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**AN EXPLORATIVE STUDY
ON A POSSIBLE
BUSINESS MODEL FOR
PRIVATE MOBILE SOFT
PHONE**

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Abstract

The purpose of this thesis is to conduct an explorative study on how a business and revenue model for a provider of soft phones for mobile phones could be designed in order to best correspond to customers' perception of the value of private mobile soft phone.

We have conducted both a survey and qualitative study in order to investigate whether the market assigns any monetary value to a mobile soft phone solution. We have examined end-users and developed a possible business model based on the preferences revealed in the studies.

Our conclusion is that even though the fixed PC soft phone tends to be a zero revenue case, the mobile version may offer the possibility for a sound profit generating business model. However, there is a need to broaden the revenue base to include third-party revenues. This is also a solution that the end-users would appreciate.

Table of content

1. INTRODUCTION	5
1.1 Background.....	5
1.2 Problem Area.....	5
1.3 Purpose	6
1.4 Delimitations.....	7
1.5 Expected Contribution.....	7
1.6 Definitions	7
1.6.1 Private.....	7
1.6.2 Mobile.....	8
1.6.3 VoIP.....	8
1.6.4 Soft phone.....	8
1.6.5 WLAN – Hotspots	9
2. THEORY	10
2.1 Business and Revenue Models	10
2.2 Choice of Business Model.....	12
2.3 Mobile soft phone – e-business or m-business?.....	14
2.4 A technology neutral business model	15
2.5 Reasonable scope/size.....	15
2.6 Product life-cycle insensitivity	16
2.7 The business model in use.....	16
2.7.1 Internal business definition	17
2.7.1.1 Product concept.....	17
2.7.1.2 Customer concept	18
2.7.1.3 Revenue stream/model concept.....	19
2.7.2 Internal value stream	21
2.7.2.1 Marketing and sales	21
3. METHODOLOGY	21
3.1 Research design.....	21
3.2 Pre-study industry	22
3.3 Pre-study consumer	22
3.3.1 Focus group.....	22
3.3.2 Pre-test survey.....	22
3.4 Survey focus group	23
3.4.1 Survey Design	23
3.4.2 Sample.....	23
3.4.3 Survey Realisation.....	24
3.4.4 Post-survey study.....	24
3.5 Reliability of the Study.....	24
3.6 Validity of the Study.....	25
3.6.1 Internal validity.....	25
3.6.2 External validity	26
4. EMPIRICAL FINDINGS AND ANALYSIS	27
4.1 Product concept.....	27
4.1.1 Core product in terms of customer's needs, and customer's customer's needs, and needs fulfilment	27
4.1.2 Core product in terms of know how, platform, product, or service?.....	37
4.2 Customer concept	39
4.2.1 Decision-making chain, influencers, decision-makers, users	39
4.3 Revenue stream/model concept.....	39
4.3.1 Who pays: the owner, the customers or the third parties?	39
4.3.2 What is paid for?	40
4.3.3 Phasing of the payment	41

4.3.4 Method of payment and financing	43
4.3.5 Transaction revenue fluctuation.....	43
4.4 <i>Marketing and sales</i>	45
5. CONCLUSIONS – A POSSIBLE BUSINESS MODEL.....	47
5.1 <i>The model</i>	47
5.2 <i>Model result overview</i>	50
6. CRITIQUE.....	51
7. DISCUSSION AND RECOMMENDED FURTHER RESEARCH.....	51
7.1.1 Discussion	51
7.1.2 Recommended further research.....	52
8. REFERENCES	52
9. APPENDIX.....	55

1. INTRODUCTION

1.1 Background

”In the future it will not be possible to charge for phone calls”¹, argue representatives of the emerging VoIP soft phone² industry. Albeit vague in terms of what is charged for when making phone calls (access to phone calls or the phone call itself), and what kind of phone calls (fixed or mobile), the statement is one of the possible consequences of the latest development in information and communication technology. This far VoIP has been considered as a main threat to the fixed telephony by replacing the fixed network traffic with data distributed over the internet. However, a quick glance upon the ratio of fixed-to-mobile phone calls in terms of traffic volume in Sweden (80/20) in combination with the 4.5 million subscribers to fixed telephony³, reveals that the rumour of fixed phone call’s death has been greatly exaggerated. The profitability can be assumed to be gravely affected, though⁴. However, even more interesting times are a-coming. Perhaps, they are already here. The latest advancements in the realm of VoIP are on the mobile side. No longer is it needed to be fettered to the fixed phone or PC + internet connection in order to reduce your phone calls costs to zero. Taken into account that 91% of the Swedish population⁵ in the age 16-75 use a mobile phone and that the usage in this group is also increasing, the impact of private mobile VoIP may be a significant further drop in revenue for the actors. Key drivers for mobile VoIP⁶, such as terminals, are now in place. Would one add the parameter of free hotspots, the worst of nightmares to mobile operators may be knocking on the door.

1.2 Problem Area

Soft phones such as Skype, Woize, ICQ, MSN Messenger, etc., have developed within the VoIP market. The softwares are often promoted with the argument that one can call

¹ Asplid (2005)

² See 1.6 Definitions

³ PTS (2004), p 14ff

⁴ Vollenweider, M. & Shetty, S. (2005)

⁵ PTS – Svensk Telemarknad 2004, p 33

⁶ Tadayoni & Sugstrup (2004)

other users of the same software for free. The costs for the phone call itself are thus zero. Would this value proposition be transferred to the mobile communication domain as well, it will have appreciable effects on the industry. In this study we have the intention to clarify more in detail what the effects of private mobile soft phone will have on how to shape a business model. In the most extreme development, access to Internet could be free through hotspots or a general public WLAN/WiMax network and it would be possible to download the soft phones to the mobile phone in combination with a generally spread consumer inclination to do so. Such networks are rapidly proliferating worldwide making it easier to use VoIP wireless phones by mobile users.⁷ The revenues would more or less be allocated to the mobile phone producers and their marketing channels only. Not so long ago, Motorola announced its mobile handsets would soon accommodate Skype⁸.

If there is a demand for private mobile soft phone, this may have consequences for how the actors in the industry organise both production and marketing activities. Such a development may necessitate adding new suppliers and disposing of other marketing channel members. There may be changes in the business model that need to be understood. On the consumer side, there may be a change in attitude towards marketing channels of mobile phones and the sources of mobile VoIP acquisitions may differ from the current points of sales. Furthermore, would the expectancies of mobile phone calls be free of charge as well as the soft phone, the actors would have to reorganise the revenue models in order to, e.g., compensate for revenue losses through calls. Some argue there is no single killer private VoIP application business model⁹. They may be right, but it should be achievable to come up with a sound and demand based business model.

1.3 Purpose

The purpose of this thesis is to conduct an explorative study on how a business and revenue model for a provider of soft phones for mobile phones could be designed in order to best correspond to customers' perception of the value of private mobile soft phone.

⁷ Greene (2005)

⁸ CNet News

⁹ Hills & Sale (2004)

1.4 Delimitations

We are only concerned with the consumer versions of soft phones and not the ones for professional use prevalent in call centres and the alike. We discuss only the prevalent forms of soft phones and do not take product development into account that may alter the usage patterns and benefits of the product. We do not discuss the impact of mobile VoIP on business models for fixed VoIP or for normal fixed and mobile telephony. The Swedish market is the only market we consider. The main focus of the study is to derive a model and we will not elaborate on marketing details, such as promotional content, brand management and so forth, often associated with consumer marketing.

1.5 Expected Contribution

Previous research has been concerned with technological issues regarding mobile VoIP or cordless phones, theoretical discussions and visions based on the technology itself in combination with price structures, technology standards, industry incentives and so forth¹⁰. None has studied the consumer end of the mobile VoIP solution. The expected contribution of this study is to shed light, in terms of customer attitudes/expectations, on issues having a practical impact on a possible business model for this type of product. Up to date, no public reports have studied the Swedish consumer attitudes related to such a product.

1.6 Definitions

In this section we define the key terms used throughout the thesis.

1.6.1 Private

The majority of subscriptions - both fixed and mobile – consist of households¹¹. In the study from PTS (2005), households are distinguished from businesses. A business is defined as being subscriber to the operator's company solutions. This in turn implies the juridical liabilities of payments and so forth being connected to the legal body of the company instantiated in a corporate registration number. In this study, "private" will

¹⁰ E.g., Tadayoni & Saugstrup (2004), Thompson et al. (2005), Green (2005), Vollenweider & Shetty (2005), Finneran (2004), Heath & Brydon (2005), Singer (2005)

¹¹ PTS (2005), s 9

denote a telecommunication service that is mainly used and paid for by a person not representing such a registered company. The reason why we have not used the term consumer is that it does not clearly distinguish between the payment issues. One may be willing to stand inferior products paid for by another party; however, it is more interesting to look at the payment willingness among private persons, rather than companies. However, throughout the study we use customer and consumer interchangeably for increased readability purposes.

1.6.2 Mobile

In this study the mobile phone is distinguished from a cordless phone, where the difference is mobile phone used in a network of shared base stations and transition between the base stations being unnoticed¹².

1.6.3 VoIP

Voice over Internet Protocol is a subset of the common IP-telephony which may include transfer of both pictures and text in combination with voice. VoIP converts a voice into digital signals and transmits the data in a series of packets using private or public Internet Protocol (IP) networks as opposed to traditional dedicated, circuit-switched voice transmission lines¹³. VoIP technologies comprise both tangible solutions (such as phone with an IP-adaptor), and intangible solutions (such as soft phones, e.g. ICQ). The former solutions are often called ATA (Analogue Telephone Adaptor), which is a converter for normal telephones, and IP phones, that are phones especially equipped with internet protocol related software and hardware. The latter solutions, soft phones, are described below.

1.6.4 Soft phone

Soft phone is an abbreviation of software phone. One of the first soft phones was introduced in 1995¹⁴. It is software that simulates a real phone and can be used on general

12 http://en.wikipedia.org/wiki/Mobile_phone#Mobile_phone_terms

13 Varshney et al. (2002)

14 http://www.pcmag.com/encyclopedia_term/0,2542,t=soft+phone&i=51647,00.asp

purpose computers¹⁵ or similar devices, such as PDAs. The user needs to install the software on the computing device in order to use it and combine it with the computer's sound card. The interface consists of at least a pad to be used for dialling the number or connection code to the recipient of the call. The software uses the Internet Protocol for transmission of the voice packages¹⁶. Well-known examples of consumer soft phones are Woize, one4000, Skype, Yahoo, MSN Messenger and ICQ. Soft phones are also prevalent in call centres for customer information purposes, but in our study we are only concerned with the consumer oriented versions of soft phones. In this thesis, we use the common elements of the definitions that may be found in different computing related sources. We do not take into consideration whether the soft phone is based on SIP or P2P technology as the main function, i.e., a software interface to make calls through home computing devices over the internet, is the same. In a mobile setting a soft phone would encompass both mobile phones dedicated to IP-networks and mobile phones to which one can download software for IP-telephony.

1.6.5 WLAN – Hotspots

As of today, soft phones can be used on computers in a wireless local area network (WLAN) setting. With a VoIP solution on the mobile phone, the soft phone would be possible to use in such networks. WLAN is a type of “local area network that uses high-frequency radio waves to communicate between computers, peripherals, storage, and networking devices as well as giving access to internet”¹⁷. A hotspot is defined as “a specific geographic location in which an access point provides public wireless broadband network services to mobile visitors through a WLAN”¹⁸. Throughout the study we use hotspots and WLAN interchangeably.

15 http://en.wikipedia.org/wiki/Soft_phone

16 http://www.webopedia.com/TERM/S/soft_phone.html

17 <http://www.bitpipe.com/tlist/WLAN.html>

18 <http://isp.webopedia.com/TERM/h/hotspot.html>

2. THEORY

2.1 Business and Revenue Models

The most common units of analysis in strategic research have been business units, industries and corporations but it has been argued that these units do not quite capture the dynamics of a technologically driven market development. Other proposals for units of analysis have encompassed networks and relations in different shapes and forms, such as the strategic networks, value webs and inter-organizational-systems just to mention a few¹⁹. An important influence on our analytical framework is the value constellation framework²⁰. The value constellation model emphasises the complexity and interactivity for the offering to be successful. This means that in order for a mobile VoIP product to take off in the market place, it would need to complement a consumer's value process; it would need to be a tool for enabling new communication or reduce the efforts needed to maintain communication patterns. This pattern of thought is implicitly incorporated in the questionnaires. However, the theory does not quite specify the dimensions in which the different actors co-create value other than the process elements defining an offering. These categories are too general as well, and need further refinement in order for the theory to be operationally functional in a scientific setting. In this study, we use a business model for the purpose of defining and enumerating the relational content between the users and soft phone producers engaged in the private mobile offering.

The term "business model" has during the last decade been closely associated with the electronic and mobile commerce of the Internet business boom. This is the reason why we use this term for the purpose of this study in spite of its notoriously ill-defined properties described in the following. The labyrinth of definitions has its roots in the transfer of the concept between scientific areas: from information management during the 70's to contemporary business strategy research. In the former case it was mainly used for descriptive purposes of existing businesses and the business' relation to Information and Communication Technology (ICT), whereas the latter science has also introduced

¹⁹ Bettis (1998)

²⁰ Normann & Ramirez (1993 + 1998)

normative elements as well as cut the connection between ICT and the business model²¹. This usage transition has led to a haze of ontological assumptions when defining the essence of a business model.

Thus, business and revenue models are rather equivocal concepts in the academic world. On the one hand, there are business models only concerned with distribution or pricing issues, on the other there are business models consisting of almost everything that a company needs to do²². Not only are there a variety of explications to the notion of business model, but also the concept is often used interchangeably with the notion of ‘business strategy’²³. Moreover, the different definitions ascribe a plethora of ontological substances to the business model. Some describe a model in architectural terms, others in relational and yet others emphasise methodology or suggesting business models being an option²⁴. Of course, such a blurred area spawns and requires studies of its own²⁵.

As if this increasing entropy in the scientific universe was not enough, the relation between business model and revenue model propounds an equally nebulous galaxy. Sometimes a business model is separate from the revenue model²⁶, and sometimes revenue model is a sub-category to the general business model²⁷ and sometimes business model in one theory is the revenue model in another²⁸. Among practitioners, the difference between a business model and a revenue model is often that the former concerns the questions on how a company positions itself within the value chain of its industry and how it intends to sustain itself, i.e., to generate revenue, whereas the latter specifies how the company is going to charge the customers²⁹.

²¹ Stähler (2002)

²² Äijö & Saarinen (2001)

²³ Tapscott (2001)

²⁴ Lambert (2001)

²⁵ E.g., Alt & Zimmerman (2001), Äijö & Saarinen (2001), Lambert (2001), Pateli (2002), Stähler (2002)

²⁶ E.g. Jelassi, T. & Enders, A. (2005)

²⁷ E.g. Osterwalder & Pigneur (2002)

²⁸ Clarke (2004)

²⁹ E.g. http://www.ebstrategy.com/mobile/articles/m_rev_models_eco.htm

Whichever model one uses, the use of business models as an analytical entity depends on the maturity of the industry. As the industry matures, the ways competitors do business converge to the point where one can speak of the industry business model³⁰. In the case of soft phones and mobile soft phones in particular, the industry could be classified as rather immature. Moreover, there are at least two types of actors: mobile network operators and service providers³¹. In the mobile business setting there are at least those two types of actors and we argue that the business model and revenue models are defining more in detail the relationship between the actors in the industry rather than an industry as a whole.

2.2 Choice of Business Model

The choice of theoretical framework defines the ontological and epistemological limits of a study. We have sought to find a model suitable for a cross-technological product and relatively detailed in terms of practical issues regarding doing business. As the study is explorative to its character, it has been necessary to choose a model allowing for a broad yet concrete perspective on the topic.

The theoretical choice has been based on the following criterions:

- Technology neutral business model
- Reasonable scope/size of the model
- Product life-cycle insensitivity

One interesting eclectic business model is the model developed by Osterwalder & Pigneur³² who understand a business model as “the conceptual and architectural implementation of a business strategy and as the foundation for the implementation of business processes”. The authors have used the full plethora of insights in the topic at the time and combined them into a useful unit. The model is very good as it is of a reasonable scope, covering many of the most important aspects of doing business. However, the model is strictly limited to e-business on an ontological level, whereas our

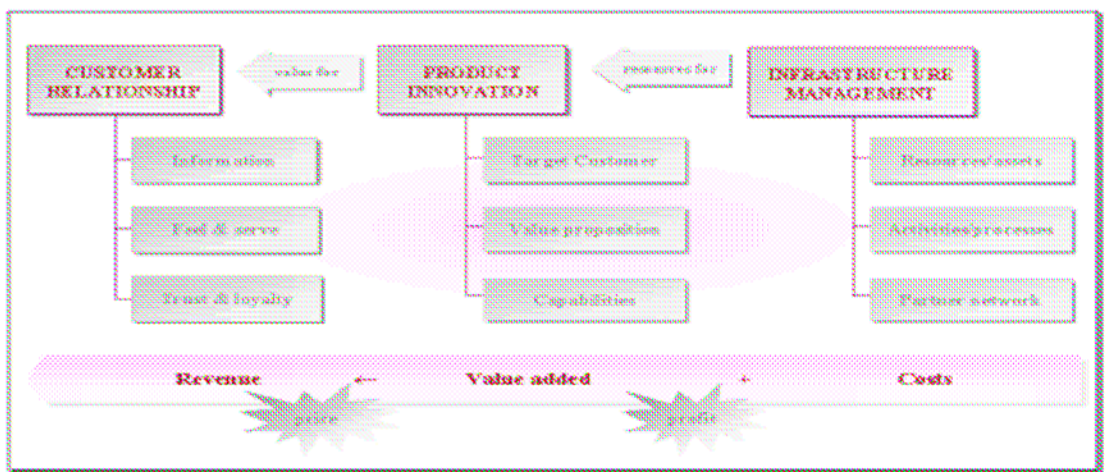
³⁰ Stähler (2002)

³¹ Figge et al. (2002)

³² Osterwalder & Pigneur (2002)

field of research focus rather on the intersection of both e-business and m-business. The Osterwalder & Pigneur model is founded on four pillars; product innovation, infrastructure management, customer relationship and financial aspects, and is shown in the figure below.

- (1) The products and services a firm offers, representing a substantial value to the customer, and for which he is willing to pay.
- (2) The infrastructure and the network of partners that is necessary in order to create value and to maintain a good customer relationship.
- (3) The relationship capital the firm creates and maintains with the customer, in order to satisfy him and to generate sustainable revenues.
- (4) The financial aspects, which are transversal and can be found throughout the three former components, such as cost and revenue structures.



Having the size of this model as a reference, we looked for a business model based on an ontology suitable for the e-business and m-business intersection. Both criteria were met by another synthetic business model developed by Äijö & Saarinen. It is also founded on four pillars; (1) Internal Business Definition, (2) Internal Value Stream, (3) Extended Business (4) Definition and External Value Stream. It can be seen in the figure below.

		Focus of activity	
		Business definition	Value stream
Perspective of activity	Internal	Internal business definition - Organization - Product concept - Technology concept - Customer/market concept - Revenue stream model/concept	Internal value stream - Upstream supply chain: purchasing, logistics - Innovation, technology and R&D - Production and operations management - Marketing, Sales and Service management - Organization - Support activities
	External /Extended	Extended business definition - Organization of extended business - Extended product concept - Extended technology concept - Extended customer/market concept - Extended revenue stream model/concept	Extended value stream - Outsourcing and cooperation - Extended value network members - Relationships within extended value net - Role of the company within the extended value network - Modes of operation

2.3 Mobile soft phone – e-business or m-business?

The business models discussed above have mainly been based on the deployment of internet and its ramifications on the ways of doing business. Prima facie, this thesis may be thought of as being about mobile business. Nevertheless, VoIP is an Internet Protocol technology. Also, by including the soft phones in the offers under scrutiny it is understood that the topic of this study concerns the intersection between e-business (electronic business) and m-business (mobile business). Even though this study touches upon the differences between fixed and mobile VoIP, thereby invoking the e-business and m-business distinction, our standpoint is that a scientifically and practically useful business model is technology neutral. Most often the goal for a company is not to offer technology *per se*, but a technologically mediated solution to a problem, or to complement the customer's value logic. This study is based on the assumption that the demarcation of e-business and m-business is somewhat artificial for other purposes but hair-splitting in the context of business model genealogy.

2.4 A technology neutral business model

Most of the m-business models have added the characteristics of the service's mobility to an underlying e-business model³⁵. Some have attempted to develop an m-business model by simply transferring the conceptual framework of an e-business model to the new technology³⁴. This would suggest a technology neutral business model. The main problem of the underlying e-business model³⁵ and for example balance scorecard approaches³⁶ is their insufficient clarity in terms of parameters of key topics pertinent to this thesis. As opposed to, e.g., Osterwalder & Pigneur, the model chosen has the advantage of being technology neutral on an ontological level³⁷. In addition, it is not built upon the common conflation of m-business and m-commerce, the latter referring to how to enable transactions through wireless devices³⁸. Should one still doubt the plausibility in removing the distinction between e- and m-business, which in this case is whether the business for soft phone for PC is radically different from the soft phone for a mobile phone, the model offers a solution. Being technology neutral allows for comparisons between the different technologies in question on an ontological and epistemological level.

2.5 Reasonable scope/size

The business model compiled by Äijö & Saarinen is of a reasonable scope/size, i.e., consisting of the most important aspects of business somehow controllable by the company, but not all important aspects for a business enterprise, such as the legal environment. Thus, the model is neither too broadly defined nor too narrow. The point with the model is the specification of relationships between the company and the surroundings. The model we use is comprehensive and is specific on important matters such as payment solutions, whereas the Osterwalder & Pigneur does not account for the precise sub-levels of, e.g., revenue models. This specificity makes the business model operational for both practical and scientific purposes. We are able to construct surveys

³⁵ Leem, Suh & Kim (2004)

³⁴ Pigneur (2002)

³⁵ Osterwalder & Pigneur (2002)

³⁶ Camponovo & Pigneur (2003)

³⁷ Äijö & Saarinen (2001)

³⁸ Camponovo & Pigneur (2003)

and interview guidelines based on the parameters hinted in the business model. With O&P model, we would have needed to contribute and develop the model much in detail; a task requiring a thesis on its own.

Moreover, as we seek to generate a possible business model based on consumer assessment of the product, we find it crucial to use a model that is constructed for operational purposes.

2.6 Product life-cycle insensitivity

As the product in focus is the combination of two different existing technologies, soft phones and mobile technology, defining whether this is a new product or not may be a vast academic pursuit. For this reason, we have chosen a model that does not take into account the product life-cycle. For example, some models take into account the innovation process of new technologies³⁹.

2.7 The business model in use

Below we present the perspectives of the model we use for the purpose of the study and argue why we have omitted certain aspects. The foundation of this study is the insight that a company's business model and consumers' demand and purchasing preferences are corresponding entities. Even though we may have asked the consumers for opinions on aspects of a rather trimmed version of the original model, it is our modest belief that we can derive a business model that may be of interest. As the present thesis is focused on the end-user perspective of the mobile soft phone solution, we have in the following included only the aspects we argue are of importance to the customer. For example, it is unlikely that a customer evaluates an enterprise in terms of preferences for market or product focused organisations. Using the same line of argument we do not discuss the extended business definitions. We assume it to be of marginal interest for a private person to know which suppliers the soft phone providers use, whether the value stream is outsourced or not and so forth. There are also methodological advantages with a reduced model for this research project, one being the adaptation to the time limits for writing the thesis, It is a highly time consuming and tedious work to ask customers about all aspects

³⁹ E.g., Pynnönen (2004)

of the business model. Moreover, for the purpose of this study, we do not investigate technological issues in depth. We assume that the end-user is marginally concerned with the openness, discontinuity or competitiveness of the soft phone technology as long as the product corresponds to a customer need. Also, we assume that the mobile soft phones are compatible with the necessary technology for the product to work. This does not entail that we assume the different soft phones being compatible with each other in terms of free interconnectivity and so forth. From the internal value stream box we have retained nothing but the marketing and sales aspects. This is for the same reasons as above: how the purchasing, logistics, R&D and production departments are working, is usually of no interest to the consumer. However, we will use the framework for deriving a possible business model with respect to mobile soft phone.

The parts of the model that we use:

		Focus of activity	
		Business definition	Value stream
Perspective of activity	Internal	Internal business definition - Product concept - Customer/market concept - Revenue stream model/concept	Internal value stream - Marketing and sales

2.7.1 Internal business definition

From the internal business definition we have retained the sub-categories below.

2.7.1.1 Product concept

The model states four categories of the product concept:

- *Core product in terms of customer's needs, and customer's customer's needs, and needs fulfilment:* In order for a product to be interesting it has to fulfil a possible need for the consumer and we try to capture the needs a mobile soft phone may satisfy for a private person. We first try to understand the fixed PC soft phone core product as this is the product currently available on the market and in one way, an enhanced soft phone enabled mobile phone may be seen as a PDA.
- *Core product in terms of know-how, platform, product, or service:* For any product or service, the customer needs to possess a certain level of know-how to use the product. In

this study we argue that there are three basic know-hows to take into consideration computer usage and installation of software from the internet, advanced usage of the mobile phone and usage of WLAN. We argue that if one has learnt the process of installing software on a computer, one has learnt how to install software on a mobile phone too. It is an assumption in our study that using a PC soft phone and its functions similar to the cellular phone (i.e., send text messages), enables the consumer⁴⁰ to use the soft phone on the mobile too. The main difference may be the use of a smaller keyboard. However, this may be seen as a matter of convenience, rather than knowledge. Also, it is necessary for the customer to have the right technical platform to use a soft phone. This encompasses both PC and mobile phones, but also wireless networks, so called Hotspots.

- *Degree of customization: project, customized, customizable (parameterized) or standard:* For this area we have taken a rather naïve standpoint. We take it as a given that the mobile soft phones are standardized both in terms of basic technical functionalities and of technological platforms. The mobile telephony and the soft phones that we discuss in this paper are assumed to be mass-market solutions.

- *Degree of finalization: plausible promise, upgrades (smoothing), or finalized total product:* We assume that the consumer will purchase finalised products, the mobile phones, the soft phone and the hotspot access, and does not need any further configuration. However, any intermediary in the marketing channel may effectuate the combination of the three in order for the solution to work and this is discussed under the section “Marketing and sales”.

2.7.1.2 Customer concept

- *The customer types that the company will serve:* In this study we lack empirical foundation for designating a precise target group. However, in the empirical framework we will derive a plausible customer type based on the total information in this study.

- *The customer chain: who are the immediate customers and the end users, customer's customers:* As we study the product at an end-user level we do not discuss the customer chain other than the end-user as possible customers at possible points-of-purchase.

⁴⁰ Normann (1992), pp 79-95

- *The decision-making chain, influencers, decision-makers, users:* Our analysis is limited to influencers as further analysis would be out of the scope.

- *Customer purchasing behaviour: why and how does the customer buy:* In this study, we derive the “whys” of purchasing a private mobile soft phone from the customer’s needs. We elaborate on the “hows” of purchasing in terms of points-of-purchase under the heading “Marketing and sales” below.

2.7.1.3 Revenue stream/model concept

The business model chosen has the clear advantage of including the revenue and pricing issues of doing business. However, in this section we have rearranged the enumeration of the model components for it to be of logical clarity.

- *Who pays: owner, customers, or third parties:* The producer could pay for the product and distribute it for free. The normal case is that the customer pays. Sometimes a third party can pay. Often there is a mix of the three.

- *What is paid for and what activity brings in the money:* The authors of the model are not clear on how to interpret the relation between an activity and the revenue streams. We do not attempt to account for what activity brings in the money as this may entail a more philosophical discussion beyond the scope of this study. We do analyse “what is paid for” more in detail but defined as the underlying unit for payments (kbit or minute).

- *Price definition:* The price definition invites to several layers of product bundling and levels of access, added services and so forth. To explore this topic fully would require a study on its own. We do study the up-front costs for the soft phone, the soft phone enabled mobile phone and the hotspot access as a part of the core product.

- *Phasing of the payment:* Currently, many of the soft phones are distributed for free and even certain usage of the software is for free, whereas access to Hotspots are more in line with charging the full price from the beginning. In addition to the penetration and skimming pricing strategies, there are a couple of other pricing strategies. Cost-plus: the supplier has calculated the costs for producing a service and adds a percentage on that cost to be the marginal. Competition-based/surrogate pricing: the price is set completely based on what the competitor charges for the same or almost the same product. Value-

based⁴¹: the price is set in accordance with what the customer is willing to pay. There is also the question of price discrimination in terms of volumes and or markets.

- *Method of payment and financing*: For the full mobile soft phone solution in work we study a few different payment methods. We also study the payment methods for the soft phone enabled mobile phone as this is the item having the most sensible impact on the customer financial position.

- *Revenue model options*: There are several dimensions to take into account for the revenue model.

Whether a business should choose *direct* revenues (fees from customers) or *indirect* revenues (royalties, sponsors, advertising etc.) can be derived from the answer to the “who pays”-question above. Direct, meaning payment for the product, not access to, e.g., advertisement space.

The question of whether the company should choose transaction *dependent* (fee/transaction – “pay as you go”) or transaction *independent* (flat fee - fee for access – “pay to use”) is also interesting from a marketing point of view. Monthly flat fees for unlimited use may sometimes be more attractive than very low transaction fees (e.g. SEK/minute). This analysis is done in the question above “What is paid for?”

What regards the periodicity of revenue (if the revenues are only *one-time* fees or *repeated revenues*), depending on which component is studied, the payment flows are both one-time and repeated. The soft phones are one-time payment albeit zero dollars. Sometimes, consumers pay only one time for the terminal but it is very often the case that it is repeatedly paid as a part of the mobile subscription. We dig further into this domain in the question “What is paid for?” above.

In the mobile industry of today, with respect to the time for revenue, both *pre-paid* and *post-paid* are prevalent. We look into if these are payment models of interest in the mobile soft phone business as well and categorise this as a question of “method of payment”.

The transaction revenue fluctuation follows several patterns: *flat*, *increasing*, *decreasing*, i.e. does the customer pay the same price at all times or is the price increasing or decreasing with the number of transactions. Actually, one very important bottleneck in

⁴¹ Anderson & Narus (2004)

IP-telephony is band width. In order to increase voice quality, more band width is needed. As this is a limited resource we investigate whether the users are prepared to pay more per unit the more they use. Billing is a main customer contact interface and therefore we investigate volume penalties on this contact.

The *distribution of revenues* or profit sharing is interesting. However, we have omitted this aspect from our investigation as this may not be of interest to the consumer in general unless there is a connection to certain humanitarian organisations.

When it comes to the type of revenue, *money* or other *tradable items* (barter), for the purpose of this thesis we take money as the medium for exchange as given.

2.7.2 Internal value stream

2.7.2.1 Marketing and sales

In this study we have retained the parameters concerning whether a company engages in direct or indirect selling of the product. Through studying points-of-purchase preferences, we derive a possible model of marketing and sales.

3. METHODOLOGY

In this part, we will explain the rationale for the methods used in the study. All along the text in this chapter, we will integrate dimensions of reliability and validity discussed in the last two sections of the method chapter.

3.1 Research design

The field of mobile VoIP is far from fully explored. As our research aims at providing insights into and comprehension of the problem situation we have chosen an explorative research design⁴². Our study is based on both qualitative and survey data. Explorative research, as such, is mostly achieved through qualitative data. We did gather qualitative data from both the industry and the consumers. These interviews were followed by a survey interview, intended to capture a quantification of the different options and attitudes extracted from the qualitative data.

⁴² Malhotra, 2004, p. 75

The focus of our thesis is on end-users, i.e. the potential users of mobile VoIP. In order to describe the distribution of preferences in the business model dimensions, we chose to carry out a survey study. A survey study was also a way to get a further understanding of clear market signals regarding the interest in and willingness to pay for the product in question.

3.2 Pre-study industry

As a part of the strive for a relevant survey we conducted semi-structured interviews with actors in the mobile industry. The informants were CEOs, product development coordinators, marketing managers or product managers from the following companies: Nokia (telephone manufacturer), Telenor/Djuice (operator), Microsoft (software developer), Best (Hotspot provider), Woize (soft phone provider), one4000 (soft phone provider). The interviewees were promised to be anonymous. Being such a new technology, it was a big challenge just getting in touch with a person interested in sharing any thoughts with us. They were also very careful in exchanging some reflections with us due to the delicate market situation.

3.3 Pre-study consumer

3.3.1 Focus group

A focus group was organised to improve our questionnaire and make it more reliable. We chose six students and friends from the SSE and elsewhere to form a panel. Their knowledge of soft phone and its potential mobile application ranged from very informed to ignorant.

3.3.2 Pre-test survey

Moreover, we did a pre-test of the survey to a sample group of 300 SSE students (of which 56 answered) to identify and eliminate potential problems⁴³. All questions were divided into two questionnaires. Each questionnaire was sent to one half of the sample. The main negative feed-back concerned the length of the survey and some minor flaws with the phrasing of some questions. Consequently, we divided the total questionnaire

⁴³ Malhotra, 2004, p.301

into four sub-surveys. The surveys were vaguely thematically sorted: usage patterns of fixed soft phone, willingness to pay for soft phone related technology, pricing of the service. We used Easyresearch's survey tool.⁴⁴

3.4 Survey focus group

3.4.1 Survey Design

We used an online survey tool from Easyresearch⁴⁵ when constructing, distributing and collecting the questions and answers. A questionnaire presenting the questions in a prearranged order⁴⁶ was constructed. The survey was conducted in Swedish. If we were to follow accurately the model given in the theory, many questions would have to be repeated. We decided not to have any repetitions of questions in order to keep the questionnaire as short as possible. We are fully aware of context effects⁴⁷, but answering to the question once, would give us a satisfactory answer for the purpose of this study. For survey questions, please see appendix.

The survey was anonymous until the end of the questionnaire where respondents wanting to participate in a lottery could enter their e-mail address. We had no intrinsic interest in collecting the identities of the respondents as our purpose was not to segment the market. We believe that we have complied with the perceived anonymity criterions⁴⁸.

3.4.2 Sample

Due to practical reasons we chose a convenience sampling⁴⁹ for the realisation of the study. The sample was composed of 320 students from the Stockholm School of Economics who started their studies in the year of 2002. This group of students is interesting for several reasons. First, they have studied at university level for at least three years, meaning they may have already been on exchange or might know exchange students or are soon to leave for an exchange programme. In the pre-study, distance turned out to be a key factor for using PC soft phones and therefore we looked for

⁴⁴ www.easyresearch.se

⁴⁵ Ibid.

⁴⁶ Malhotra, 2004, p.169

⁴⁷ Schuman, H. & Presser, S. (2001)

⁴⁸ Malhotra, 2004, p. 182

⁴⁹ Ibid., p. 321

students having possible international contacts. Second, SSE students are fairly homogeneous as a group and demographics were not a part of the study. Also, the advantage of having a relatively homogeneous sample population is that the risk of influence of external factors, such as not having access to computer, internet, mobile phone or international contacts due to economical factors, is minimised⁵⁰. Third, the telecommunication skills of the group was assumed to be in line with the purpose of this study. The students at SSE have for several years worked with laptops and WLAN networks; the majority has had a mobile telephone for some time that is much used.

3.4.3 Survey Realisation

An e-mail with a link to a questionnaire was sent out to all respondents on Sunday, October 23rd and a reminder October 26th. Closing date for the survey was October 28th. No notification of incentive was given in the e-mail nor when starting the survey. The response rate was low. Only 32% of the sample answered completely to our questionnaires.

3.4.4 Post-survey study

Due to a rather low response rate, we conducted a focus group as a complement to our main study. The focus group was intended to provide more in-depth information on certain aspects of the study and clarifying problems not properly covered by the survey.

3.5 Reliability of the Study

Reliability refers to the question whether a comparable study would generate similar results. In a survey study, reliability is assessed by determining the proportion of systematic variation in a scale. The more homogeneous the scale, the better its reliability. In other words, it is important to know whether the respondents answer similarly to the multiitem scales or not, in order to be sure that the questions test the same dimensions⁵¹. Our quest for internal consistency and precision lead us to use conventional and easy question wordings. Furthermore, answers to scale questions were all given in seven points rating scales (both Semantic Differential Scales and Likert Scales, where

⁵⁰ Ibid., p.270

⁵¹ Malhotra, 2004, p.267

1=difficult/disagree and 7=easy/agree), in order for the respondents to recognise the scale and decrease the probability of misreading⁵².

The low response rate has rendered it rather difficult to calculate reliability coefficients, e.g., Cronbach's alpha. The reliability of the survey cannot be considered as other than fairly low. However, the total study may prove to be more reliable. We believe that the measures taken have improved the reliability: pre-studies, survey, corrected surveys and a post-survey focus group providing more detailed responses to some specific domains.

3.6 Validity of the Study

The validity of a study measures whether the results are in accordance with reality and if the study is actually treating the subject it was supposed to. A study with low validity puts the researchers at risk of drawing false conclusions from the study.⁵³ We hereby evaluate our study in terms of two different kinds of validity: internal and external validity.

3.6.1 Internal validity

The internal validity of a study refers to whether the manipulation of the independent variables actually caused any effects on the dependent variable(s). To ensure a good internal validity we have to ensure that no external variables have affected the outcome of the survey. The purpose of the pre-studies was to ensure internal validity of the study. To improve it further, there was a high degree of standardisation among all questionnaires as they had the same look, the same introducing message and the same structure⁵⁴. The first two questions in all four questionnaires were the same, making the starting conditions equivalent to all respondents. We raised very few open questions, knowing they are time consuming for the respondents and are difficult to analyse.⁵⁵ Many questions were thus answered spontaneously, and therefore the respondents did not have to make many cognitive efforts to answer them. We suggest that the results are undistorted by incentive driven responses as we did not announce the cinema ticket lottery in the beginning of the e-mail. We believe the internal validity to be satisfactory.

⁵² Malhotra, 2004, p.258

⁵³ Malhotra, 2004, p.209.

⁵⁴ Trost, 2001, p.55.

⁵⁵ Trost, 2001, p.72.

3.6.2 External validity

External validity concerns the extent to which the result is applicable to other situations⁵⁶. This presupposes internal validity. Very often, a low external validity comes from the study being made in experimental conditions. The purpose of the study being focused on a specific product (private mobile soft phone), we do not pretend it is generalizable to other products. According to the Djuice representative, it is only approximately 5% of the population that is able to use Skype. Our reply rates are in accordance to these figures. Hence, for the given product we argue that the external validity is satisfactory.

⁵⁶ Malhotra, 2004, p.209.

4. EMPIRICAL FINDINGS AND ANALYSIS

Below we account for and interpret the results of the main survey and the post-survey focus group. We follow the same structure in this chapter as we did in the theory chapter above. In order to avoid any illusion of precision in the survey result, all figures have been rounded off to the closest integer. For all tables summarizing the answers to the same question from several questionnaires, recalculations of percentages are based on the number of answers in relation to the total number of responses for the particular question.

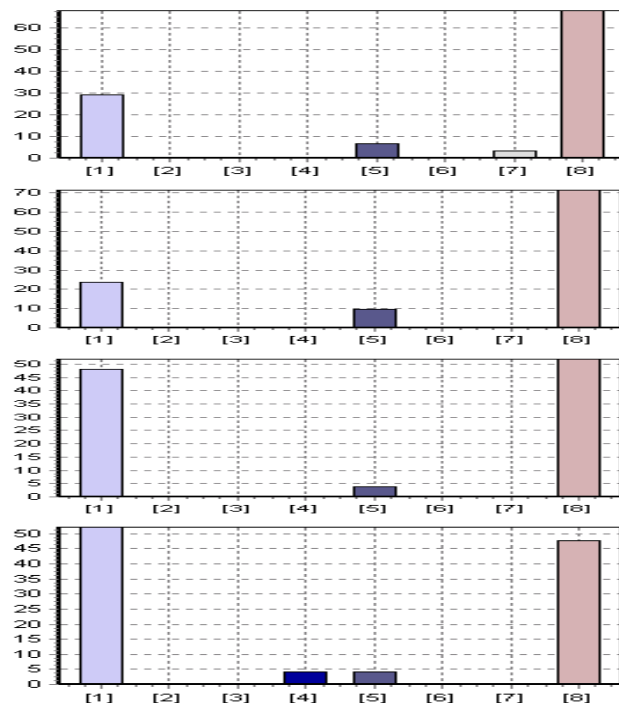
4.1 Product concept

4.1.1 Core product in terms of customer's needs, and customer's customer's needs, and needs fulfilment

For the purpose of mapping the product concept and understand the limits of the core product, the survey encompassed questions regarding the reasons for using and for not using soft phones.

Which of the following soft phones do you use for phone calls via your PC?

Questionnaires 1A, 1B, 2A, 2B	%	#
Skype [1]	45	42
Voize [2]	0	0
One4000 [3]	0	0
Google Talk [4]	2	2
MSN [5]	5	5
ICQ [6]	0	0
Other [7]	0	0
Do not call with my PC [8]	54	51
Responding (respondents may use several soft phones)		94
Not Responding		0
Open Responses		0



Why do you use soft phone in your computer to make phone calls?

Questionnaire 1A, 1B, 2A, 2B	Do not agree Agree							Responding	Not Responding
	1	2	3	4	5	6	7		
To combine phone, file sharing and chat in one device (PC, PDA etc.)	38%	13%	7%	13%	11%	2%	16%	40	63
To increase accessibility	34%	11%	8%	25%	9%	4%	9%	40	63
Communicate with persons I would not otherwise have talked to	32%	21%	0%	15%	6%	14%	11%	40	63
Communicate more often with certain persons	14%	11%	2%	11%	23%	13%	27%	40	63
Lower my phone costs	4%	6%	0%	9%	4%	11%	66%	40	63
Total								40	63

At first glance it seems as if among the respondents using a soft phone the most important reason is to lower the phone costs. Corollary with this answer is the ability to communicate more often with certain persons at a lower cost. It may be that the reasons enumerated in the survey were exhaustive which was confirmed by the focus group not adding any further information.

A complementary way to understand the value of a product or service is to look at the actual patterns of usage. Below we have tried to capture these patterns.

How often do you use soft phone for calling for free between other users of the same type of soft phone? Are the calls most often for domestic or international contacts?

Questionnaire 1B	%	#
Several times/day	0	0
A few times/day	17	1
A few times/week	50	3
A few times /month	17	1
Never	17	1
Responding	6	
Not Responding	15	

Questionnaire 1B	%	#
Domestic	33	2
International	67	4
Responding	6	
Not Responding	15	

How often do you use soft phone for calls to 'ordinary' phones (e.g., fixed lines and mobile phones)? Are the calls most often for domestic or international contacts?

Questionnaire 1B	%	#
Several times/day	0	0
A few times/day	0	0
A few times/week	17	1
A few times /month	0	0
Never	83	5
Responding	6	
Not Responding	15	

Questionnaire 1B	%	#
Domestic	33	2
International	67	4
Responding	6	
Not Responding	15	

How often do you use the chat function of the soft phone? Do you use the chat most often for domestic or international contacts?

Questionnaire 1B	%	#
Several times/day	17	1
A few times/day	17	1
A few times/week	33	2
A few times /month	0	0
Never	33	2
Responding		6
Not Responding		15

Questionnaire 1B	%	#
Domestic	33	2
International	67	4
Responding		6
Not Responding		15

How often do you use soft phone to send and receive files? Are the file sharing used most often for domestic or international contacts?

Questionnaire 1B	%	#
Several times/day	0	0
A few times/day	0	0
A few times/week	50	3
A few times /month	17	1
Never	33	2
Responding		6
Not Responding		15







Questionnaire 1B	%	#
Domestic	33	2
International	67	4
Responding		6
Not Responding		15

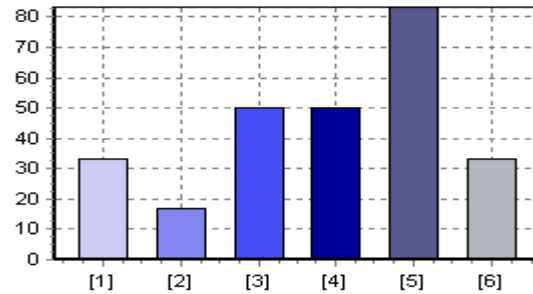
A cautious interpretation of the results would be to think that advantage of the soft phones of today increases with distance, as it appears to be embedded in the price structure. The survey suggests that the actual usage of soft phones is leaning slightly towards international contacts. This may suggest that it would not be of interest for a local Hotspot provider to put up an internet access network for a whole city in order to lower the costs of contacts between citizens. Would this be the case, heavy and concentrated contacts between locations separated by a disadvantageous price structure may benefit the most from a mobile soft phone usage under the current pricing models. This may be interpreted as local WLAN over a full city is not that much of an interesting solution.

The focus group emphasised that international contacts required a more thick and intensive communication in order to keep the depth of a relation. “When you do not meet the person on a daily basis you need to send files and photos at the same time you are chatting or even talking just to keep updated.” This may be a deviation from the main stream preferences hinted in the survey. Several of the persons in the focus group used MSN for instant messaging on an everyday basis for the purpose of reducing communicative intensity and thickness but increase efficiency. “If I want to just set a time and a place for a meeting with my friend I just use MSN, because then I do not risk

having to talk to the person.” Also, file sharing and text messaging can be done through other means than soft phones and the single interface does not seem to be necessary.

For what kinds of calls do you NOT use soft phone?

Questionnaire 1B			%	#
Calls to family and relatives	[1]		33	2
Calls to friends	[2]		17	1
Calls to companies	[3]		50	3
Calls to authorities	[4]		50	3
Important calls	[5]		83	5
Other	[6]		33	2
Responding				6
Not Responding				15
Open responses				2



Our studies bring forth an interesting issue for further investigation – the quality of the soft phone calls. The quality may yet be insufficient to be used for all kinds of calls. The more important the call is or the lower the expected tolerance for poor sound quality, the less inclined the consumer could be to use the soft phone. Taking into account the recurrent problems with mobile phone calls and adding another layer of poor call quality, one may doubt that mobile soft phones would be a major threat to the mobile phone call industry. The survey result and interpretation are, to the extent that empiric base allows, in line with our focus group and previous studies⁵⁷. One person in the focus group expressed the opinion of the whole group: “Like... I would never call a company for a project or to ask for a job with a soft phone. I mean, I want that to be smooth. They are never fun phone calls to make, so I just want to get it over with”. Another person added that “I have noticed that when calling more techno-nerd companies, they are more patient with poor sound quality if I say I call with Skype. But it still really disturbs to me. I want to be able to make an important call without risking that I would need to dial again and rephrase my ideas.”

Why do you NOT use soft phone?

Questionnaire 1A, 1B, 2A, 2B	Do not agree			Agree				Responding	Not responding
	1	2	3	4	5	6	7		
Complicated	39%	4%	7%	19%	10%	14%	7%	56	47
Have no own computer to download to	84%	3%	0%	2%	2%	2%	7%	56	47
Have low phone costs already	22%	12%	8%	14%	23%	10%	11%	56	47
Content with my current phone situation	19%	8%	12%	16%	15%	16%	15%	56	47

⁵⁷ Varshney et al. (2002)

Do not know what a soft phone is	36%	13%	6%	10%	9%	10%	16%	56	47
Other reason	69%	2%	2%	7%	4%	2%	14%	56	47
Total								56	47
Open responses								12	

In the survey the open responses stated the following reasons for not using soft phones:

Uncomfortable. Poor sound quality
Do not know what a soft phone is
Have not had the time to investigate this further
Do not have internet
Tried but gave up when it did not work (have heard it has something to do with the firewall in home network).
No one else has it
Thinking of getting Skype very soon
Difficult to get hold of people
Have just got a new computer and going to get Skype as soon as possible
A bit of laziness. No seller has called me
Am very seldom at home
Sloth

In the open responses, we see only some reasons for not using soft phone apart from the alternatives given in the question. However, the comments hint that there is not an adoption resistance to the product but rather an insufficient incentive structure to start using the soft phone. This impression is slightly reinforced by the answers to the question “What would make you use a soft phone in your computer for calling?” The main reason for attracting users would be an increase in communication costs and more market education. Thus, it may be of importance for any actor wanting to succeed in the business to aim at increasing the perceived easiness to use. On a methodological level one may note that the survey may have been poorly constructed for capturing the true reasons for not using soft phone.

The focus group added interesting aspects of why one may not be inclined to use a soft phone. One person argued that “With the PC, you never know who is online or not, or they can be online but not connected to Skype. But with a mobile, you would know that you can reach them”. Clearly, he expected the mobile solution of soft phone being analogous to ordinary mobile telephony: unless the phone is switched off, you can somehow reach the phone. Would this be the expectancy of the soft phone, we deem it extremely simple for any mobile operator to fend off any proprietary mobile soft phone actor by just lowering the fees. The group started to think in this way, and were more or less unanimous that price is the key benefit of soft phones, given the poor sound quality.

What would make you use a soft phone in your computer for calling?

Better sound quality
Perhaps a letter with user instructions that I could use myself to see if it is a good thing.
Simple instructions and for free
If someone installed it for me.
Difficult to answer when I do not know what it is. But perhaps it would be less expensive than normal calls, or if there were special features, like group call or something. But as said I do not know what soft phone is...
Easy to use and easy to get
If the costs for ordinary telephony were higher so there would be a reason for using soft phone.
Knowledge about how to use it
The combination of really having to communicate with someone, perhaps on a regular basis, and the costs for this are high. But how often do you have your colleagues in Chile without the firm paying the calls. My brother is in China, but it is not sufficient for being bothered when the call is about 2 SEK/minute through the mobile. How often are you in front of the computer at the same time?
More friends using it! Smooth headset/remote control
Increased costs for telephony
Internet connection
More information on how to go about and why it is a good solution
More of my friends would get it
If I had bigger telephony bills and if I had a need to call internationally
Do not know – perhaps if someone could get it working for me
Do not know what it is
Same line for broad band and telephony, both can be used at the same time, somebody else installs it, easy to maintain (no bothersome username and passwords, phone queues to get it work) super cheap, no change of phone number
Cannot think of a specific reason for me to start using soft phone. Perhaps if the costs for my phone bills would soar.
Do not know what it is
If I was convinced it would have the same functions at a lower price

These responses suggest that price and technology knowledge are the main issues. This is reinforced by the focus group. Some of the persons were weary of viruses and other things related to downloading software on the internet. Mainly, the help asked for was to avoid malign software and the persons asking for this were cautious about downloading software in general. For a mobile soft phone, they expected the soft phone to be pre-installed and therefore there would be no problems with viruses. One person was supported by the rest of the group when firmly stating that: “When I buy a soft phone, I want the call functions to be installed and safe. Other things I can download, like signals, screensavers and so on, but software to use for calling. I mean that is expected, that is why it is called a mobile phone”.

As a further test of the market valuation of the private mobile soft phone, we have investigated how much people value the solution. The assumption is that everyone may be interested in a product that is for free, but the true test is whether people are prepared

to pay for the solution too. Furthermore, low price is often a strong selling point and we wanted to know what this meant in the mobile setting.

The tables below suggest that there may be at least a positive value from the end-user side to capture. This is only the valuation of the calls. There are several other points of revenues, such as an added price to the devices necessary and access to the solution.

How big does the PRICE DIFFERENCE have to in order for you to use a soft phone for your mobile compared to your current mobile subscription?

Respondents 14 Not responding 13	Calls to fixed line domestic (SEK/min)	Calls to fixed line international (SEK/min)	Calls to mobile domestic (SEK/min)	Calls to mobile international (SEK/min)
	2	-	2	
	0,59	10	0,59	15
	2	2	2	2
	0,5	2	0,5	4
	0,5	1	1	1
	0,5	5	0,5	5
	0,5	2	2	2
	0,65	1	0,65	1
	5	5	5	5
	0	0	1	3
	-	2	-	2
	2	3	2	3
	0,1	6	0,1	6
	0,2	0,2	0,2	0,2
Median	0,5	2,0	1,0	3,0
Average	1,1	3,0	1,3	3,8

In order to get an impression of the strength of this value proposition, we asked the respondents to hint the level of a price difference between normal mobile calls and mobile soft phone calls that would drive them to use soft phone instead. Some answers seem to have been given randomly, which may be a function of a flawed survey. The coherent answers suggest that the soft phone is heading a rather gloomy future, at least for the domestic calls. The median price difference ranges between 0,5 – 1 SEK/Min, implicating that the service would need to be for free or even at a negative charge for the customer given the current mobile call prices of some mobile operators⁵⁸. For long distance calls to mobile phones there may be a business case. For example, African

⁵⁸ Comviq Knockout
http://www.editorial.tele2.se/?page=tele2se_privat_mobiltelefoni_comviqkontant_vardebeviskontant_knockout_kokoledec05

countries have the fastest growing mobile penetration and in certain countries the penetration of mobile phones exceeds fixed-line⁵⁹.

How much extra are you prepared to pay for a soft phone enabled mobile phone?	How much extra do you think you have to pay for a soft phone enabled mobile phone?	Price Difference
100	100	0
0	2 000	-2 000
2 000	3 000	-1000
2500	500	2000
200	300	-100
0	0	0
300	500	-200
2 000	1 000	1000
0	0	0
0	0	0
0	0	0
1 500	1 000	500
1 000	2 500	-1 500
1500	500	1000
0	0	0
500	700	-200
250	500	Median
725	756	Mean

How much are you prepared to pay for a soft phone to your mobile phone?	How much do you think you have to pay for a soft phone to your mobile phone?	Price Difference
100	150	-50
0	2 000	-2 000
2 000	2 000	0
350	350	0
300	300	0
0	0	0
300	500	-200
2 000	2 000	0
0	0	0
0	0	0
0	0	0
1 000	1 500	-500
1 000	2 500	-1 500
500	500	0
0	0	0
500	700	-200
300	425	Median
503	781	Mean

A very interesting interpretation of the price expectancies is that mobile soft phone may not be a zero revenue business after all. We do not put any importance to the exact values given in the survey. However, we find it interesting that half of the respondents are actually prepared to pay at all for both the soft phone, which is for free on the internet, and for a soft phone enabled terminal. Even though the survey has its weaknesses, it is plausible to believe that a part of the consumer set would actually think that a separate mobile soft phone solution may entail some costs or that the mobility per se is worth paying for. Also, whereas the internet has had a history of providing software and content for free, the mobile phone industry has worked on strict business logic. Thus, the

⁵⁹ Bishop (2005)

consumers are not used to free software on the mobile phone, which is revenue driving market knowledge.

How much are you prepared to pay for access to a Hotspot outside your home where you can use soft phone for your mobile phone? (Kr/min)	How much do you think you have to pay for access to a Hotspot outside your home where you can use soft phone for your mobile phone? (Kr/min)	Price Difference
5	50	-45
0	1	-1
0	1	0
1	2	-1
0	1	-1
0	0	0
0	1	-1
500	1 000	-500
0	0	0
0	0	0
0	0	0
1	4	-3
0	1	-1
700	700	0
0	0	0
200	200	0

The Hotspot price expectancy analysis is obviously flawed. Some respondents seem to have answered per minute, whereas others have had a flat fee arrangement in mind. Nevertheless, interestingly enough the finding suggests that some customers may be willing to pay for the service, implying the possibility of a business case for the direct provision of such a service. In the focus group, we did not dwell in details on this topic but it was clear that some of the persons are prepared to pay a small fee for access as well as the service, whereas others were not. The main reason for this inclination is that it would encompass the possibility to use the computer as well in the Hotspot. No one was very supportive of the idea of having to pay solely for the access to mobile telephony. Furthermore, nobody had ever paid for access to a Hotspot, but assumed it would be like paying for an internet kiosk – very simple.

In order to gain some sort of input of the interest in the soft phone mobile solution we asked a straightforward question:

Would you use a soft phone in the mobile phone?								
Not likely							Very likely	
1	2	3	4	5	6	7	Responding	Not responding
11%	9%	11%	16%	22%	11%	20%	45	3
Total							45	3

It seems as if there is an interest in the mobile soft phone solution. About 70% claim it is “likely” to “very likely” to use a mobile soft phone if they had one in the terminal. However, this should not be confused with putting an effort into getting a mobile phone with a soft phone nor an actual use of the soft phone. This was emphasised in the focus group. “It’s nice with extra things like that but I wouldn’t put too much effort into getting it myself. Anyway, it’s a bit complicated to install Skype on the computer and I can’t see that it’d be less difficult on the mobile with the tiny buttons and things. If it was pre-installed, maybe, and the prices were really good.” A couple persons argued that it would be interesting to give a quick call for free instead of sending an SMS or use the soft phone chat in some cases but the value and convenience of this function was deemed as nice-to-have but far from a must-have.

For a more general assessment of a mobile soft phone solution after a mini form of market education we asked the respondents a final question:

With the information you have received through this survey, what do you think about a mobile phone with soft phone?									
Not good						Very good			
1	2	3	4	5	6	7	Responding	Not responding	
9%	9%	0%	36%	9%	0%	36%	11	12	
Total							11	12	

Here, we see tendencies of the soft phone market could stick to a niche market. A soft phone provider could focus a lot on extracting and explaining the benefits of the product in all dimensions, not only price, in order to get the initial interest. Market education alone does not guarantee success though. This could be compared to the development of the 3G marketing going from a price issue to content and service issues⁶⁰.

Also, we added an open question in the surveys regarding why it would not be of interest to have a soft phone in the mobile and the answers referred to the rather inexpensive mobile phone calls, the network externalities as well as confusion of how it would work at all.

⁶⁰ Powell (2004)

The general impression from these last questions seems to be that there is a rather lukewarm interest for the mobile soft phone solution. The true value and the customer needs that the core product is to satisfy, are somewhat unclear for the moment being. For a successful business model for a soft phone provider, it seems crucial to pre-install the soft phone in order to facilitate the usage and to not give reasons to the customers to not use the soft phone once installed in the mobile phone.

4.1.2 Core product in terms of know how, platform, product, or service?

All products are dependent on a certain amount of know-how and complementary services in order to be of value for the customer. To get an indication on whether the population investigated in this study has the knowledge and product base necessary for using soft phones (both in PCs and, possibly, in cellular phones), we asked the questions below. The questions are based on the following trivial facts about using soft phones in a PC: it is necessary to have PC, an internet connection and a soft phone. If having these components, it is reasonable to believe that the responding population may be able to use these technologies.

What kind of computer do you have at home?

Questionnaire 1A	%	#
Stationary	34	11
Laptop	63	20
Have no computer	9	3
Responding		32
Not Responding		0

Which internet connection do you have at home?

Questionnaire 1A	%	#
Broad band	66	21
ADSL	19	6
Modem	0	0
Have no internet connection at home	16	5
Responding		32
Not Responding		0

The population answering to our questions seems to be computerized. One may expect that the population has the fundamental knowledge of learning how to use a soft phone on the PC, and how to migrate this knowledge to the mobile phone. However, as seen in the previous section, more market education may be needed in order to reach the mass market.

How often do you use the following functions in the mobile phone?

Questionnaire 1A	Never	Often

	1	2	3	4	5	6	7	Responding	Not responding
SMS	0%	3%	3%	7%	16%	19%	52%	31	1
MMS	67%	19%	7%	3%	3%	0%	0%	31	1
Camera	39%	19%	10%	10%	13%	0%	10%	31	1
Radio	87%	0%	3%	0%	3%	0%	7%	31	1
IR-port	71%	10%	10%	3%	7%	0%	0%	31	1
GPRS	90%	0%	7%	3%	0%	0%	0%	31	1
WAP	77%	7%	10%	7%	0%	0%	0%	31	1
Chat	100%	0%	0%	0%	0%	0%	0%	31	1
Play music	61%	13%	7%	3%	3%	7%	7%	31	1
Send/receive files (music, documents etc)	68%	19%	3%	7%	0%	3%	0%	31	1
Total								31	1

The mobile phone usage patterns present interesting aspects regarding know-how. Even though we cannot conclude that people do not know how to use the different functions, we believe that there is little need for the actual services. In this respect, we would like to compare with the development of SMS. Even though SMS messages were expensive in the beginning and no one expected it to become such a success, it eventually superseded all expectancies. Our basic assumption is that would there be a real need for the product or service, people would use it. We do not argue that soft phone does not have a future, however the advantage may not be the introduction of a radically new product, such as the SMS, but to offer better interface for the functions. This would need further investigation, though.

How easy do you think it is to use the computer to surf on the internet in other wireless environments than at SSE?

	Difficult			Easy				Responding	Not responding
	1	2	3	4	5	6	7		
How easy?	0%	5%	16%	32%	5%	21%	2%	19	2
Total								19	2

Basically, a soft phone connects to the internet in order to transfer voice over the protocol. For this purpose, we asked whether the respondents find it easy to use a computer for surfing on the internet in wireless environments. It seems as if the usage of WiFi networks may be, if not easy, at least fairly easy. This suggests that this technological point not being crucial for technology adoption, but the most important hindrances for adoption may rather be the benefits of the product.

4.2 Customer concept

4.2.1 Decision-making chain, influencers, decision-makers, users

Who recommended you to install your current soft phone?			To how many persons have you recommended to install a soft phone for PC calls?	
	%	#		
Friends	80	8		
Family	10	1		
Colleagues	0	0		
Article in magazine	0	0		
Advertisement	0	0		
Do not know	10	1		
Responding		10		
Not Responding		22		
			Min	0
			Max	10
			Average	4
			Responding	10
			Not Responding	22

Many of the soft phones on the market today are constructed to maximize network externalities through free communication between users of the same software. This is slightly reflected in the results from the survey in which some have been recommended to install soft phone and have also recommended others to do so.

4.3 Revenue stream/model concept

4.3.1 Who pays: the owner, the customers or the third parties?

Currently, soft phones for PCs are distributed for free – the owner paying for the product and the customers paying in part for the usage. We have investigated the interest in the customer side of a third-party involvement in the mobile soft phone solution.

What is your opinion regarding soft phone in your mobile being financed by advertisement, if the price will be lower and if the advertisement is placed in any of the forms below?

Questionnaire 2A	Negative							Positive	
	1	2	3	4	5	6	7	Responding	Not responding
Welcome message when you start up the application	6%	6%	6%	13%	19%	13%	38%	16	11
Pop-up when chatting	38%	6%	19%	25%	13%	0%	0%	16	11
Sound file transmitted as SMS, MMS or via chat	31%	6%	19%	19%	13%	6%	6%	16	11
Commercial break while talking	81%	13%	0%	6%	0%	0%	0%	16	11
Message after finished conversation	25%	0%	6%	13%	38%	6%	13%	16	11
E-mail ad to an address you use often	50%	6%	6%	13%	6%	6%	13%	16	11
Logotype in display	6%	13%	13%	31%	13%	6%	19%	16	11

Wallpaper	19%	6%	19%	19%	13%	6%	19%	16	11
Screen saver?	13%	6%	6%	31%	6%	13%	25%	16	11
Total								16	11

Interestingly enough, the results may be interpreted as the respondents being slightly positive to commercials in the form of display logotype, wall paper and screen saver. These alternatives may be the most interesting to use as well for a third party. One may speculate that the positive response of advertisement in the mobile is due to not having been exposed to commercials in the mobile phone or experience the battery shortage in practice as of yet. We therefore see a first-mover advantage in terms of letting a third party paying for the services until the consumers renounce advertisement in the mobile phone.

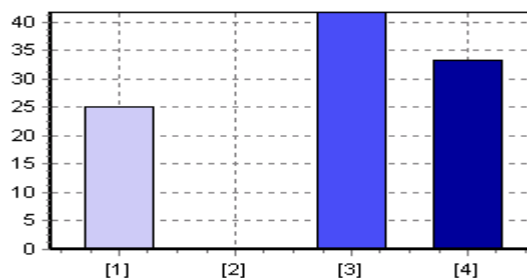
4.3.2 What is paid for?

From a customer perspective, the intelligibility of what is paid for is important. This problem concerns both the predictability of costs, cost control, as well as post-consumption control of the purchase. The focus group reacted negatively to being charged per kbit as no one knew what 1 kbit meant in minutes of talking. Some of the informants knew what it meant in transferring files and giving examples of mp3-file sizes. As the main function of the mobile phone, the focus group asserted, is to use it for talking, the most important usage could not be grasped in an intelligible manner. The persons mentioned the difficulties of cost control both before and after the bill.

For fixed and mobile telephony as well as current soft phone telephony, the most common unit of charge is monetary unit/time unit. However, one key issue for soft phone telephony – both PC and mobile - is the transformation of voice into digital packages. From an industry perspective, the correct charging method would be to charge per kbit. Nonetheless, this unit may be rather incomprehensible and rejected as an alternative by respondents in both survey and focus groups. However, this would require further studies for a full interpretation of the results.

For what do you want to pay the fees associated with using a soft phone in the mobile phone?

Questionnaire 2B			%	#
Per conversation minute	[1]		25	3
Per data unit	[2]		0	0
Flat fee	[3]		42	5
Do not know	[4]		33	4
Responding				12
Not Responding				11



How do you prefer to pay for the use of the different functionalities (call, chat, file sharing) towards other users of the same soft phone?		
	%	#
Pay per used unit (SEK/Min or kbit)	55	6
A fee granting access to the service for a certain period	36	4
Combination of an access fee and per used unit	9	1
Responding		11
Not Responding		12

How do you prefer to pay for the use of the different functionalities (call, chat, file sharing) towards fixed line (domestic and international)?		
	%	#
Pay per used unit (SEK/Min or kbit)	36	4
A fee granting access to the service for a certain period	55	6
Combination of an access fee and per used unit	9	1
Responding		11
Not Responding		12

How do you prefer to pay for the use of the different functionalities (call, chat, file sharing) towards mobiles (domestic and international)?		
	%	#
Pay per used unit (SEK/Min or kbit)	55	6
A fee granting access to the service for a certain period	36	4
Combination of an access fee and per used unit	9	1
Responding		11
Not Responding		12

We cannot come to a conclusion when it comes to choosing between flat fees or paying per minute (per data unit is unambiguously excluded, though). If an organisation can offer the consumer a choice between the two and still stay competitive in terms of organisational and billing costs, this would be preferable.

4.3.3 Phasing of the payment

We presented four phasing solutions of payment for a mobile soft phone to the focus group. Both advantages and disadvantages were mentioned with all three options.

An extreme penetration pricing model, i.e., give away the soft phone was of course popular, but the group argued that in the long run this might erode the trustworthiness of the company. One person summarized the argument: “If it is free in the beginning you know that one day you will have to pay for the product unless it’s a poor product. It’s never fun to start paying for what was free”. All in the group argued that they would definitely consider stopping using a mobile soft phone when charges were introduced. However, a moderate penetration model, low price in the beginning and higher price later were easily accepted.

A skimming strategy had the advantage, according to the focus group, that the product can only get cheaper. Most products, the group argued, will lower the price sooner or later and this is only good and gets them to use the service more.

An extreme version of skimming, “sell it – free it”, was the one most resisted as it would mean that in the end you would have paid for something that is now for free for others. The focus group participants did not consider it as fair.

The difference in attitude between the first and fourth phasing models is that in the former case the focus group understood the marketing strategy as such. It is normal for companies to hand out samples for free in the beginning, but no one had ever heard about a product that had been given out for free after a while.

When setting the price for what you are prepared to pay for a mobile soft phone, what do you consider the most?	%	#
How much you believe it may cost to deliver the service.	18	2
How much the competitors charge for the same service	27	3
How much it is to use similar services from other providers	55	6
Responding		11
Not Responding		12

Interesting enough, some consumers consider the production costs when setting a price for the offer. At the soft phone company Skype, one pillar of the business model is the conviction that consumers are not willing to pay for services that do not have any costs for production⁶¹. The survey partly confirms

this. However, perhaps the major part of the population are setting their level of how much they are prepared to pay through competition/surrogate pricing models. It would be interesting to investigate further to what extent the cost-plus model could get a grip of the

⁶¹ Fredrik de Wahl, Skype, IIS 2005

consumer mind. However, this may encompass too much of an educational problem and often not even the companies themselves know the exact cost of production.

4.3.4 Method of payment and financing

It is important to know the end users' payment preferences. From the questions below, we cannot distinguish any tendencies towards neither pre-paid or invoice solutions, nor towards subsidised phones or not. What we can see is a quest to have control of the payments. The preferred interval for the charges in the focus group was on a monthly basis as study grants and loans are paid monthly as well as salaries.

Which payment option do you consider being the best for access and usage of the service?

	%	#
Pre-paid: Internetbank payment	36	4
Pre-paid: Voucher in store	9	1
Pre-paid: Credit card	9	1
Invoice: Postal/bank giro service	27	3
Invoice: Auto giro service	9	1
Invoice: Credit card	9	1
Responding		11
Not responding		12

For a successful business model, there may be an advantage to be able to harbour all the possible payment methods. However, it may be economically wise to stick to Internet bank and invoice as these options offer the highest form of comfort, easiness and sense of safety/low risk for being cheated.

Which payment option do you consider being the best for a soft phone enabled mobile phone?

The focus group was equally divided. However, some persons argued that it may be more interesting in the beginning of the diffusion of the technology with an instalment set-up because it may lower the perceived risk. "Paying 5000 SEK up-front for a product whose value is unclear does not really seem attractive". On the other hand, another person argued that "If you would buy the instalment option you would be locked with an operator and with a phone for ages."

	%	#
Full payment at purchase	46	5
Purchase by instalments via invoice (operator subsidized phone)	54	6
Responding		11
Not responding		12

4.3.5 Transaction revenue fluctuation

Would one offer any customer a lower price, most likely everyone would say yes. However, in order to see if there is room for volume penalties on the customer, we asked

whether the customer would be prepared to pay more, the more resources the customer would need. The reason for the question is band-width being a scarce resource.

What do you think about paying a higher price per unit (kr/kbit) the more you use internet capacity when you want to use a mobile soft phone (increase communication quality, more band width...)?

	Negative							Positive							Responding	Not responding
	1	2	3	4	5	6	7	1	2	3	4	5	6	7		
Higher unit price?	27%	9%	27%	18%	18%	0%	0%								11	12
Total															11	12

The answers are leaning slightly towards a negative attitude. Nevertheless, the answers are far from intransigently negative as a majority are slightly negative to slightly positive (ranking 3-5) to the idea. We believe that by distorting the information of band width for increased voice quality, a company can increase profits, this as long as people believe they are experiencing a higher voice quality. When presented with the case of paying more for better sound quality, some persons in the focus group accepted this immediately. However, after having explained the correlation between limited bandwidth and better sound quality, the whole group supported the idea of having volume penalties on the bandwidth. One person argued that “it would not be fair if someone could block the full bandwidth for me just for the purpose of having better sound quality at my expense without having to pay for this”. Perhaps the respondents of the survey did not quite understand the question. This may be a combination of a poorly phrased question and being too hasty when answering to the survey.

For invoicing, however, customers seem to be rather reluctant to volume penalties as is hinted by the question below. It would require a more cunning package to sell this revenue opportunity to customers. It should be noted that this is far from being impossible.

What do you think about paying more per invoice the more invoices you receive?

	Negative							Positive							Responding	Not responding
	1	2	3	4	5	6	7	1	2	3	4	5	6	7		
Higher price per invoice?	64%	27%	0%	0%	9%	0%	0%								11	12

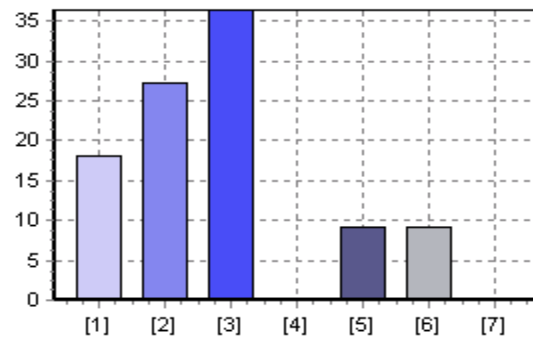
Total	11	12
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4.4 Marketing and sales








The findings below are the answer to the question of how the marketing channel could be organized for the maximum benefit of the consumer. From a consumer perspective, a product consists of the total functionalities included at the point of purchase. In the case of soft phones for mobile phones, there are three essential products and services that need to fully function: a cellular phone that is compatible with downloadable or otherwise distributed soft phones, a soft phone and a hotspot. Would there be a demand from the customer to purchase a prêt-à-téléphoner solution; one would expect the consumer to ask for delivery at one point of purchase. The survey result may suggest this too. It seems as if the mobile subscription provider is in the position to reap all the profits from selling the finalized product – a soft phone enabled mobile phone with access to Hotspots.

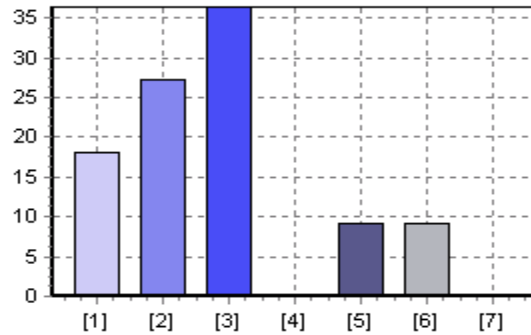
Assume that you would purchase a soft phone enabled mobile phone, from whom do you want to buy the mobile phone?

Questionnaire 2B		%	#
Mobile phone producer (Nokia, SonyEricsson...)	[1]	18	2
Phone store (Onoff, Telia-shop, 3 ...)	[2]	27	3
Mobile subscription provider (Telia, Tele2, Vodafone, Djuice...)	[3]	36	4
Internet provider	[4]	0	0
Hotspot- provider	[5]	9	1
Soft phone provider (e.g. Skype, Woize...)	[6]	9	1
Cable TV provider	[7]	0	0
Responding		11	
Not Responding		12	










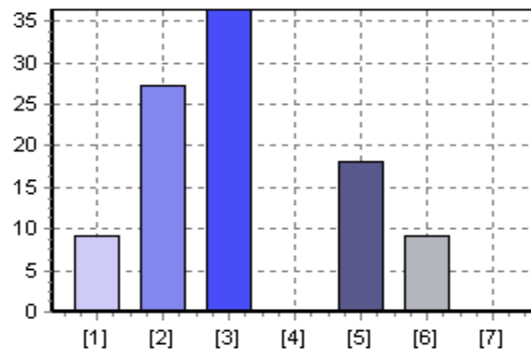
Assume that you would purchase a soft phone enabled mobile phone, from whom do you want to buy the mobile adapted soft phone?

Questionnaire 2B			%	#
Mobile phone producer (Nokia, SonyEricsson...)	[1]		18	2
Phone store (Onoff, Teliabutik, 3 ...)	[2]		27	3
Mobile subscription provider (Telia, Tele2, Vodafone, Dj Juice...)	[3]		36	4
Internet provider	[4]		0	0
Hotspot- provider	[5]		9	1
Soft phone provider (t.ex. Skype, Woize...)	[6]		9	1
Cable TV provider	[7]		0	0
Responding			11	
Not Responding			12	



Assume that you would purchase access to Hotspots for a soft phone enabled mobile phone, from whom do you want to buy the access to Hotspots?

Questionnaire 2B			%	#
Mobile phone producer (Nokia, SonyEricsson...)	[1]		9	1
Phone store (Onoff, Teliabutik, 3 ...)	[2]		27	3
Mobile subscription provider (Telia, Tele2, Vodafone, Dj Juice...)	[3]		36	4
Internet provider	[4]		0	0
Hotspot- provider	[5]		18	2
Soft phone provider (t.ex. Skype, Woize...)	[6]		9	1
Cable TV provider	[7]		0	0
Responding			11	
Not Responding			12	



There are several reasons why mobile subscription providers may be in the best position to promote the mobile soft phone solution. Apart from the consumers preferring them as sales points, other reasons can be most consumers being uninterested in the technology as such. Soft phones are a solution to the need to communicate with people at a lower cost, and any soft phone can do for this purpose. A mobile subscription provider could very well set up a Skype-like soft phone for download on the internet and call it “Party telephony” offering low prices. In this regard, we deem the virtual mobile network operators, i.e., operators buying capacity from network owners, being in the pole position as they are actually operating almost entirely with marketing rather than production of a technology, i.e., mobile network. The focus group only confirmed this message.

5. CONCLUSIONS – A POSSIBLE BUSINESS MODEL

Below we present a possible business model for a mobile soft phone solution based on the empirical findings.

5.1 The model

Product concept

Core product in terms of customer's needs

The core product may be understood to be a cost saving service for less frequent and less important mobile communication to locations separated by a disadvantageous price structure.

Core product in terms of know-how

The customers seem to have the basic know-how and access to the technological platforms necessary for using a mobile soft phone. However, there may be a need for a certain market education in order to extract the full potential of the interface, i.e., add a perceivable value of integrating functions that are now spread over several interfaces, e-mail, SMS, calling, file transfer and so forth. Furthermore, a user interface that is very easy to use even for complex actions is needed.

Customer concept

The customer types

Relevant target groups for a mobile soft phone could be ethnic groups from countries with a relative low fixed-line telephone penetration and to which there is a disadvantageous telephony price structure.

The decision-making chain

Reinforcing the impression of the communication patterns, or a logical consequence of the decision making chain, is the fact that most users were recommended by friends to use soft phones. The business model may therefore take into account marketing

mechanisms on a friendship level, i.e., use the power of group dynamics such as leaders-followers for marketing and distribution of the product.

Revenue stream/model concept

Who pays

In order to adapt to the consumer perception of cost saving as very important for mobile soft phones, the soft phone provider could drive considerable profits through advertisement sales. However, it seems as if there is a possibility to charge the customers for both the software and the hardware. The challenge is to charge for these items without transaction costs exceeding the slight profit there may be. The exact pricing of the product is still to be found through further research, though.

What is paid for?

The marketed and used unit for charging the customers could be SEK/minute. SEK/kbit might be an incomprehensible measurement of service usage to the consumer mind.

Phasing of the payment

A soft phone provider could cater for a combined skimming and penetration pricing strategy.

Method of payment and financing

A soft phone provider could harbour all possible payment methods - internet, value vouchers, and credit card - in order to cater for the broadest spectre possible of a potential niche market. It would be advantageous for the soft phone provider to also offer instalment payments for a soft phone enabled mobile phone.

Revenue model options

- *direct/indirect*

There are great possibilities to combine both direct revenues from the end-users purchasing the products and from a third-party through, e.g., advertisement.

- *dependent/independent*

The soft phone provider would be in an advantageous position if it offered both transaction dependent (unit SEK/minute) and independent charges in order to cater for the major part of a potential niche market.

- periodicity of revenue

As a consequence of the preferences, the revenue model could take into account the monthly distribution of monetary funds to consumers and adapt the billing thereafter.

- time for revenue

In order to attract the broadest customer base possible, it would be beneficial for the soft phone provider to offer both pre-paid and post-paid solutions.

- transaction revenue fluctuation

There is a case for reaping volume penalty profits through an increasing price curve. There may be persons interested in high quality mobile VoIP and would be interested in paying a premium for this service. The penalty income could compensate for fewer customers. Invoicing, though, appears not to be suitable for volume penalties from an end-user perspective.

Marketing and sales

The customers prefer to purchase all three components, soft phone, soft phone enabled mobile and access to hotspots, through the mobile subscription provider and phone stores. The soft phone provider could therefore mainly target these actors. However, given that these actors are very often co-operating a new soft phone provider would need to find alternative distribution channels. One solution would be to enable forwarding the soft phone to other mobile phones. Once downloaded/installed at the recommenders' mobile, it should be possible for the user to send the soft phone to their friends instead of each individual having to visit a certain site on their own in order to download or install. Given the points-of-purchase preferences and the lukewarm interest in the mobile soft phone, it may be crucial for success to pre-install the soft phone in the mobile in order to facilitate usage.

5.2 Model result overview

All parts in a business model should be relevant for the successful product offering. We believe that this is true in the model we have chosen for this study. Our focus, here, was to study the soft phone from the end-user's eyes, which is why not all parts in the model were covered. Those that we did cover relate to each other in a satisfactory way and give a good overview of what the customers are demanding.

One may very well, argue that this severely damage the usability of the results as one may expect that channel conflicts may enter into the picture and thereby affecting revenue and payment related questions. However, doing business encompasses compromises too, where one may need to consider all stakeholder's interests. In this particular case we have chosen the customers. The model seems to be rather coherent in terms of the customer perspective and do cover the most important aspects.

We believe that the most important function of a business model is that of a check-list of what questions to answer in order to organise the relevant aspects of a profit generating enterprise. From this point of view, the model used is indeed useful.

However, it does not provide guidelines for the practical implications of the answers. Many changes in the kotlerian 4Ps entail channel conflicts of different sorts. A change in price, the mobile soft phone is especially interesting in case of lowering communication price, will entail changes in margins for most actors involved. Distributional changes will involve that some lose business, other win and so forth. One may ask for some sort of appendix to the model as an action guideline for different outcomes. For example, in the case of mobile soft phone the main advantage may be to lower the price for communication. Entering a market with the price as competitive advantage may imply some standard consequences that could be included in the model. If brand differentiation is the most important aspect of a product in a mature market, this would also imply certain rather standardised action plans across products and markets.

6. CRITIQUE

The advantage, from both an epistemological and ontological point of view, of the business model used is that we have been able to discuss a product crossing the borders of both e-technology and m-technology. Even though Osterwalder & Pigneur account for a useful model, using their framework would have implied us opining on matters for which we would not have a suitable model for ontological reasons.

Would we have used Osterwalder & Pigneur, it is doubtful whether we would have achieved such a detailed account for the issues concerning the mobile soft phone and its future in the market. The difference of the models in impact on the study is that of the difference between a compass and a roadmap. Osterwalder & Pigneur would have been a useful base for finding directions in the most important aspects of doing business, whereas Äijö & Saarinen also provided a more detailed account on how to go in that direction.

We are convinced that the model used is very efficient for finding critical elements in the business set-up. Even though our empirical base is weak, we have been able to pinpoint important aspects that would need further investigation for a real enterprise as well as for an academic study of the mobile soft phone business.

7. DISCUSSION AND RECOMMENDED FURTHER RESEARCH

7.1.1 Discussion

As the prices for ordinary mobile calls are plunging and the mobile operators are offering flat fees for unlimited use, the local mobile markets for private mobile soft phones may not take off at all. Especially given the poor sound quality in general of internet protocol mediated voice. Generally speaking we argue that the mobile soft phone for consumers is more a threat for the incumbents and serves as a price pressure mechanism rather than an improvement of the communication at least between locations with the more advantageous price structures.

7.1.2 Recommended further research

An obvious field for research would be to refine the study of adoption factors for mobile soft phone solutions. It would be of great advantage to estimate the total market for a mobile soft phone solution and to investigate the exact pricing of the services in order to estimate the market value. It is also of crucial scientific interest to compare the usage patterns between fixed and mobile soft phones as soon as there is a sufficient user base for mobile soft phones. Moreover, it would be interesting to analyse the industry side from a value constellation perspective on how they would need to organise and co-operate in order to deliver the mobile soft phone solution as depicted above.

The model used to be rather well fit for descriptive and analytical purposes. However, based on this study we cannot assess its normative or predictive value. This would be a task for further studies and given the fact that the product is still to enter the market, there is a golden opportunity.

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9. APPENDIX

Questionnaire 1A

1. Vilken typ av dator har du hemma?
2. Vilken typ av Internetuppkoppling har du hemma?
3. Var har du köpt din(a) mobiltelefon(er)?
4. Hur mycket använder du följande funktioner i din mobiltelefon?
5. Vilka av nedanstående softphone använder du för att RINGA via din dator?
6. Varför använder du softphone i din dator för att ringa?
7. Vem rekommenderade dig att skaffa nuvarande softphone?
8. Till hur många personer har du rekommenderat att skaffa softphone för att ringa från din dator?
9. Till hur många personer har du rekommenderat att skaffa softphone för att ringa från din dator?
10. Vad skulle få dig att använda softphone i din dator för att ringa?
11. För att vara med på en utlottning av biobiljetter måste du lämna din e-mailadress.

Questionnaire 1B

1. Vilka av nedanstående softphone använder du för att RINGA via din dator?
2. Varför använder du softphone i din dator för att ringa?
3. Varför använder du inte softphone i din dator för att ringa?
4. Hur skaffade du softphone?
5. Hur länge har du använt softphone för att ringa?
6. Hur ofta använder du softphone för gratis samtal med andra användare av samma typ av softphone?
7. Går dessa samtal mest inrikes eller utrikes?

8. Hur ofta använder du softphone för samtal till "vanliga" telefoner (t.ex. fasta nätet och mobiltelefoner)?
9. Går dessa samtal mest inrikes eller utrikes?
10. Hur ofta använder du softphone för chatt-funktionen?
11. Chattar du mest inrikes eller utrikes?
12. Hur ofta använder du softphone för att skicka filer?
13. Skickas dessa filer mest inrikes eller utrikes?
14. Vilken/vilka typ(er) av samtal ringer du INTE med softphone? Varför?
15. Hur lätt tycker/tror du det är att använda datorn för att surfa på Internet i andra trådlösa miljöer än skolans?
16. Hur ofta befinner du dig på platser där det finns ett lokalt nätverk som ger dig Internetuppkoppling till bärbar dator, så kallade "Hotspots" (t.ex. flygplats, skola, arbetsplats, hemma, kafé, etc.)?
17. Skulle du använda softphone om den fanns i mobiltelefonen?
18. När skulle det i så fall vara aktuellt?
19. Varför skulle det inte vara intressant att skaffa softphone i mobiltelefonen?
20. För att vara med på en utlottning av biobiljetter måste du lämna din e-mailadress.

Questionnaire 2A

1. Vilka av nedanstående softphone använder du för att RINGA via din dator?
2. Varför använder du softphone i din dator för att ringa?
3. Varför använder du inte softphone i din dator för att ringa?
4. Anser du att du oftast köper en ny teknologi tidigt efter första lanseringen?
5. Skulle du använda softphone om den fanns i mobiltelefonen?
6. Hur stor måste PRISSKILLNADEN vara för att du ska skaffa softphone till mobilen jämfört med ditt nuvarande mobilabonnemang?
7. Hur mycket extra är du BEREDD att betala för en MOBIL anpassad för softphone?
8. Hur mycket extra FÖRVÄNTAR du dig att behöva betala för en MOBIL anpassad för softphone?
9. Hur mycket är du BEREDD att betala för en softphone till din mobiltelefon?
10. Hur mycket FÖRVÄNTAR du dig att betala för en softphone till din mobiltelefon?
11. Hur mycket är du BEREDD att betala för att få tillgång till en Hotspot utanför hemmet där du kan använda softphone i mobiltelefonen?
12. Hur mycket FÖRVÄNTAR du dig att betala för att få tillgång till en Hotspot utanför hemmet där du kan använda softphone i mobiltelefonen?
13. Hur ställer du dig till reklamfinansierad softphone i mobilen om priset blir lägre och om reklamen kommer i någon av nedanstående former?
14. Varför skulle det inte vara intressant att skaffa softphone i mobiltelefonen?
15. För att vara med på en utlottning av biobiljetter måste du lämna din e-mailadress.

Questionnaire 2B

1. Vilka av nedanstående softphone använder du för att RINGA via din dator?
2. Varför använder du softphone i din dator för att ringa?
3. Varför använder du inte softphone i din dator för att ringa?
4. Hur mycket är du beredd att BETALA för följande tjänster från softphone i din mobil till?
5. Hur mycket är du beredd att BETALA för följande tjänster från softphone i din mobil till?
6. Hur mycket är du beredd att BETALA för följande tjänster från softphone i din mobil till?
7. Hur mycket är du beredd att BETALA för följande tjänster från softphone i din mobil till?
8. Hur mycket är du beredd att BETALA för följande tjänster från softphone i din mobil till?
9. För vad vill du betala de avgifter som kan uppstå för att använda softphone i mobilen?
10. Vilket anser du vara det bästa betalningsalternativet för tillgång och utnyttjande av tjänsten?
11. Vilket anser du vara det bästa betalningsalternativet för softphone-anpassad mobiltelefon?
12. Hur föredrar du att betala för nyttjandet av de olika funktionerna (ringa, chatta, fildela) med andra användare av SAMMA SOFTPHONE-MJUKVARA?

13. Hur föredrar du att betala för nyttjandet av de olika funktionerna (ringa, chatta, fildela) för att kommunicera till FASTA TELEFONER (inrikes eller utrikes)?
14. Hur föredrar du att betala för nyttjandet av de olika funktionerna (ringa, chatta, fildela) för att kommunicera till MOBILER (inrikes eller utrikes)?
15. Vad anser du om att betala ett högre enhetspris (kr/kbit) ju mer Internetkapacitet du vill utnyttja när du använder en mobil softphone (ökar samtalskvaliten, mer bandbredd...)?
16. Vad anser du om att betala ett högre pris per faktura ju fler fakturor du får?
17. När du sätter det pris du är beredd att betala för mobil softphone, vad tittar du då på mest:
18. Antag att du ska köpa en mobiltelefon med softphone-funktion. FRÅN VEM vill du KÖPA MOBILEN?
19. Antag att du ska köpa en mobiltelefon med softphone-funktion. FRÅN VEM vill du köpa MOBILANPASSAD SOFTPHONE?
20. Antag att du ska köpa en mobiltelefon med softphone-funktion. Från vem vill du KÖPA TILLGÅNG till en viss HOTSPOT?
21. Efter den information du fått i denna enkät, vad anser du om tjänsten mobiltelefon med softphone-funktion?
22. För att vara med på en utlottning av biobiljetter måste du lämna din e-mailadress.