/3 (69.3%) are higher educated

Indonesia
91.3% use mostly Opera Mini to access the Internet

Which do you use more to access the Internet?

- A browser on a desktop or laptop computer
- Opera Mini on a phone

91.0%

Almost every single respondent (93.7%) approximately use Opera Mini multiple times per week

Approximately how often do you use Opera Mini?

- Every day
- Multiple times per week
- Multiple times per month
- Once a month
- Less than once a month

71.3%

3/4 (75.8%) spend 3-20 hours on the Internet, in a normal week

In a normal week, how much time do you spend on the Internet (browsing, chatting, downloading, etc)?

- Less than 3 hours
- 3-8 hours
- 9-20 hours
- 21-35 hours
- More than 35 hours
- I don’t know

Almost all of the respondents use Internet for education, communicating with others (including e-mail), read news, downloading media entertainments and playing games.

What things do you do most when online?

- Not at all
- Some
- Not all

Almost all (60.8%) use Opera Mini mostly at home

Where do you use Opera Mini the most?

- At work
- At school
- At home
- On the road
- Other

60.8%
How old were you when you first browsed the Web?

- 0 - 10 years old: 29.0%
- 11 - 20 years old: 54.5%
- 21 - 30 years old: 8.3%
- 31 and older: 3.9%
- I don't remember: 3.9%

About 4/5 (83.5%) first browsed the Web at the age between 11-30 years old.

About 4/5 (82.4%) are either students or employee.

About ¾ (73.9%) are young people between 0 – 27 years old.

78.6% of respondents are males.