Managing the miTV Offering

A study of the market potential, value net and strategy to overcome the innovation inertia of mobile TV

Ida Pettersson
Madeleine Rydholm

Abstract

Title: Managing the miTV Offering

Authors: Ida Pettersson & Madeleine Rydholm

Supervisors: Professor Robert Bjärnemo, Professor in Machine Design at Department of Design Sciences, Division of Machine Design, Lund Institute of Technology

Joakim Nelson, Head of Business Strategy, Sony Ericsson Mobile Communications

Professor Claes Svensson, Professor in Business Administration at Department of Business Administration, School of Economics and Management, Lund University

Purpose: There are three main purposes with this thesis:

The first purpose is *to find the opinions of the next generation users about mobile TV as an integrated function in mobile phones and the requirement for mobile TV to be appealing to the consumer.*

The second purpose is *to find out what the value chain of mobile TV may look like and if there are incentives for all players required.*

The third purpose is *to analyze how Sony Ericsson Mobile Communication (SEMC) and players in similar situations, being technology pushing, shall manage the phenomenon of inertia in technology innovation adoption resulting in deviations in consumer opinions and industry interests.*

Methodology: A qualitative method has been used throughout the study, including focus groups and interviews. The study has been carried out during the Spring of 2004.

Conclusion: The N-Gens are spontaneously negative when first introduced to the mobile TV concept. This resistance can only be overcome by presenting a complete offering, miTV that exceeds the high expectations of the N-Gens.

To create this offering will require the cooperation of the DTV value chain and the mobile phone value chain in a value creating net, including the right partners. This will most likely be achieved by the hybrid solution.

Merely presenting an offering is not enough; it also has to be introduced to the market in the right way. For SEMC, this means by a triple drive strategy.

Key Words: N-Gens, mobile TV, miTV, focus group, technology innovation adoption, value net, offering, Sony Ericsson Mobile Communication

Acknowledgement

This has been an inspiring and altering Spring resulting in not only this Master thesis, but also in new experiences and knowledge. Looking back to where we started, the thesis has had many different shapes and different contents before the core of the subject presented was found clear.

We have had the opportunity to meet with several people within Sony Ericsson Mobil Communications and we have had many interesting conversations that have helped us reach the result of this thesis. Special thanks to Joakim Nelson, our supervisor at Sony Ericsson Mobile Communications, who always had time for us and who gave us a lot of information, including many new ideas to subjects both relevant and irrelevant to this thesis. Also a special thanks to David Cronström, who cheered us up when we were confused or stressed with both laughter and knowledge, and to Armanda Pereira who helped with everything we ever needed help with. We would also like to thank Haroon Alvi, Britt-Inger Lustig Bremer and Dennis van Shie who guided us through different parts of the work and contributed to an incredible Spring.

We would also like to thank our supervisors at Lund University. We are privileged to have been guided along the work by Robert Bjärnemo and Claes Svensson who complemented each other very well. Robert Bjärnemo, professor in Machine Design, contributed his knowledge about the industry and his previous contact with Sony Ericsson Mobile Communication was a great help to us. Most importantly, Robert believed in us and our work. We would like to thank Claes Svensson, professor in Business Administration, for giving us new ideas to theories and structure and for always being available when we need him.

Further, we would like to thank all persons at Sony Ericsson Mobile Communications who supplied us with information, and a stimulating work environment.

Finally, we would like to thank each other for an exciting, educational, trying a fun journey.

This Master thesis is written within the education Technology Management at Lund University. Technology Management is an integrated program between Lund Institute of Technology and Lund School of Economics and Management.

Lund, May 19th 2004

Ida Pettersson   Madeleine Rydholm

Table of Content

© Pettersson & Rydholm

List of Figures

List of Abbreviations

BSD   Business Strategy Department at SEMC

DTV   Digital TV

DVB – C   Digital Video Broadcast – Cable

DVB – H   Digital Video Broadcast – Handheld

DVB – S   Digital Video Broadcast – Satellite

DVB – T   Digital Video Broadcast – Terrestrial

GPRS   General Packet Radio Services

GPP   Global Product Planning department at SEMC

GSM   Global System for Mobile Communications

IPDC   Internet Protocol Data casting

LTH   Lund Institute of Technology

LUSEM   Lund School of Economics and Management

MDO   Market Driving Organizations, in literature referred to as Market Driving Firms.

PAP   Product Application Planning department at SEMC

SEMC   Sony Ericsson Mobile Communication, a global organization with the European district unit in Lund, Sweden.

SISU   Shanghai International Study University

U.C.L.A.   University of California, campus Los Angeles

U.C.R.   University of California, campus Riverside

UMTS   Universal Mobile Telecommunications System; the European 3G standard

3GPP   Short for Third Generation Partnership Project – Officially recognized Standardization organizations (e.g. European Telecommunication Standards Institute and Standards Committee T1 Telecommunications in America) that have agreed to cooperate for the production of Third Generation Mobile System specification through preparation, approval and maintenance of globally applicable Technical Specifications and Technical Reports.

1 Introduction

This chapter defines the framework for the Master thesis. The authors describe the content of the thesis and state their purpose. The target audience is presented. Finally the authors explain the structure of the thesis in order to make for better reading of the thesis.

1.1 Prologue

> *"The telecom industry is a high-velocity industry with an indistinct structure, blurred borders and varying players. The changes in the industry are nonlinear and unpredictable. The industry is characterized by short product life cycles and the future demand is hard to foresee."[1]*

The above conditions are quite tough for organization survival and it can be questioned whether it is the Law of Darwin, skills or just luck that determines which player will succeed. The theory of first-mover advantage claims that the initial player accesses advantages unattainable for the followers[2]. The high-velocity character of the industry means that missing the off-take of a new product technology almost eliminates the chances of catching up regarding that product. In that situation the player who lost out has no alternative but to start preparing for the next train – and meanwhile losing major income. However, looking at the reality of today this it not necessary true[3].

Organizations tend to respond to these increasing pressures by becoming technology-oriented[4], even though several scholar advocate market-orientation[5]. This may be a natural reaction to the difficulties of investigating future demand, since neither customers nor producers are yet aware of, or completely understand, the possibilities of the future.

Historically, Sony and Ericsson have been two organizations efficient in developing new high tech products. Sony, in particular, has successfully introduced the right products at the right time to the market. In 1999, the two companies founded the joint venture Sony Ericsson Mobile Communication (SEMC).[6] SEMC had 5.4 percent of

---

[1] Takezaki (1998) p. 18
[2] Grant (2002) p. 240
[3] Nelson
[4] Ensor (1996) p. 8/1
[5] E.g. Ensor (1996) p. 8/1; Takezaki (1998) pp. 18-20
[6] Nelson (04-16-2004)

© Pettersson & Rydholm

the mobile phone market share during 2003 and continues to strive for a larger industry impact[7].

There is a clear trend in the market to integrate different functions into the same hand-held device. The mobile phone is today not only a device for voice and Short Message System (SMS) but also a calendar, a radio, a camera, etc. One, yet rather undeveloped, but technologically possible area, is mobile TV. However, technical possibility is not enough as a driver to achieve rapidly successful functionality and service introduction in the market.

Consumer acceptance, including the right timing, is crucial. Considering that Thomas Watson in 1943, the Chairman of the Board of IBM, anticipated the world-wide need of home-based computers to be totally five and that practically nobody was positively interested in the Internet back in early 2000s[8], it can be concluded to be close to impossible to foresee the winners of tomorrow. However, the process of developing radically new products is expensive. No player can afford investing in all possible options. Players such as SEMC must have an idea of what devices the consumer wishes to see integrated in the mobile phone in the near future[9].

To create a real drive for a technology or service it is necessary for capable and driving players to promote the function. Few services become prosperous without a complete and active value chain and ease-of-use service packages for the consumer. In order for any player to be interested in investing resources to create a technology, a service and functionality they must believe to generate benefits.

1.2 Assignment formulation

Initially, the following assignment formulation was presented by the Business Strategy Department (BSD) in February 2004:

> *The consumer study*
> *The first part of this thesis is to understand and explain the attitudes regarding phones and new technology and what functions, e.g. music and TV, the next generation phone users' wishes to have integrated in the phone. The study is to be conducted through student[10] focus group interviews in China, Sweden and the United States. The thesis is to summarize the main findings from the study and to reflect the limitations of the study as such e.g. limited groups, few countries etc.*

---

[7] www.mobileoffice.co.za 02-14-2004
[8] Cronström
[9] Alvi (01-29-2004)
[10] The choice of target group is explained in chapter 2.4.3.

The Value Chain Analysis
The second part will examine the interests of players in Swedish industries[11]
related to mobile TV and how TV can be brought to the mobile phone, if
some players will be disproportionably strong and if the different players
are interested in cooperating. Another important issue is how well the
consumer preferences match the mobile TV solutions of the driving players
in related industries.

The Conclusion Phase
Finally, recommendations are to be made based on the previous results with
respect to one or several of the following issues: Product realization, drives
from value chain players, attractive service offerings, target groups and
market segmentation. The conclusions will be divided into two parts:
- *General conclusions which can be published*
- *Specific SEMC conclusions elaborating on product realizations,*
  attractive services and direct business opportunities (see Appendix 4 in
  the confidential version).

Gradually during the work, along with the initial study findings presented to the
supervisor at SEMC, changes in the industry situation and the increasing knowledge
and insight of the authors and the supervisors, new areas of interest and relevance
have evolved. This has adjusted the focus of the thesis and even the up-coming of a
new area of problem resulting in the present purpose.

1.3 The Purpose

There are three main purposes of this thesis.

The first purpose is *to find the opinions of the next generation users of mobile TV as*
an integrated function in mobile phones and the requirement for mobile TV to be
appealing to the consumer.

The second purpose is *to find out what the value chain of mobile TV may look like*
and if there are incentives for all players required.

During the work with the first two purposes a third purpose came up since
experiences indicate inertia in radical technology adoption among the consumer. Such
phenomenon can generate deviations in consumer opinions and demand and the
specific high-tech organization or industry strategy or interests.

---

[11] The limitation to the Swedish industry is chosen to get a plausible scope of the study. The
structure and character of this industry is comparable to the one of most other European
countries, thus may serve as an indicator on the development of these markets as well.

© Pettersson & Rydholm

The third purpose is *to analyze how SEMC and players in similar situations, being technology pushing, shall manage the phenomenon of inertia in technology innovation adoption resulting in deviations in consumer opinions and industry interests.*

1.4   Research Questions

The study aims to answer the following questions:

- What is the interest in mobile TV of the next generation mobile phone users?

- Which players need to participate in a potential mobile TV value chain? Are there incentives driving this value chain and if so what are they?

- What may the value chain of mobile TV look like?

- How shall the industry manage problems regarding highly volatile markets and radical innovations, and the impossibilities in using the opinions of the consumer as guidelines?

1.5   Target Audience

- People working at a Business Strategy level at Sony Ericsson Mobile Communication.

- People working at Product Application Planning, or other related departments, at Sony Ericsson Mobile Communication.

- People working at the Chief Technology Office and technology units at Sony Ericsson Mobile Communication

- People representing the other players of the mobile TV value net.

- People academically interested in the discussions of new types of value chains and the problems entailed.

1.6   Central Definitions

Cohort: Generational cohorts are the people we are born with, travel through our lives with, and experience similar events with, especially those events at the critical late adolescents and early adulthood years. At the heart of the cohort concept is the idea that events that are happening when we are coming of age imprint core values.[12]

Phone: The word phone aims at a mobile phone throughout the thesis.

Service provider: The players providing the mobile services to the consumer are called service providers, either mobile network operators; providing both network and services, or virtual service providers; providing only services.

---

[12] Meredith & Schewe (2002) p. 6

1.7 Disposition of the Master Thesis

The thesis includes a qualitative consumer research and a survey of the potential mobile TV industry relationships. Figure 1.1 below, which shows a schematic disposition of the thesis, is a description of each chapter. This gives the reader an overview of the content and the possibility to choose parts relevant to this person.
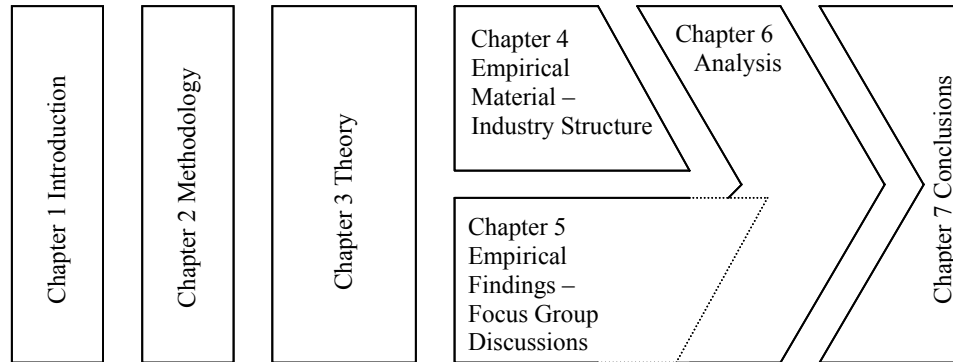
Figure 1.1 Disposition of the Master Thesis

Chapter 1 defines the framework for the Master thesis. The authors describe the content of the thesis and state their purpose. The target audience is presented. Finally the authors explain the structure of the thesis in order to make for better reading of the thesis.

Chapter 2 presents the overall methodology approach and factors that may have affected the content and the procedure are described, as well as also the data collection to fulfill the different purposes. The procedure of each purpose is described. Since focus group interviews are an unusual method, extra effort was made to describe this specific qualitative method.

Chapter 3 presents the rather wide theoretical framework of references of this thesis. This chapter concludes with combining these theories into three models which will serve as the theoretical framework for the analysis

Chapter 4 gives the reader an overview of the mobile TV development today. Interviews with players in relevant player categories are presented, as well as a mapping of the industry structure and development of today.

Empirical Findings constitute Chapter 5. This chapter presents the empirical focus group material based on thematic content analysis and concludes with the main findings of that analysis.

© Pettersson & Rydholm

The analysis in Chapter 6 illustrates the preferences and the behaviors of both the consumer and the industry.

Chapter 7 concludes the thesis and presents the authors recommendations for a prosperous mobile TV offering.

2 Methodology

This chapter describes the overall methodology, including the procedure taken to reach the final result, the scientific conception and its influence. Methodology approaches are discussed as well as how the collection of data was conducted. This thesis aims to find answers and recommendations to three different purposes, each requiring specific data collection methods and analysis procedures.

2.1 Overall Methodology Approach

Different methodological approaches can be chosen for a study. The work with this thesis began by an over-all analysis of the current situation and potential development. Thereafter, theoretical studies were conducted to identify explanatory factors, and plausible scenarios from a theoretical perspective. These wide-ranging theories were merged into industry adjusted theoretical frameworks which in turn were used to analyze the empirical material and empirical findings. Finally, the results were evaluated and the theoretical frameworks adjusted to the current situation. Considering this iterative process and hermeneutical movement between reinter-pretations of the empirical facts and the theory along the research process[13] an abductive approach is applied.

This Master thesis work, research and studies are supervised by SEMC BSD, and have been received with great interest from all involved and contacted parties. The thesis will be useful and relevant for players in both DTV and mobile service chains. Other important perspectives are validity and reliability. For each of the three purposes different actions are taken to achieve these requirements and make the study reliable.

2.2 Scientific Conception

This section presents factors with major influence on the design and result of the study.

2.2.1 Social Constructivism

Social construction, or *constructivist* philosophy, is based on the thesis of *ontological relativity*. This thesis holds all tenable statements about existence dependent on a conception of the world, and no such conception uniquely determined by empirical or sense data about the world. The study is affected by the opinions of people, also affecting the opinions of the authors. The authors are aware of the risk of these resulting in a too subjective view. In an attempt to overcome this phenomenon the

---

[13] Alvesson & Sköldberg (1994) pp. 41 ff

© Pettersson & Rydholm

social constructivist philosophy was chosen. Constructivists commonly assume that people do not have direct access to a singular, stable and fully knowable external reality. All of our understandings are contextually embedded, interpersonally forged, and necessarily limited. Any notion of *"truth"* becomes a matter of consensus among informed and sophisticated constructors, not of correspondence with an objective reality. Likewise, the notion of an objective *"fact"* has no meaning except within some value framework.[14]

2.2.2 The Pre-Conception of the Authors

Qualitative research is distinguished by the close connection between the researcher and the object of the research. The purpose of such relation is to obtain an authentic rendering, parallel to a deep understanding, of the situation. Hereby the subject-object relationship distinguishing the natural science is replaced by a subject-subject oriented perspective. Thus, the research tends to be embodied in the behavior of the researcher herself. The earlier experiences and education of the researcher form a pre-conception, considered an objective view by the researcher herself.[15]

In order for the reader to establish an opinion of her own about which factors may have affected the interpretations of this thesis, the authors will be briefly introduced. During the last two years the authors, Pettersson and Rydholm, have concluded their education in business administration or engineering by majoring in Technology Management (TM) at Lund School of Economics and Management and Lund Institute of Technology. TM focuses on subjects such as project management, the dynamics of groups and the interactions in the organizations both vertically (comprehensive strategy – operational strategy) and horizontally (R&D – Sales). A Master thesis written by TM students is written by both a business student and an engineering student to combine knowledge and to create a more dynamic result.

2.2.3 The Influence of the Assignor Organization

An assignor often wants clear and unambiguous results that can be used for guidance which may result in a too strong and too unambiguous outcome in comparison with the truth. The assignor sometimes tries to influence the structure of the thesis, what data to collect and may even have a preconceived opinion of the result. It is therefore important that the authors can widen their expectations and see the preconceived opinions as possible, but not strict, results. The authors should listen to all aspects but remember that the choices made are their responsibility. The question of objectivity is central and it is important that the author is aware of the potential problems.[16]

The people at the assignor organization have been aware of the nature and significance of a Master thesis. Throughout the work the experience of the authors is an understanding of their needs and the scope of a Master thesis.

---

[14] Quinn Patton (2002) pp. 96 f
[15] Holme & Solvang (1991) pp. 92 ff
[16] Paulsson (1999) pp. 53 f

The supervisors from the school may also have influenced the result. They have guided the authors, helped them find relevant literature and lighten up certain aspects of the thesis, which may have influenced the interpretations of the empirical material.

2.3 Collection of Data

There are many necessary considerations when collecting data, both regarding the type of data and the line of action taken to collect the same.

By participating in, or in some way experiencing a situation, the researcher obtains *primary source* information. Also, theoretical material is classified as primary sources. Material originally collected for another purpose is *secondary source* material. Such pre-compiled information needs to be evaluated, which always involves a risk.[17]

To fulfill the first purpose a qualitative method was chosen. The authors aimed to find consumer attitudes and preferred usage of future potential phone-integrated functions. Qualitative methods aim to exhaustively picture the situation and the distinctive character of the individual interviewee by using a system perspective. This makes it possible to describe the system the person is acting within. It is the interpretation of the information; to find the different aspects and attitudes of a certain problem, which is of interest.[18] The SEMC Global Product Planning (GPP) often uses the qualitative interview method, *"focus group discussions"*, as research method. To attain comparable results to earlier studies, focus group interviewing was chosen to find consumer attitudes and preferred usage. The method and procedure is further presented in Chapter 2.4 below.

The collection of data to fulfill the second purpose was a continuous process throughout the Master thesis work consisting of brief studies to orient the authors before the focus group sessions were conducted, complemented by detailed studies afterwards. Theories and interviews with knowledgeable persons, both within SEMC and with potential players in a mobile TV value chain, are considered primary information. Research reports, publications and similar material used to create an understanding of the industry and its possibilities represent secondary material. The collection and management processes of both theories and empirical material are further described in Chapter 2.5 below. Discussing the future possibilities and development, the thesis includes foreseeing. The existing secondary source material requires extended adoption and interpretation. The primary source material was mostly obtained through interviews and hence constituted by subjective opinions and guesses that the interviewees have based on sometimes inadequate secondary source material.

---

[17] Erlingsdottir (02-06-2004)
[18] Holme & Solvang (1991) pp. 82 ff

The third purpose arose when studies to fulfill purposes one and two were conducted. Thus, the deviations in the direction of the industry development and opinions of the focus group participants constitute the empirical material for the third purpose. Since the material was originally gathered for another purpose, the material is classified as secondary source material. However, since it was gathered by the authors themselves, who know the social context of the arguments, the trustworthiness of the material is ensured. The approach to fulfill the third purpose is provided in Chapter 2.6 below.

An interpretation of a source means a validation of the substance of the information. The information must be put in its social context to be fully understood. The intention of the sender and the interpretation of the receiver are of great importance and cannot be taken for granted to be equal.[19] It is important to critically evaluate the sources, especially when a qualitative method is used. There are different types of criticism from which a source should be evaluated. Some of them are[20]:

- *Criticism of tendency* - Which is the conception of the author and in what way this may have affected his or her interpretations?

- *Criticism of concurrency* - Within what time limit were the observations made and documented, and in what context?

- *Criticism of dependency* - Did the influence of others affect the content and structure of the thesis?

The criticism of tendency and the criticism of dependency are discussed in Chapter 2.2 above. To eliminate the risks of lack of concurrency, notes have been taken during, or soon after, an interview or a focus group and under arranged forms.

2.4   The First Purpose

To fulfill the first purpose *to find the opinions of the next generation users about mobile TV as an integrated function in mobile phones and the requirement for mobile TV to be appealing to the consumer*, focus group research was conducted. A focus group is a small group of people discussing a given subject during a limited time (normally 1-2 hours) and can be regarded as a *"thinking community in miniature"*[21]. The object is to get high quality data in a social context where people can consider their own views in context with the views of others.[22] The perceptions, opinions, beliefs and attitudes collected in focus groups are subjective. However, subjectivity is not a dirty word, but an inherent part of the qualitative process.[23] To get an as exhaustive picture as possible of the conceptions and implicit assumptions viewed in the focus group discussions, it is important to consider both the substance and the form in which it is expressed. The sessions are led by a conversation leader –

---

[19] Holme & Solvang (1991) pp. 134-138
[20] Alvesson & Sköldberg (1994) p. 129
[21] Wibeck (2002) p. 9
[22] Quinn Patton (2002) p. 386
[23] Henderson (1995) p. 465

moderator – who, if needed, initiates and introduces new aspects of the subject.[24] A focus group session should be carefully planned to obtain perceptions *"on a defined area of interest in a permissive, no threatening environment"*. An interview guide – *moderator guide* – (Appendix 1) is essential in conducting focus group interviews to keep the interactions focused, while allowing individual perspectives and experiences to emerge.[25]

2.4.1 Focus Group Discussions as an Academic Research Method

Traditionally, focus group discussions have primarily been used by market researchers, but lately the method has been of value for academic research[26]. Focus group discussions are being used within a growing number of society sectors, both as the sole method to study the ideas, attitudes and values regarding a specific phenomena, and as one of many research methods, e.g. to develop question themes for consumer questionnaires.[27] Social psychologist Jovchelovitch opines that focus group discussions are the best method to study social representations since the dynamic and argumentative type of representation in the modern community is clearly expressed in a focus group session.[28]

2.4.2 The Design of the Moderator Guide

During a structured focus group interview five types of questions shall be included in the moderator guide; opening questions, introduction questions, transition questions, key questions and concluding questions. The purpose of the opening questions is for the participants to get to know each other and establish a feeling of affinity. Everybody shall get to answer these questions, and while realizing that they have something in common, become relaxed. These questions shall rather handle facts than attitudes and encourage everybody to say something already in the initial phase of the session. The introduction questions are used to introduce the subject to be discussed and allow the participants to reflect over their own experiences. These questions are important for the analysis as well as for the group interaction. Transition questions are then used to make the participants consider the subject in a wider perspective and to guide the discussion toward the most important questions, the key questions. These two to five questions shall be posed when almost half the session has passed and almost all remaining time shall be devoted to their discussion. The concluding questions shall let all participants reflect upon what has been said and express their ultimate position. Finally the participants shall be asked to add things they regard as missed or by-passed.[29] A moderator guide was designed in accordance with these guidelines, see Appendix 1.

---

[24] Wibeck (2002) pp. 28-34
[25] Quinn Patton (2002) pp. 343 f
[26] "Academic research" is here used in the meaning of basic research, where the researcher wishes to examine people's opinions without having a specifically applied purpose.
[27] Wibeck (2002) pp. 9 f
[28] Jovchelovitch (2001) p. 10
[29] Wibeck (2000) pp. 61-63

2.4.3   The Selection and Recruitment Process

To attain intimacy and avoid status differences, homogenous groups are recommended; participants with similar background and experiences.[30] Last-year university students have student life in common, have grown up with IT and are used to high tech products. They are regarded as representatives of the next generation phone users and they will have increased purchasing power within a period of time of a few years.[31] Hence, students were selected as target group for the focus group interviews.

Normally four to six focus groups are conducted. Thereafter the data becomes "saturated" and little new information emerges, moderators can predict what participants will say even before they say it.[32] Four groups were decided to be conducted at each market, in part because of the thesis time limit.

In consultation with the SEMC GPP, suitable markets were discussed and China, Sweden and the United States were finally chosen. Sweden represents the European industrialized countries and is a step ahead regarding the use of high-tech products. The Swedish telecom and DTV industry structure is similar to most other European countries and therefore works as a representative for Europe. In addition, Sweden is the native country of the authors, resulting in a nice warm-up for the research and the cultural understanding enabling an extended analysis. SEMC has great interest in the American market where great possibilities are identified. Considering the appearing similarities of the value chains of potential integrated function, the United States and Sweden are compatible countries for this study. Finally China, constituting an enormous market with rapidly augmenting salaries and awareness, was chosen.

Suitable universities were chosen and contacts were established with people at the different sites. Connections of the authors and the supervisors were contacted by e-mail and asked if they would recruit focus group participants. The consequence of groups set up by a contact person, was that the participants often knew or had met each other before. This is not recommended in the focus groups literature stating disadvantages such as:

- Members may fall into their every day roles or skip to discuss certain subjects since they are taken for granted in the group.

- There is also a chance they are afraid of conflicts and therefore do not express their opinion.

Unfortunately this was the only way to recruit the groups within the timeframe. Furthermore, the result in all groups was similar and in the groups where the

---

[30] Wibeck (2000) p. 51
[31] Alvi (12-18-2003)
[32] Morgan (1996) p. 144

participants knew each other the discussions was more thorough and gave explanations to individual opinions.[33]

During March 2004 focus groups were carried out at University of California, Los Angeles (U.C.L.A.) and Riverside (U.C.R.) campus in the United States, at Fudan University and Shanghai International Study University (SISU) in Shanghai, China. In Sweden the physical closeness of the authors was used to announce the sessions in classes at different institutions at Lund University. Students were not paid to participate in the focus groups, but were offered lunch.

There are both advantages and disadvantages with focus group interviews for data collection. The elimination of extreme views in the group[34] and the assessment of shared or diversified views[35] are positive. The participants both query each other and explain themselves, thus the outcome exceeds the sum of individual interviews. The participants may directly be asked for comparison among their experiences and views, rather than aggregating individual data for speculation about whether or why opinions of the interviewees differ.[36] However only a limited number of questions can be posed during a session, the available response time for each individual is restrained, participants representing a minority viewpoint may avoid speaking up and the behavior of the moderator has an impact on the group[37]. The moderator, rather than the group itself, determines the agenda, but must avoid affecting the data generation[38]. The moderator must also have the skill to manage each participant to share her view[39].

To reduce the risk of too great an impact of the moderators (the authors of the thesis) during each session the moderators played a quite passive role, which was unnatural to the authors who therefore practiced with the test group and actively kept it in mind during the sessions. Very few direct questions were posed. Instead stimuli like demos and scenario pictures were used to guide the group. The authors have little training in conducting focus groups interviews, but in traditional qualitative interviews. Thus, literature studies, a pilot group session and discussions with the SEMC GPP were conducted prior to the interview sessions.

---

[33] Wibeck (2000) p. 119
[34] Quinn Patton (2002) pp. 386 f
[35] Ibid.
[36] Morgan (1996) p. 139
[37] Quinn Patton (2002) p. 387
[38] Morgan (1996) pp. 139 f
[39] Quinn Patton (2002) p. 387

2.4.4   Description of the Material

A presentation of the groups follows below[40]:

Lund University 02-25-2004
Number of participants: 3 women, 3 men
Length of discussion: 100 minutes
The participants studied at different institutions and had either graduated recently or were graduating within a year. None were yet employed. Some of the participants knew each other before, others did not. They seemed to have very different values and saw initially totally different opportunities, which emerged when the discussion progressed. The moderator role was passive and the participants did not need many direct questions to continue the discussion. Many serious elements were embedded in a friendly and nice atmosphere. The group had an "expert" who had already thought about many of the subjects discussed.

University of California, Riverside campus 03-02-2004
Number of participants: 1 woman, 5 men
Length of discussion: 85 minutes
These students were all going abroad later this year and participated to learn about Sweden (which was discussed after the session). They did not know each other and had different interest in the subjects discussed. One guy had very different opinions and seemed to annoy and restrain the other participants. The moderator had to change track when this person started to talk about things not relevant to the subject.

University of California, Los Angeles campus 03-03-2004
Number of participants: 3 women, 5 men
Length of discussion: 60 minutes
This group did not know they were going to participate in a focus group until fifteen minutes before the session started. They were all going for lunch when they were asked to participate. They were very talkative and seem interested in each others opinions. Most of them did not know each other prior to the session.

University of California, Los Angeles campus 03-04-2004
Number of participants: 6 women, 1 man
Length of discussion: 110 minutes
The participants in this group were open to new subjects and good at using their imagination. Almost no direct questions were asked and the group kept the discussion on the right track by themselves. The participants often laughed and spoke at the same time.

---

[40] In some groups the gender discrepancy may seem alarming. The analyses from the focus groups show no difference of interests, preferences or attitudes of the participants depending of gender.

University of California, Riverside campus 03-05-2004
Number of participants: 4 women, 3 men
Length of discussion: 90 minutes
This group was characterized by students who liked talking about themselves and were quite bad at listening to others. Consequently, the moderator had to help the less ongoing students to get an opportunity to express their opinions.

Fudan University 03-09-2004a
Number of participants: 5 women, 4 men
Length of discussion: 85 minutes
The atmosphere was quite dull and the participants did not seem enthusiastic about being there. The group needed lots of guidance and more direct questions were asked than in any other focus group session during the study. One of they male participants was fluent in English which seemed to intimidate some of the others to speak.

Fudan University 03-09-2004b
Number of participants: 4 women, 4 men
Length of discussion: 80 minutes
The group was not talkative and needed lots of guidance, just as the previous groups did. The participants agreed on many discussions and very few arguments started. The students did not know each other prior to the focus group session.

Shanghai International Study University (SISU) 03-12-2004a
Number of participants: 4 women, 3 men
Length of discussion: 110 minutes
The participants in this group were friends and studied together. They were very talkative business students studying language. They knew each other well and reacted to the statements of each other with interesting facial expressions. This enabled the moderators to help understand underlying reasons for their opinions. The person who set up this group and the one described below participated in the session and it was clear that he, as a consequence of our correspondence, he had thought about the subjects in advance. This may have influenced the result of the focus groups.

Shanghai International Study University (SISU) 03-12-2004b
Number of participants: 5 women, 3 men
Length of discussion: 100 minutes
This group consisted of people with very different personalities, and resulted in lively discussions. They were upper class with high ambitions and optimistic about the future. They studied language and were all spoke English very well. Some of them were very interested in, and knowledgeable about, techniques and technologies.

Lund University of Economics & Management (LUSEM) 03-20-2004
Number of participants: 3 women, 5 men
Length of discussion: 130 minutes
This seemed to be a group of people used to discussing all kinds of issues. They had opinions about everything and were not afraid to express them. They all spoke at the same time and the moderators had to slow the discussion down, rather than to speed it up. Since they all had many views of subjects and enjoyed sharing them, the group lasted for more than two hours.

Lund Institute of Technology (LTH) 03-23-2004
Number of participants: 7 men
Length of discussion: 110 minutes
The participants either had begun or were about to begin writing their Master thesis. All except two agreed on many subjects, and the ones who did not agree did not question the fact that they had different opinion as many of the ones who agreed did. The conversation passed without much involvement of the moderator. The moderator asked some questions to clarify some statements. This group also had an "expert" who for different reasons had thought about the subjects in advance.

Lund University of Economics & Management (LUSEM) 03-25-2004
Number of participants: 3 women, 2 men
Length of discussion: 65 minutes
This was a very homogenous group. None had any extreme views and they agreed on most topics. The group turned to the moderator quite often to verify what was being discussed, and to find out if they were on the right track. They did not fill in what others were talking about and seemed hesitant to embarrass themselves. They all had about one to two years to graduation.

2.4.5 The Discussion Sessions

The focus groups started out by introducing the moderators (i.e. the authors of this thesis), the discussion subjects of the focus group and the basic conditions. Only a few groups knew the study was carried out in cooperation with SEMC and the participants were told to freely express their opinions regarding all players in the industry. The moderators also emphasized the importance of the participants to speak freely with each other. An extract from the introductions follows;

Example 1[41]: **Introduction**
(L.A. 03-04-2004)
Moderator: *(…) Um, we will have a pretty passive role. We want you to discuss and we*
               will ask some questions and show you some things. We want to have a free
               conversation and you may say whatever comes to your mind… Anything else?
               We will video record and we promise not to put it on the Internet or
               anything like that.

---

[41] For an explanation of the transcription conventions used see Appendix 2 – Transcription Conventions

Everybody:	**
Moderator:	*It is just for us to use ** promise*
Everybody:	**

The participants were asked to introduce themselves and to put their phone on the table while telling the group about what they liked and what they disliked about the phone, what functions they used and on what occasions.

After the introduction, the broad on question "*What functions would you like to have integrated in the phone?*" was thrown out. The participants were told to disregard technological limitations, the cost of such functions and to imagine them having a job and a reasonable income. These three criteria should be assumed during the entire discussion. Example 2 illustrates what an answer to that question could look like.

Example 2: **What functions?**
(L.A. 03-03-2004)

Luke:	*[…] I know they have like I think there are phones like, MP3 players, (…) Have you seen that?*
David:	*=like his computer phone*
Luke:	*I think I'd probably get that. I have been using my friends MP3 player that carries around. It is really tight; you can put so much music on it. It would be cool like, they should just combine like everything in one, sitting in you, you, … several different devices that's all like a combination device I guess you know*
Andreas:	*An still not make them <u>huge</u> or whatever*
Everyone:	**

The moderator guide used during the sessions covered two specific areas; Music and Moving Pictures as integrated functions of phones. These areas were covered during the sessions but the order in which they came up depended on what direction the discussion took. Stimuli in form of demos and scenario pictures were used to stimulate the group to *"think outside of the box"* and to avoid putting the thoughts and words of the moderators in their mouth.

The participants were much more interested in discussing music than moving pictures and TV, thus the moderator had to direct the group to discuss mobile TV several times during each session. The role of the moderator in the groups is indicated above in Example 1. The moderators were seated in the room in order to avoid a salient position. If the table was square the moderators were seated somewhere in the middle of the group. When there were long pauses in the conversation, or when the discussion slowly stopped, the moderators posed another question. Both authors participated in all focus group sessions.

All focus group sessions were video recorded, which did not seem to bother the participants. Only when discussing illegal activities, e.g. downloading music from the Internet, were the participants reserved until informed that the records would be used solely for the academic work of the moderators. To eliminate the risks of lacking concurrency, notes were taken during and shortly after each focus group. After the

sessions the relevant parts of the recorded video were transcribed. The transcription is done verbatim and notes were taken for pauses and laughter (see Appendix 2).

2.4.6   A Dialogical Approach

The classical meaning of a *"dialogue"* refers to a special kind of language interaction, a kind of argumentative interaction rooted in the so called *"stochastic argumentation"*; the dialogues of Platon. The purpose of a dialogue is to find the truth by sharp argumentation and an ongoing process where the participants are open to continuously reconsider their arguments. Linell points out that the concept dialogue can be seen as a general framework usable for the analysis of all kinds of meaning data. Such a framework emphasizes how communication and thinking always involve interactions and contexts; individual interplays in different ways and situations. The fundamental parts of the communication cannot be seen as isolated remarks, but as messages composed of the remarks in the context. When a remark is taken from its origin context and used in another one the whole message will change. To quote a person from a focus group is not a neutral rendering of what the person has said.[42]

A position in a conversation is a *"metaphorical concept trough reference to which a person's "moral" and personal attributes as a speaker are compendiously collected"* e.g. if a focus group participant describes himself in a certain way, for instance as a technology oriented person. A participant can position himself or be positioned. If a speaker positions himself it is often done implicitly. By talking about others, the ones not present, and by characterizing them, valuations of these people are expressed.[43]

A focus group is, for the most part, an argumentative discussion. The information process in an argumentation consists of three parts; formulation, interpretation and evaluation. It is important to consider how the participants of a conversation interpret the argumentation.[44] Billing presents a view of argumentation and thinking called rhetoric aimed to formulate a thinking psychology grounded from rhetoric and argumentation. He says: *"Thinking is a form of internal argument, modeled on outward dialogue; attitudes are rhetorical stances in matters of controversy; justification and criticism are rhetorical activities [...]"*.[45]

2.4.7   Social Representations

Social representations can be considered from a dialogical perspective. All human interactions, whether they arise between two individuals, or between two groups, assume representations. Indeed this is what characterizes them. *"Representations"* stands for knowledge, assumptions and attitudes to a specific phenomenon.[46] Social representations are about how different individuals together forming a shared or in

---

[42] Linell (1998) pp. 10-20
[43] Holšánová (1998) p. 398
[44] Linell (1982) p. 20
[45] Billing (1996) p. 2
[46] Moscovici (1984a) p. 12

part shared conception about the reality. In time, the conceptions turn into a common sense. According to this view ideas and understandings are created, negotiated, confirmed and maintained by the social interaction between individuals within a group or culture.[47]

While communicating with others, people try to understand and relate to their complex environment. People try, by *"constantly talk"*, to make sense in, and relate to, their surroundings, at least to changes in the same. To talk about and analyze new products, e.g. mobile TV, which may change the daily behavior of people is therefore suitable for such an approach. The idea that the theory may be given a dynamic interpretation agrees with what is described in Chapter 5 below. The formation and use of social representations is an active way to relate one to, and try to make sense in, the surroundings.[48]

Representations have two main purposes; to conventionalize object, persons and occasions, i.e. to place what is unknown in a well known context, and to be prescriptive, i.e. to guide people to questioning the surroundings, in a way otherwise only made in, for example, crises. These functions stand out less or more depending on what type of phenomenon is represented.[49] Mobile TV is new and unknown. It is therefore most likely that the function of the representations is to conventionalize what is unknown.

The dialogical view of social representations means that more changeable representations can be seen as the sense-making of the situation, while other representations are seen as more stable and slowly changing. In accordance with the dialogical perspective the conversation is also dynamic.[50] Implicit assumptions, i.e. knowledge, opinions and attitudes that are of a more general character affect us on a deeper level. The representations that are more dynamic, concrete and explicitly articulated will be called *themes* and *etiquettes* in the empirical findings from the focus group discussions.[51]

2.4.8   Data Analysis from a Focus Group Discussion

Scholars disagree whether all group interviews are variants of focus group interviews or if focus group interviewing is just a narrower group interviewing technique. Morgan states that *"An inclusive report that treats focus groups as a set of central tendencies is a very useful approach with many variations that can be matched to a variety of research purposes"*.[52] On the other hand, Rendahl says *"A focus group should be seen as a qualitative group leveled interview and is not a scientific method*

---

[47] Chaib & Orfali (2000) p. 6
[48] Moscovici (1984b) p. 950
[49] Moscovici (1984a) pp. 7-10
[50] Linell (2001) p. 10
[51] Moscovici (1984a) pp. 7-10
[52] Morgan (1996) pp. 131 f

itself"[53]. Sloan states that *"analyzing data from focus groups is essentially the same as analyzing qualitative data from other sources"*[54]. Carey writes of analysis processes varying from less intense; coding and categorizing, to more intense; grounded theory.[55] Many authors write about various techniques of cutting and pasting, manual and computerized, in the process of coding, categorizing and identifying themes.[56]

The purpose of the material analysis from focus group discussions is to identify the content of what is said and starts already when the data from the first group is collected; thereafter collection and analysis are consequently parallel processes. The analysis is about coding the material, separate parts and search for trends and patterns.[57] The *describing analysis* is a summary of statements of the participants prepared by the person conducting the analysis. The researcher presents a description grounded on the raw material and thereafter shows some illustrative examples (the persons in the examples have fictitious names). There is no clear boundary between the description and the analysis. A description is never free from interpretation; *what* the researcher chooses to describe and *how* it is done is a result from conscious or unconscious choices. A summary of raw data is not a neutral reproduction, but dependent of what parts of the data chosen and it what way it is done.[58]

A *dialogical content analysis* includes an attempt to find the dialogistic and dynamic aspects of at least two levels; the dialog between the participants in the actual situation, and the dialog between the train of thoughts, the ideas, arguments and distinctions expressed during the conversations. Many of the analytic issues in focus group discussions are the same as in other qualitative methods. However, focus group discussions also raise some unique issues, such as the circumstances under which the unit of analysis should be the groups, the participants, or the utterances of the participants.[59]

The method of *thematic content analysis of Burnard* is a process for systematically encoding qualitative information often used for analyzing focus group discussions. The purpose is to get an overview of the material, i.e. find ideas how to approach the analysis and to identify over-all, abstract themes summarizing the patterns and tendencies noticed in the discussions.[60]

From these vague directions a thematic content analysis is chosen for this study. All transcripts were read and notes were made about general themes. To eliminate the

---

[53] Rendahl (02-19-2004)
[54] Sloan (1998) p. 41
[55] Carey (1995) p. 126
[56] Kevern & Webb (2000) p. 801
[57] Wibeck (2000) pp. 87-111
[58] Ibid.
[59] Morgan (1996) p. 150
[60] Neuendorf (2002)

risks of lack of concurrency, notes were also taken during and soon after a focus group interview and during arranged forms. The field notes were taken to describe the content and the nature of the participant interactions in the focus group session.

2.4.9   The Analysis Procedure

The focus group discussion transcripts were discussed and the material was combined and categorized. First combinations of material of the different focus groups were made; what the participants talked about and in what order. The transcribed material was then divided into smaller parts depending of where the changes of subjects occurred. *"Etiquettes"* describe the different parts (Example 3). The etiquettes were finally categorized in attempt to identify possible trends and tendencies in the material.

Example 3: **Etiquettes**
(U.C.R. 03-05-2004)

	When
Thomas:	*That would be awesome.*
Everybody	*Yeah, yeah*
Eli:	*That would be cool, it seems like it is kind of far fetched though…*
Maria:	*When you are stuck in traffic you could use it*
Everybody:	***
Rachel:	*=When you are waiting for a friend, when, I think, like, those kinds of features, like when you are bored, when you don't have anything else to do when you are stuck somewhere with your phone*
Thomas:	*All stands where people are screaming somewhere, like the bus or wherever it is, those, all people are so bored you know*
Eli:	*When you are able to do that you might just as well make a TV also, you know…*
Everyone:	***

****

Obstacles

Maria: *But the phone is kind of small, and like what kind of resolution you would get, like, how well is the picture going to look, is it going to be like the small game boy*

These combinations are the basis for the analysis of comprehensive, abstract themes, of which the etiquettes fit in.

2.4.10 The Theoretical Framework

Based on the empirical findings analyzed through thematic content analysis, theoretical studies, aimed to explain why the participants answered in a certain way and how to create value for the next generation users, started. Theories about the cohort of the participant and what they find valuable constituted a theoretical framework built to explain what the N-Gens require and need. The theoretical framework is used to analyze the findings from the focus group discussions in the analysis.

2.4.11 Validity and Ability to Generalize and Transfer

Many actions were taken to ensure the validity of the focus group research: A pilot group session was conducted to ensure that the questions were understood and for the moderators to practice the passive roles they should play. One condition for this specific study was that the moderators, being students in the same life stage and, in part, in the same cohort as the focus group participants, was appropriate for the situation. The sessions were conducted in a relaxed atmosphere where the participants felt comfortable. The moderators felt that the participants expressed their honest opinions, not formed by group pressure, etc. since many argumentative discussions took place. The moderators listened carefully to the participants, observed how they answered and sought clarification in areas of ambiguity. At the conclusion of each session the participants were asked to verify the summary of the moderators and to individually rank and comment the functions discussed.

The main purpose of a focus group methodology is not to generalize and create statistic founded conclusions of entire groups or populations. Focus group discussions make it possible to talk about loose generalities connected to certain categories of people. The researcher can, in the analysis, discern tendencies valid for a specific group[61], e.g. university students looking at a future where they will make a reasonable amount of money.

A person who would like to use the result of the focus group discussions should consider whether it can be transferred to another context. To what extent the research method, the target group and the context of the actual study resemble the new context is of great importance to that decision. It is the person receiving the results who decides if it can be applied.[62]

2.5   The Second Purpose

The second purpose is *to find out what the value chain of mobile TV may look like and if there are incentives for all players required*. The research started out by a brief introduction to mobile TV by Nelson, head of BSD. The empirical material collection started by looking at homepages of different service providers and phone manufacturers to find the present industry development. This gave a good overview of their interests and constituted a good starting point for further research. Different organizations developing technologies for mobile TV were studied. To find incentives and strategic thoughts, empirical research through interviews with potential players was conducted. The interviews were qualitative, i.e. the interviewer directs the interviewees minimally compared to other interview forms. The number of interviews was chosen based on the interview situation; to cover the interests of all player categories in both DTV and telecom. A qualitative interview method enables follow-up contact with the interviewees to complement information and to better understand

---

[61] Wibeck (2000) pp. 123 ff
[62] Ibid.

the material. This possibility was used several times and gave a better understanding to areas that were found to be complicated when first introduced. To make the interview unconstrained and spontaneous, and to entice the interviewee to expresses opinions and standpoints, the authors tried to build up trust by showing great interest throughout the interview. In the beginning of each interview it was clarified that the interview was voluntary and that the authors were writing a Master thesis in cooperation with LTH and SEMC. Thus, recommendations to carry out qualitative interview according to Holme & Solvang have been achieved. The disadvantage of the method is the problem of comparing information from different interviewees.[63]

Parallel to the empirical studies, theoretical studies were carried out. By looking at the different possibilities of the mobile TV development to find the most likely solution, theories to support one solution, i.e. the most likely solution, was searched for in the database ELIN (www.lub.lu.se) at Lund University Library. By structural search for articles with, for the second purpose, relevant keywords, i.e. all possible combinations of *value chain, value net, value system, value net, dynamic, creation, migration, high-velocity* and *reconfiguration*, certain interesting theoretical areas formed. The publisher of the articles was reviewed to confirm their reliability. The influencing factors were found to be many and a theoretical framework containing theories about value creation, cluster of offerings, cooperation, value migration, high-velocity markets and radical innovations was used in the analysis to reach the most likely solution.

To attain the required reliability, primary as well as secondary source material has been critically reviewed. Organizations representing different players in the value chains have been interviewed. Within the critical organizations several players have confirmed the material to verify the opinions, beliefs, etc. being correct and generally valid for the organization. However since the thesis in many parts concern the future and therefore the presently unknown; the stated attitudes may quickly and drastically change as circumstances develop. Hence different answers may be given the next time the same player is confronted with the same questions.

2.6   The Third Purpose

Based on studies to fulfill purpose one and two, the authors of this Master thesis found deviations in the industry development direction and the interests of the consumer. To find explanations to the phenomenon and recommendations in how SEMC and players in similar situations should act during such circumstances theoretical studies began. The database ELIN was used to systematically searched for keywords relevant to the problem; *innovation adoption, consumer diffusion, market driven, market driving* and *technology driven, consumer* and *consumers*. These keywords were combined in all possible ways and articles about the subjects were

---

[63] Holme & Solvang (1991) pp. 80, 99 f

studied. At the end of Chapter 3 beloware the, based on theories about inertia and strategic orientations, third constructed theoretical framework.

2.7   The Procedure

Initially the BSD was interested in studying potential future value chains in the rapidly evolving telecom industry. This discussion also interested Alvi, Head of Application Planning at Product and Application Planning (PAP) who works closely with the director of BSD. These two saw the possibility to satisfy both needs by investigating potential value chains of functions interesting PAP. This resulted in a preliminary assignment formulation and methodological studies began.

The main interest of PAP was to find out what functions[64] the next generation users found interesting to have integrated in the phone in the near future. Discussions were held with BSD and PAP to find the best possible method to do so. PAP demanded a quantitative consumer poll in order to get statistically valid results. Thus, the thesis work started out by investigating different possibilities of carrying out a web-based questionnaire (how to design the questionnaire, possibilities of getting access to different student data bases containing e-mail addresses, etc.). However, it soon turned out that the main interest of PAP was to get a description of the atmosphere and feelings when discussing the subject.

Discussions with Lustig Bremer, senior manager at product research Global Product Planning (GPP), led to a change in method from a quantitative to a qualitative study. Discussions about different options and adequate methodology with teachers, tutors and assignors at SEMC resulted in focus group discussions as the qualitative research method. Out of the functions discussed in the focus group sessions the potential value chains of the function with the highest interest should be further investigated. The methodological and theoretical studies continued, now focused on material about focus group discussions. The GPP department gave valuable input about how to conduct a focus group session and the markets were chosen based on the interests of PAP, GPP and BSD. A test pilot focus group was conducted with friends before the actual study started. The participants were asked to specifically observe, and afterward comment on the behavior of the moderators.

Except for the important information collected during the focus group sessions, the aim was also to briefly get to know the participants in an attempt to better understand the discussions, representations and stand points. To achieve this, the authors had lunch with the participants, discussing values and cultural phenomenon. While staying at each site, much time was spent on getting to know and understand the culture and circumstances affecting the people and their decisions.

---

[64] Called *"applications"* when integrated into the phone

After the focus group research was carried out, the results, including findings and conclusions, were presented to BSD. Of the functions discussed, music had been subject to exceptional interest among the students, but was not chosen for further investigation. Instead, BSD chose mobile TV, for which the focus group participants had shown very little interest. Studies regarding possible mobile TV solutions started. The main sources used were the Internet, white papers from driving players and critical material from adverse players with contradicting interests. Two main solutions were discerned and possible player groups from different positions were interviewed. Theoretical studies about value chains and market orientation were carried out concurrently to the empirical industry study.

As mentioned above, the initial idea was to further study the function found most appealing by the focus group participants. However, when the focus group results were presented the assignor changed the assignment to regard mobile TV, the function found the least interesting by the participants, with the motivation "mobile TV is happening in the industry". This contradicting interest was carefully considered by the authors. Eventually the idea aroused that deviations in industry and consumer interests in the early product development stages are natural due to the characteristics of the market, innovations and consumers. The critical question of how to handle such deviations came up and evolved to constitute the link between the consumer research and the industry.
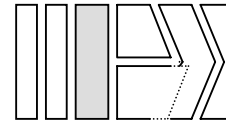
3 Theory

This chapter presents the theoretical frame of references of this thesis. The chapter begins with an introduction of the cohort conception and the N-Gens. Thereafter follows theories regarding types of market and radical innovations, explaining the world of the industry and value creation constituting the requirements for new products. Finally, theories about inertia in technology adoption and diffusion, and different strategic orientations are presented to explain how to manage deviations in interests. The chapter concludes with combining these theories into three models which will serve as the theoretical framework for the analysis.

The next generation users can be defined as people in the early and mid-twenties who are about to graduate. These people are used to being introduced to new high-tech products and most importantly, have grown up with the Internet which has affected them greatly. In the cohort literature this group belongs to the N-Gens.

3.1   Cohorts and the N-Gens

Although the premise that people of similar age behave similarly is sound, these groupings are too large to be useful as marketing tools. Meredith & Schewe present a more precise mean segmentation called *"generational cohorts"*. Countries with extremely close culture and history have comparable cohort structures, because the *"defining moments"*, e.g. wars, political dislocations, assassinations, economic upheavals, are similar. In the communication area the advancement from silent movies to talkies, radio, the rise of the television or the Internet may be such moments. Central in the cohort concept is the idea that the events that happened during our youth, especially between the age of 17 and 23, imprint core values. This is the age when a person develops value systems, explores new ideas, falls in love for the first time and becomes an adult. Cohort values are only one piece of the *"how to know your customer"* puzzle. The factor *"life stage"*; the roles taken on or acted out during the lifetime define attitudes, outlooks and daily activities, but different cohorts often react differently to the same life stage. Other factors are physiographic, emotions, affinities and socioeconomic factors**.** However, the socioeconomic status of a person tells us little about the underlying motives for consumption behavior.[65]

The youngest cohort[66] is called the "N Generation" or "N-Gens" because the advent of the Internet has been a defining event for them and they will be the "engine" of growth over the next two decades. Unlike other cohorts at the same age, they are more technologically savvy and aware of and skeptical to marketing efforts. The

---

[65] Meredith & Schewe (2002)
[66] The N-Gens include the people who was 20-26 years old in 2004

cohort is brand conscious due to the economic prosperity that has accompanied them into adulthood. But some brands that appealed to older cohorts have little charm to the N-Gens. [67]

They have grown up with computers, CD-ROMs, the Internet, and other forms of interactive learning, and they have come to expect this kind of instantaneous response from the marketplace. They look to the web for just about everything, tend to take the interactivity offered by the Internet for granted and have an expectation that information will be provided instantaneously. If information is not readily available, they are unlikely to dig to deep. They consider having the latest technology, such as high speed computers, broad band access and phones, not as luxuries but as necessities. Never having known life without computers, remote controls, compact discs and phones, this is truly a wireless cohort. New technologies have allowed them to avoid personal face-to-face interactions in a way not previously possible. This cohort will increasingly accept *"virtual connectivity"*, as they turn to technology rather than flesh-and-blood interactions.[68]

They are distinctly different from older cohort, and they expect marketers to recognize their uniqueness. They expect greater options than what is offered to the mass market to be available to them, and they want to be treated as individuals. Like other cohorts the N-Gens are not a homogeneous group, although perhaps to an even greater extent. Much of the segment distinctions arise from different socio-economic conditions of their parents. Those N-Gens with generally affluent and educated parents are the idealistic, overachieving team players that characterize the cohort as a whole. Those who come from disadvantaged situations seem more similar to the youngest Xers (prior cohort to the N-Gens) – antagonistic to society, more out for themselves, and free-agents.[69]

The N-Gens have grown up in an accelerating world. High-velocity markets and radical innovations are part of the conditions of this world.

3.2   Types of Markets

Eisenhardt segments the dynamic markets into *moderately dynamic* and very dynamic; *high-velocity markets*. In the moderately dynamic, characterized by distinct limits and easily identified players, the powerful dynamic effects are achieved by connecting available knowledge and creating efficient processes with predictable outcome. The high-velocity markets are characterized by unclear industry structure, indistinct limits, blurry and varying players and non-linear and unpredictable changes. The key factors to success in such markets are by radical changes whereas the key to success on the moderately dynamic market is by frequently incremental changes. [70] Beard &

---

[67] Meredith & Schewe (2002)
[68] Ibid.
[69] Ibid.
[70] Eisenhardt (2000) pp. 1110 ff

Easingwood characterize high-technology markets as fast-moving, expensive, risky (involving a high degree of product uncertainty for both producer and customer) and entrepreneurial. Development cycles for advanced technologies have always been short and are becoming even shorter. The commercialization stage offers only a short and brief window of opportunity and there is usually only one shot at the market. Failure at this point can have consequences that go beyond the immediate launch.[71]

3.3   Radical Innovations

The rapid changes in the market place make it increasingly difficult as well as increasingly essential for organizations to think about the future and constantly anticipate the next definition of value.[72] The resource-based view focuses on building core competences and dynamic capabilities and the importance of organizational learning and knowledge management to create sustainable compatible advantage and value.[73] Technology can be such a unique resource of the organization and technological-based innovations are often visualized to be the introduction into the economy of new knowledge or new combinations of existing knowledge.[74]

An *innovation* is an idea, practice, or object that is perceived as new by an individual or other unit of adoption[75], or in other words *"the creation of any product, service or process which is new to a business unit"*. Tushman defines three types of product and process innovation: *Incremental*, *synthetic* and *discontinuous*. This thesis will focus on discontinuous innovations and not discuss the others any further. The discontinuous product innovations involve the development and application of significant new technologies or ideas and require new skills, processes and systems in the producing.[76] There is no consensus in the literature regarding the definition of radical (discontinuous, breakthrough, step out, horizon 3 or game changing) innovations. Peters characterizes these innovations as *"the commercialization of new products or processes that have one or more of the following characteristics: an entirely new set of performance features, a five to ten fold improvement in performance; and a 30-50 % reduction in cos*t*".*[77]

---

[71] Beard & Easingwood (1996) pp. 88 ff
[72] Tushman & Nadler (1986) p. 74
[73] Barney (1986)
[74] Peters (2001) p. 207
[75] Rogers (1995) p. 11
[76] Tushman & Nadler (1986) p. 75
[77] Peters (1999) p. 180

© Pettersson & Rydholm

Sherif uses the interaction of markets, technologies and standards to evaluate the evolution of technology and service innovation in public telecommunication nets. By combining marketing[78] and technological perspectives he classifies the innovations in four categories of innovation[79]: *Incremental* innovations – building on mature net technologies with improved methods and procedures, *Architectural* innovation – consisting of sustaining netting technologies, operating support systems and applications, *Platform* innovations – consisting of improved netting technologies, operating support systems and applications, and finally *Radical* innovations – bringing about the needs for new operation support systems, new methods and procedures and new applications. The radical innovations provide a totally new set of functional capabilities that is discontinuous with the existing technological capabilities or value net, e.g. wireless systems being accessible compare to their wire-line counterparts.

To survive in these markets, with or without radical innovations, all organizations must focus on creating value for the consumers.

3.4 Value Creation

At a basic level, the elements of a value chain start with content creation – artists, content right owners and banking information[80] and to put it easily; value is only created when customer needs are served[81]. The traditional way of thinking of value is grounded in the assumptions and models of the industrial economy. According to this view, every organization occupies a position in a value chain and strategy is only about positioning the fixed set of activities of the organization in the right place in the chain – the right business, the right products and market segments; the right value adding activities.[82]

By creating value around the internal processes and core competences, organizations have efficiently pushed products to the market, but, the rigid processes the applications require provided static efficiencies. With the new economy dynamics business processes must be flexible.[83] The volatile competitive environment of today presents a new logic of value and opens up qualitatively new ways of creating value. The successful organizations of today do not just add value, they reinvent value. Their key strategic task is the reconfiguration of roles and relationships among the constellation of players in a value-creating system, in order to mobilize the creation of

---

[78] A value net defined by the attributes used to rank products, services or technologies and determines their cost structure. Changes in the attributes or their ranking provoke discontinuities in the value chain that can alter the industrial structure and offer opportunities to new entrants. (Christensen (1997) pp. 32, 39-41 & Sherif (2003) p. 242)
[79] Sherif (2003) pp. 242 ff
[80] Schuller (2000) p. 76
[81] Brabazon (1999) p. 14
[82] Norrman & Ramirez (1993) pp. 65 f
[83] Webb & Gile (2001) p. 16

value in new forms and by new players[84]. Their underlying strategic goal should be to create an ever-improving fit between competencies and consumers through continuous design and redesigns of complex business systems.[85] Organizations are now managing their former "supply chain" as a "value chain", realizing that if there is one inefficient or self-serving player within the chain the whole chain ends up bleeding value.[86]

In an economy founded on the new logic of value, only two assets really matter; knowledge, i.e. the competencies of an organization, and relationships, i.e. the customer base of an organization. Competencies are the technology specialized expertise, business processes and techniques that an organization has accumulated over time and packed in its offerings. But knowledge alone is not enough; the competence is worthless without customers willing to pay for it. A relationship with a customer is an access channel to the ongoing value-creating activities. Every customer, organization or individual, uses a wide range of inputs to create value. The offerings contain value to the degree that customers can use it as input to leverage their own value creation. Organizations create value when they make not only their offerings more intelligent, but their customers more intelligent as well. The role of customers is not to consume value, but to create it. Thus, organizations do not profit from customers, but from their value-creating activities.[87]

3.4.1 Cluster of Offerings and Competition between Value Chains

Value creation is dependent on the ability to deliver high performance of the benefits important to the customer. Organizations achieve this ability through their competence in technology and business processes; the core competencies created of several core capabilities, of the organization. To qualify as a core competence the skill must add significant value to the market offering. The core capabilities are the key to delivering superior value as they provide the means to deliver superior performance on the attributes that are important to the buyer. Today, the definitions of core capabilities are getting narrower and sharper. Consequently, many industries are shifting from being integrated to having a reduced number of suppliers and outsourcing more integrated components to key suppliers. By de-integrating operations and building strong partnerships with suppliers with the right core capabilities value-creating nets are formed.[88] Further, in a world where value occurs not in sequential chain but in complex constellations, business should not make

---

[84] E.g. IKEA has systematically redefined the roles, relationships and organizational practices of the furniture business which has resulted in an integrated business system that invents value by matching the various capabilities of the participants more efficiently and effectively than in the past. (Norrman & Ramirez (1993 pp. 66 ff))
[85] Norrman & Ramirez (1993) pp. 65 f
[86] Rajeek (2002) p. 48
[87] Norrman & Ramirez (1993) p. 71
[88] Kothandaraman & Wilson (2001) pp. 380 ff

something of value for the customers, but mobilize customers to take advantage of offered density and to create value for themselves.[89]

Porter first introduced the value chain concept in 1984 when the business market buyer-seller relationship in general was rather unsympathetic. The value chain was discussed from the perspective of the individual organization; examining the value-adding activities without exploring the links between the different organizations in the chain.[90] Gaining and sustaining competitive advantage depended on understanding both the value chain of the organization and how well the organization fit into the overall value system.[91]

Mathur & Kenyon claim our conventional concept of industry to be fundamentally flawed, since entities do not correspond to the realities of competition. Customers do not choose a product or an organization, their unit of choice is the *offering.*[92] And, as global markets grow increasingly efficient, competition will no longer take place between individual businesses, but between entire value chains[93]; competition will shift from the organization level to net level[94]. Norrman & Ramirez explain the phenomenon by the fact that today, a product is really the result of a complicated set of activities; therefore it is preferably called an offering.[95]

3.4.2 Cooperation in Dynamic Value Nets

Historical examples like The Bluetooth Special Interest Group (SIG) and the VHS versus Betamax case, clearly indicates that product categories developed in cooperation between several important players on the relevant market have a greater potential of becoming successful and maybe even standard setting. What is true for individual offerings is also true for entire value-creating systems; as potential offerings become more complex and varied, so do the relationships necessary to produce them. Value chains are no longer just basic building-blocks and the principle strategic task of the organization is the reconfiguration of its relationships and business systems.[96] The focus has moved beyond the individual organization into a cooperative paradigm based on relationships between the buyer and the seller. Thus, organizations cannot just examine their major competitors, but must include the net of organizations that relate to that competitor. The whole value-creating net formed by the key organizations in the value chain delivering value to the consumer must be examined.[97]

---

[89] Norrman & Ramirez (1993) p. 71
[90] Porter (1985)
[91] Kothandaraman & Wilson (2001) p. 384
[92] Mathur & Kenyon (1997)
[93] Horvath (2001) p. 207 & Sahay (2003) p. 76
[94] Kothandaraman & Wilson (2001) p. 379
[95] Norrman & Ramirez (1993) p. 71
[96] Ibid.
[97] Kothandaraman & Wilson (2001) p. 379

As companies expand their focus to include value creation for customers and suppliers, the traditional chain of material-supplying organizations gets replaced by a chain of value-generating organizations; a shift to a dynamic value chain thinking.[98] The drive to create value requires external core capabilities to complement the in-house capabilities. Putting together the net of organizations gathering the necessary capabilities to build an attractive market offering takes a major effort from the organization. Normally the net is assembled through developing strong relationships with key partners (Figure 3.1). The ideal, *integrative* partner is one who adds significant value to the market offering and at the same time constitutes a low operating risk as a partner. Integrative relationships are based on the contribution of the partner to current products and future product design and development.

	Low		
Operating risk	Facilitativ	Integrative
	Loser	Develop-mental
High	Low		High
		Value added partner	
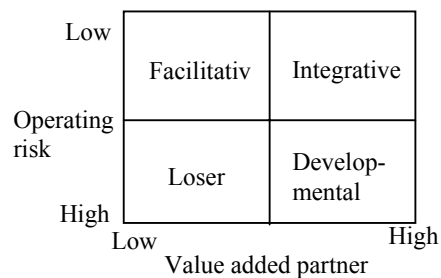
Figure 3.1 Evaluation of Potential Partners

Facilitative relationship partners are defined as easy to work with, but not adding significant value to the market offering or technologies. Their main benefit is facilitating low-cost transactions through their ability to help manage costs. Both integrative and facilitative relationships require deeply involved working partnerships. Partners not adding value and not easy to work with are labeled *losers*. In order to create the required development, organizations should select a few *developmental* partners.[99]

3.4.3 Value Migration

Value generally migrates rather than vanishes. *"Value migration is the transfer of growth opportunities, profit and ultimately shareholder value, from one organization or industry segment to another."*[100] If the needs or preferences of the customers on how to make business changes, value migration may arise. The value then moves from organizations with outdated business models to organizations whose business models match the evolving customer priorities.[101] Thus, organizations must constantly rebuild their business around the needs of their customers.[102]

---

[98] Rajeek (2002) p. 49
[99] Kothandaraman & Wilson (2001) pp. 382 f
[100] Brabazon (1999) p. 14
[101] For example the market capitalization of IBM fell drastically around the 1990s due to the organization loosing touch with the needs of its consumers. Thus, the market value migrated

© Pettersson & Rydholm

Value migration is inevitable and creates threats to business. Nevertheless, it also creates opportunities and it is possible to benefit from value migration: It is easier to generate revenue and profit growth in the early value inflow stage of a business design than in the later value stability stage. Also, current market share is no guarantee of future success. Organizations continuously need to be updated with changes in the priorities of the customers in order to ensure that the management has early warnings of approaching value migration. The trick is to migrate with, or even slightly in advance of, the customers before the outflow process stabilizes.[103]

3.4.4 Business Models

A business model can be described as the way in which an organization enables transactions that create value for all participants, including partners, suppliers and customers. A revenue model is the specific way in which a business model enables revenue generation. Three business models for the telecommunication industry are proposed:[104]

- *Organizations may integrate across the different stages of the value chain and aggregate product solutions without owning assets in any of the stages.* This may potentially be the easiest model for incumbents, competent at consumer relationships and net management typically owning their customer relationships. However, the model offers only a limited scope for differentiation resulting in limiting value creating possibilities.

- *Organizations may try to create a multi-stage solution in the value chain by integrating their own products with those of others.* Owning one particular asset or technology may provide a platform to build on. Organizations adopting this model typically own assets or intellectual property in one stage of the chain and possess knowledge about consumer relationship management.

- *The model offering the most reward is to dominate an entire stage of the value chain.* This model is the hardest for the incumbents to adopt, maybe because they have legacy assets to protect and find it difficult to focus on customers in one stage of the value chain even though they traditionally have competed in several. Successful exponents are rather new entrants using intellectual property assets to collapse bombastic price levels in existing markets, or establishing a position leading to sustained leadership.

Value creation itself is not enough to be successful. The value creating organization also has to overcome the inertia in innovation adoption.

---

away form the internally focused business model of IBM to the more consumer-driven business models of its competitors. (Slywotzky (1996) & Brabazon (1999))
[102] Brabazon (1999) p. 14
[103] Brabazon (1999) p. 15
[104] Li & Whalley (2002) p. 460

3.5 Inertia in Technology Innovation Adoption and Diffusion

There is often adoption inertia, both on the organization and the user level, for technological innovations. *Technology* is a means for uncertainty reduction about the cause-effect relationship involved in achieving a certain outcome. *Adoption* is a *"decision to make full use of an innovation as the best course of action available"* based on the judgment about *"the innovation's capacity to solve an individual's problem".*[105]

3.5.1 Organization Level

Based on studies on investment under uncertainty, scholars have investigated the adoption behavior at the organizational level under incomplete information about new technologies. This literature focuses primarily on the decisions of the producer of whether or not to adopt.[106] Nevertheless, for many innovations the adoption decisions are not merely dichotomous (whether or not to adopt) but also the degree of intensity[107] (a continuous variable) and the timing of adoption are relevant and interesting factors. Many circumstances affect organizations to adopt new technologies at different times, e.g. organizational size, financial constraints[108] and different goals and abilities.[109] However, the inertia may also be affected by the fact that, in the case of new technologies, it often *"pays to wait"*; it is often wiser to wait for more information before investing in the adoption. For adoption to take place it is not enough that the return of the new technology is higher than the existing one; the return needs to be high enough to outweigh the value of waiting for more information. This potential benefit constitutes an obstacle in the adoption process and results in the most significant question to the producer not being "whether to adopt", but "when to adopt".[110]

3.5.2 Consumer Level

Technology diffusion at the consumer level is a social phenomenon involving many people making, often independent, choices. Classically the technology S-curve has been used to illustrate a typical relationship between the innovation category and its market acceptance throughout the technology life cycle. The most common explanation of the curve is that information regarding the new technology, how to use it and what for, does not diffuse fast enough among potential users, thus the diffusion of the technology happens too slowly.[111]

---

[105] Rogers (1995) pp. 12-21
[106] Dong & Saha (1998) p. 896
[107] Feder, Just & Zilberman (1985) p. 287
[108] Dong & Saha (1998) p. 893
[109] Geroski (2000) p. 603
[110] Dong & Saha (1998) p. 893
[111] Geroski (2000) pp. 603, 621

Rogers has studied the phenomena of diffusion of innovations for decades and has identified consumer adoption to be a process, traditionally conceptualized as a sequence of steps in which the consumer passes from initial knowledge of an innovation, to forming an attitude towards it, to reaching an adoption decision[112]. Herbig & Day have identified several characteristics appearing to influence this adoption process, among others relative advantage, compatibility, complexity, ability to try and observe, risk and standardization. The consumer barriers to acceptance and usage include the free will of the consumer, the ability to understand, external stakeholders and incompatibility of the innovation with existing workflows. [113] Saaksjarvi emphasizes this last statement by pointing out that since the degree of innovation is a subjective phenomenon, the perceived innovation level for the consumer depends on the degree of consumer expertise with the different product categories. She also suggests that consumer interest to adopt an innovation will already be limited if the consumer does not experience any kind of "fit" between her lifestyle, values, past experiences and the technological innovation. Radical technological innovations are knowledge intensive innovations. The consumer has a large number of supplemental areas from which she combine knowledge in order to comprehend a technological innovation. The consumer is more likely to learn and educate herself about an innovation if it is perceived compatible to her existing frame of reference.[114]

3.5.3 Crossing the Consumer Chasm

Moore has identified the high-tech market development as a bell-shaped curve. However, the consumer-market slope may be discontinuous hiding unfavorable "chasms", which are critical to cross in order not to perish. Moore points out that the challenge is due to the fact that consumer markets cannot provide two of the key phenomenon needed during the chasm-crossing phase[115]:

- *A "kick-off" group of customers willing to pay a relatively high price* - In business markets where there is return on investments, practically any price can be funded by someone. In consumer markets the capital available is very limited and there is no economic return on investment. In other words; there is no mechanism to pay back a high price. Instead the market-driving force is consumer satisfaction and this can only be fundable at price points low enough to attract a wide enough audience. Thus, business markets can be price-elastic over a broad span of price levels, whereas consumer markets must start at a much lower entry level price.

- *Some "workhorse" customer who will take the cost of building the "whole product"* - The whole product is the complete suit of products and services necessary to fulfill the promised value proposition. At the beginning of markets,

---

[112] Rogers (1976) pp. 294 ff
[113] Herbig & Day (1992) p. 4
[114] Saaksjarvi (2003) pp. 91 f
[115] Moore (1994) p. 2

whole products need to be pulled together by some value-adding organizations. Business markets routinely fund these value-added infrastructures to create, and eventually institutionalize, a whole product that becomes a standard. In consumer markets, on the other hand, there is no one supporting such infrastructure. Consumer products are distributed through distribution channels whose primary values are low price, broad selection and availability. These distributors cannot handle complexity and require a more or less "shrink-wrapped" product. Thus, while business markets have the possibility to gradually pick up momentum, the consumer markets stand still until the whole product is "really there".

As pointed out, the inertia in the technology innovation adoption in part depends on how the innovation is developed and presented. Therefore, different strategic orientations will be discussed below.

3.6 Strategic Orientations

Depending on the driver and initiator of the product development process, there are different product development process strategies. Two of them are technology-push products - where the technology drives the development process, and market-pull products - where the market drives the development process.[116] Traditionally scholars have argued that organizations striving to develop new products should be either market driven or technology driven[117].

3.6.1 Technology Driven Strategy

Technology has been considered to be an enabler of business strategies. However, in recent years it has become a major disrupter of business strategies, thereby taking on the role as the driver of change and a potential strategy in and of itself.[118] In a technology-driven product development process the organization initially has a new proprietary technology for which it tries to find an appropriate market where the technology can be applied. It is then that the technology possibilities "push" the development process[119], i.e. the market gets what technologists believes the market wants[120]. There are organizations using technology as an offensive weapon, which aspire and take pride in being technical and market leaders through innovation[121]. *"When most of these companies started off, they were driven by brilliant technologists, so the organization grew up admiring the engineers and the scientists."* [122] In these companies the marketers often presume that since the technology exists and an innovation has been created, its diffusion is inevitable.[123]

---

[116] Ulrich & Eppinger (2000) p. 20
[117] Crawford (1991) p. 32
[118] Webb & Gile (2001) p. 18
[119] Ulrich & Eppinger (2000) pp. 20 f
[120] Crawford (1991) p. 32
[121] Ensor (1996) p. 1/8
[122] Avishai & Taylor (1989) p. 108
[123] Herbig & Day (1992) p. 5

3.6.2 Market Oriented Strategy

Many businesses pay more attention to their internal processes and their competitors than to their customers[124]. To be market-oriented means providing the benefits demanded by the consumer[125]. The ability to continuously generate intelligence about expressed and latent needs of consumers, and about how to satisfy these needs, is essential for companies to continuously create superior customer value[126]. A market-oriented organizational culture, as opposed to an internally technology-oriented culture, places high priority on organization-wide behaviors geared toward understanding customer needs, achieving sustainable strategic competitive positions, and enhancing superior customer value[127].

Ensor identifies customer orientation, technology content and reduced product development time to be issues facing the technology sector. He finds evidence that market-oriented organizations will tend to be more profitable than non-market oriented ones and that having superior commercialization skills is critical for industry leadership. At the same time, technological development results in new products and modification of existing ones. These facts, on the other hand, combined with the pressure to reduce the product development time lead organizations to become technology-driven. In response to these pressures, Ensor expects companies to integrate the R&D, engineering and marketing activities. However, he finds that the firms have changed their manufacturing process resulting in reduced time-to-market, increased product quality and reduced cost by simplifying the product design. Nevertheless, organizations are failing in integrating marketing into the process. The result is that many organizations develop a technology, rather than a marketing orientation. These organizations use technology as an offensive weapon and aspire and take pride in being technical and market leaders through innovation. In these organizations marketing programs tend to be created after the product has been developed.

Despite the growing awareness of the need to be a market-oriented organization, a significant void exists in the current models of market orientation[128]. Scholars argue that current market-orientation literature has an unbalanced focus on keeping the status quo as compared to proactively shaping consumers and the market. They postulate that there are two types of market orientation; market-driven and market-driving.[129] The idea of two primary types of market orientation is very relevant for business marketers since they need to act on the two. First, management should be aware of whether it is proactive or reactive business logic they are applying. Second, they shall create a match between the type of business logic adapted and the type of

---

[124] Slywotzky (1996) p. 120
[125] Brabazon (1999) p. 14
[126] Slater & Narver (2000)
[127] Pelham (1999) pp. 34 f
[128] Matsuno & Mentzer (2000); Noble et al. (2002)
[129] Jaworski et al. (2000)

market orientation emphasized. That is, the implementation of the specific strategic logic requires matching marketing and learning capabilities[130].

Market Driven

A market driven product development process is initiated when the organization identifies a market opportunity and then uses whatever available technologies to satisfy the market need. The market gets what it wants and can then be said to "pull" the development process[131]. Market-driven orientation refers to applying reactive business logic – logic indicating the acceptance of the market as given. This reactive logic favors incremental adjustments to changes in the business environment and works through adaptive organizational learning[132]. It involves customer relationships reflecting adaptive learning capabilities in terms of market intelligence generation. These companies are often in supportive, dependent supplier roles and have strong operational ties with their major customers. [133]

Market Driving

Several authors have made the point that market research and market-driven processes are excellent in generating incremental innovations, but they rarely produce radical break-through innovations.[134] It is rather the curiosity of the inventor than the market pull or financial need that is the motivating force behind the breakthrough innovation[135]. To fill the conceptual gap Kumar *et al* introduces the concept of Market Driven Organization (MDO) characterized by three things[136]:

- To trigger the industry strategic breakpoints through radical business innovations, which result in a fundamental change of the industry.

- To get the inspiration for their radical business concept from a visionary, not from traditional market research.

- To have to teach potential customers their discontinuous value proposition, than learn from existing customers.

Tuominen *et al* opines that the market-driving orientation matches the proactive business logic and emphasizes the capabilities of an organization to develop such radically innovative business concepts and products that influence and even create markets. This requires generative learning capabilities involving collaborative learning and partnership with lead customers.[137]

---

[130] Tuominen et al. (2004) p. 208
[131] Ulrich & Eppinger (2000) p. 20
[132] Jaworski et al. (2000)
[133] Tuominen et al. (2004) p. 214
[134] Lynn et al. (1996); Nayak & Ketteringham (1993); Kumar et al. (2000) p. 129
[135] Nayak & Ketteringham (1993)
[136] Kumar et al. (2000) pp. 129 ff
[137] Tuominen et al. (2004) p. 214

The success of MDOs can be explained by radical innovations in two dimensions[138]:

- *A discontinuous leap in the customer value proposition* - The key to the success of these organizations is that they create, offer and deliver to the customers a discontinuous leap in benefits, either by breakthrough technology or by break-through marketing, while reducing the sacrifices and compromises that customers make to receive those benefits. They thereby create a product experience that exceeds customer expectations and existing alternatives. As a result, the land-scape of the industry is substantially altered.

- *An implementation of a unique business system* - These organizations also configure the various activities required to create, produce and deliver the value proposition to the customer. The value proposition is more visible in the market-place than the business system, thus competitors often miss the importance of the latter. In the absence of a unique business system, competitors can quite easily achieve the advantages gained from a discontinuous benefit leap. The unique business system creates a more sustainable advantage, since it takes time for a would-be competitor to gather the intra- as well as the inter-organizational players needed to replicate that unique system. Therefore, MDOs who change the rules of the game are those that innovate on both dimensions.

Being market-driving involves high risk and many potential market-driving players fail spectacularly. Nevertheless, when market driving strategies are successfully implemented they rewrite industry rules and offer the potential to reap large benefits. Kumar *et al* present how market-driving organizations seize advantages[139]:

- *Re-draw the boundaries of industry segmentation* - By attracting consumers from a variety of previously defined market segments; a new market comes together around the offering and marketing strategy of the MDO. This destroys the former industry segmentation, creates chaos and adopts a new set of segments to the new, changed industry landscape.

- *Create value by establishing new price points* - The MDOs set new industry price points for the quality delivered. The trend is higher performance at lower price points, but there are also MDOs who have established price points higher than typical in the industry. To get the consumer to pay these higher prices requires a value proposition containing more compelling benefits then the available alternatives.

- *Achieve sales growth through customer education* - Since the MDOs present a radically new concept to the market, the sales task for these organizations is primarily not to sell, but rather to educate, the consumer on the existence of, and how to use the new value proposition.

---

[138] Kumar et al. (2000) pp. 129 ff
[139] Ibid.

- *Create brand attachment by capitalizing on the "Buzz Net"* - By relying on publicity and word of mouth rather than traditional advertising, the MDOs generate an indefinable brand name: The consumers often committed and enthusiastic early adopters and opinion leaders are delighted and eager to tell others about their "finding". Consequently, MDOs do not find it necessary to spend a lot of money on traditional advertising.

- *Exceed customer expectations* - MDOs typically exceed existing consumer expectations, formed through earlier interaction with competitors and existing alternatives. One part of the leap in consumer value comes from offering services above the level expected by the consumers.

To date, very few organizations have been able to introduce a series of successful market-driving ideas to the market. Sony is an exception. Utilizing almost every practice recommended above, Sony has created a market driving culture.[140]

3.6.3 Dual Drive

Curtis claims that only 10% of the products launched become successful and that these 10 % must pay for the 90 % of failures. He blames the high failure rate on the fact that the products are either product or market driven[141]. Crawford has evolved the phenomenon further and states that the top players today know the push-pull approach is wrong since neither of the forces drives anything alone. Push and pull – market driven and technology driving – are required at the same time, an approach he calls *"dual drive"* meaning *"one drive forged from the skills of two perspectives. New products shall exploit one or more of the firm's strong technologies and make a major contribution to solving specific customer problems"*. In this approach, every new product project, already before it gets too far progressed, has the dual direction of a specific market, i.e. a user problem, and a specific technology that will be used to find the solution to that problem. In this way Crawford states that whatever the project comes up with it is likely to sell – thanks to the known need and the matching technological capability.[142]

Curtis requires a holistic view – an analysis of both product and market attributes to be taken to obtain a successful management of new product development. As a start, Curtis proposes two business questions[143]:

- *Who are the customers (i.e. the marketing perspective*)? Many products have several consumer groups, e.g. the retailer, the buyer and the user. Any product that does not satisfy all the consumer groups will fail. Debates on a single consumer are useless – energy should be devoted to the whole group of stakeholders, addressing all their expectations.

---

[140] Kumar et al. (2000) p. 139
[141] Curtis (2000) pp. 197 f
[142] Crawford (1991) pp. 32 f
[143] Curtis (2000) pp. 197 f

- *Who is most important in the chain*? A chain is not stronger than its weakest link and if one player fails then there will be no product. The approach cannot be "*we have the product, go market it*" no more than "*that is what the market needs, why cannot you produce it for nothing by next week*?"

Curtis proposes to link the capabilities of the organization with the needs of the market since it is required to see the whole picture from all aspects. Long-term run success requires the two critical skills of being creative and divergent as well as fiercely analytical in order to satisfy external requirements and internal constraints. These skills may appear contradicting, but Curtis states "*Design engineers practice these two skills every day – all they need is to extend their domain to include the world*".[144]

3.6.4 Evolutionary Strategy

Evolutionary theorists emphasize the limited capability of organizations to manage and react on changes in the surroundings in an appropriate way suiting the purpose. An adequate fit towards the surroundings is rather a consequence of luck and favorable circumstances than having carried out the right strategy.[145] The power of strategy is argued to be overrated since companies are confronted with unpredictable and uncontrollable market powers. Success is about being at the right place at the right time. *"The survivors, may appear to be those having adopted themselves to the environment, whereas the truth may well be that the environment has adopted them. There may have been no motivated individual adapting, but instead only environmental adopting."*[146]

Thus, the evolutionary perspective of strategy claims that any strategic thinking will result in rather dismal consequences; whenever management needs to react and carry through changes, it is wise not to try predicting the market development and putting all efforts into one plan. The most effective method may be to experiment with as many and diverse ideas as possible and then wait and see which of them fail and which that evolve successfully. The evolutionary advice is that "*the best to do while searching for a successful strategy is to let the market, not the management, choose"*.[147]

---

[144] Curtis (2000) pp. 197 ff
[145] Whittington (2002) p. 27
[146] Alchian (1950) pp. 213 f
[147] Whittington (2002) p. 30

3.7 Theoretical Framework

The previously presented theories will now be merged into three theoretical frameworks. These frameworks, one for each purpose, are constructed to guide the reader through the analysis and to thereby shorten his or hers adoption process.

3.7.1 An Offering Attracting the N-Gens

The N-Gens constitute an increasingly important and potentially prosperous but demanding group of consumers. They are curious, technologically knowledgeable, have a large number of supplemental areas to combine knowledge from and therefore have the capacity to learn quite easily, and consider having the latest technology a necessity. However, they have grown up with fast-moving markets where new products and technologies are presented continuously. They expect instantaneously proved information and response from the marketplace. Aware of marketing efforts the N-Gens do not settle with the promise of high quality, superior performance and more value for the price – the product, or rather the complex offering resulting from a complicated set of activities has to fulfill the promise (Figure 3.2). They expect marketers to recognize their uniqueness through individualized offerings, creating value for them individually. If offerings fail at any of these requirements their impatience keeps them from digging deep for information or explanations, so there is no tolerance for products not measuring up to their expectations. Then the one and only shot at the market is used up.

The consumer adoption process, from initial knowledge of an innovation, to forming an attitude towards it, to reaching an adoption decision requires an effort and some time invested by the consumer. The fact that information regarding the new technology diffuses too slowly among potential consumers is the traditional explanation to the adoption problems. The N-Gens are impatient, indolent and take individualized offerings for granted. Thus, satisfying information and ability to try new offerings is not enough, there has to be incentives to try the offering, but cannot include any effort.

The offering has to be radical to attract the interest of the N-Gens, yet user-friendly and individualized enough to be perceived as a "fit" between lifestyle, values and earlier knowledge and technological framework: The N-Gens will not accept the offering and educate themselves about an innovation if it is perceived compatible to their existing frame of reference. This offering has to be fully developed and complete when first introduce to the consumer to make use of the one market shot

Figure 3.2 An Offering Attracting the N-Gens

3.7.2 Value Creation by Relationships

Acting in *high-velocity markets* mean having to manage fast-moving, expensive and risky development processes and to be prepared for unpredictable changes. During shorter and shorter development cycles new offerings, preferably involving radical changes, have to be produced, fulfilling the demands and even exceeding consumer expectations.   Value is only created when customer needs are served, i.e. when the customers can use it in their own value creating process. Thus, organizations do not profit from customers, but from their value-creating activities.

To achieve these requirements and create the drive to create an offering measuring up to consumer expectations, the very core competencies from several different organizations have to be combined into a complex value-creating net (Figure 3.3). This net has to dynamically create flexible business processes and cooperation of the right partners. The focus has moved beyond the individual organization to a cooperative paradigm, characterized by dependency between the member organizations. As focus changes to creating value for the consumer the competition takes place between entire value chains, or even at a net level.

If organizations fail to fulfill these dynamic consumer preferences the value during the exact right, short window of opportunity and profit and growth opportunities, are likely to migrate to other organization or industry segments. Thus, organizations must constantly rebuild their business around the preferences of their customers and preferably be slightly ahead of the customers. The inertia in the adoption processes, an idea that it often is better to wait, is a natural reaction to the uncertainty of the investments required, but must therefore be overcome.

Figure 3.3 Value Creation through Relationships

3.7.3 Strategies to Overcome Inertia

On high-velocity markets, success may be generated through radical innovations and products that influence and even create markets. Theses innovations require in many cases presenting technologically new solutions to the market. However, the very existence of the technology does not assure the diffusion – diffusion as well as profit, require a large user base to experience a value creating fit between their needs and the new solution. Regarding radically new solutions market research has little to add due to the difficulties for the consumer to grasp yet undeveloped possibilities. Thus, organizations need to be both proactively technology pushing and reactively market driven in a market driving, dual force strategy. It is also of crucial importance to identify the customers of the organization – are there many with different interests? The internally generated ideas, including some radical business innovation, of the MDOs result in discontinuous value propositions which have to be taught to potential customers. Presenting new solutions to the market involves the problem of overcoming the inertia in the consumer adoption process commonly explained by too slow information diffusion. To gain consumer acceptance the consumer must be motivated and understand how to use the new solution and what for, requirements obtained if a compatibility with existing frame of references is experienced. The organization also needs to find ways to build a complete product before presenting the solution to the market, a presentation required to be at a mass market acceptable price level, in order to overcome the inertia (Figure 3.4).
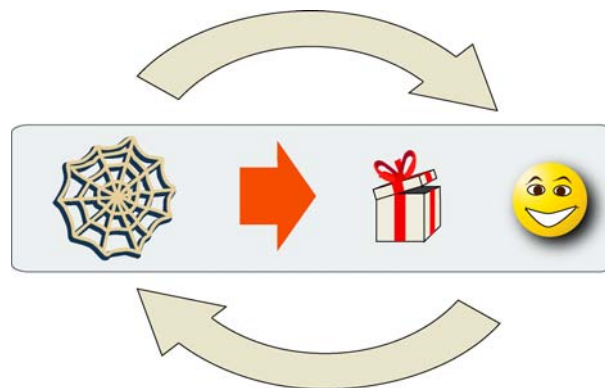
Figure 3.4 Strategies to Overcome Inertia

All these strategic considerations to win market acceptance and overcome the inertia may be useless because of the unpredictable and uncontrollable market powers and the ambivalence and ignorance of the consumer. The most effective strategy may be to experiment with as many and diverse ideas as possible and then rely on luck and wait and see which of them fail and which that evolves successfully.

4 Empirical Material – Industry Structure

This chapter gives an overview of the potential value chain scenarios of mobile TV. If the scenario seems likely considering the level of development, the number and status of the promoters and the standardization level the different roles are described. Interviews with candidates from each described role are made to find the drivers and the interests of the participating players of the value chain. The consumer is presented in Chapter 5.

4.1 Industry Introduction

Less than a decade ago customers were served by autonomous proprietary nets. The phone network carried voice, the LAN/WAN carried data and the broadcast network carried video (television at the time). Each system represented a closed system in which a single vendor provided all of the hardware and software to more or less captive consumers.[148] The arrival of the Internet has developed a variety of media towards a more enhanced and converged experience. Both phones and TVs are becoming more advanced as the TV stations and the service providers are searching for methods to increase their revenues. TV producers are also looking for new ways to increase the interaction with the viewers and add an extra element of "stickiness" to their services.[149] However, the obstacles for mobile TV are many, e.g. high consumer fees, a too small display, limited bandwidth in most networks, limited coverage in the other networks, challenges with handset and platform interoperability, and the drivers are few.[150] None of the obstacles are insurmountable, but a considerable amount of time, effort and capital is required to eliminate them.[151]

4.2 Broadcasting and Multicasting

Digital Broadcasting "point-to-multipoint" is attractive because it uses high band-width channels with high transmission speed. Further, broadcasting is insensitive to the number of people receiving the content within the area, making it cost effective to deliver content to mass audiences, compared to delivery over two-way, point-to-point networks. Information aimed only for a localized group could utilize multicast transport solution. Examples of those services might be location-based advertisement and group messaging.[152] Figure 4.1 shows high level positioning of the point-to-point,

---

[148] Li & Whalley (2002) p. 454
[149] Nelson (04-16-2004)
[150] Betti & Delaney (2003)
[151] Taylor (2003)
[152] Nokia (2003)

multicast and broadcast service focus areas as the function of number subscribers, bandwidth and content type.[153]
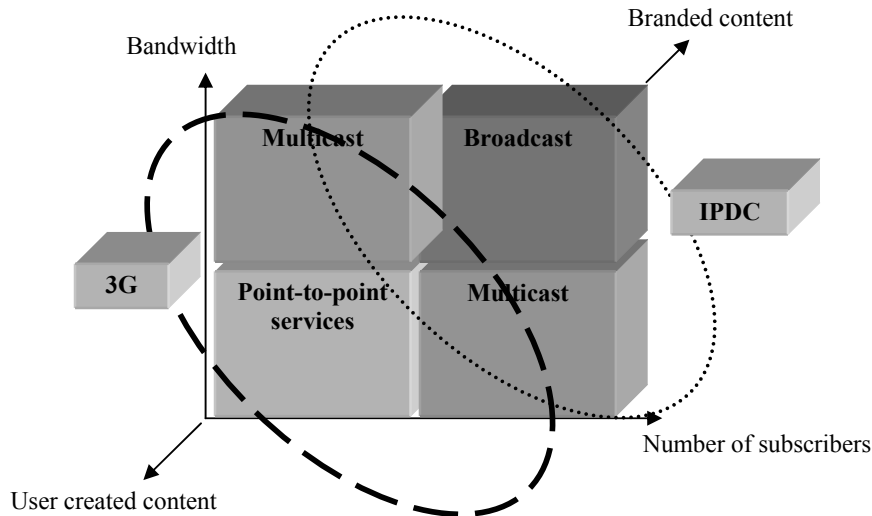
Figure 4.1 Positioning of Casting and Point-to-Point Services[154]

There are three main solutions for mobile TV. The first solution is a separate DTV broadcast network using terrestrial or satellite transmitters. As the Digital Broadcast standard is being evaluated by the industry, UMTS (the European 3G standard) introduces its own broadcast/multicast capability which is the second alternative.[155] The third alternative is to use the analog TV network.[156]

The prospect of DTV has led to regulations of withdrawing the existing analog TV services. For example, the American Federal Communications Commission has announced that all analog TV services in the USA will be switched off in 2006, and the Swedish government has set the respective date for the Swedish market to February 2008.[157] Thus, an analog mobile TV solution is not a plausible scenario[158] and is therefore not further discussed.

4.3 DTV

At present there are three different ways digital signals can be transmitted; by cable, satellite and through a terrestrial network.[159] Of these possible solutions, only

---

[153] Ahamavaara (2003)

[154] 3G and IPDC is explained in Chapter 4.3 and 4.4

[155] www.fub.it/dvb (04-19-2004)

[156] Cronström (04-26-2004)

[157] www.dtg.org.uk (04-15-2004)

[158] Cronström (04-02-2004)

[159] www.canaldigital.com (04-15-2004)

terrestrial earth-bound network might work well enough for mobile TV since DTV by cable does not qualify due to lack of mobility. Digital satellite signals require a large and powerful receiver for indoor coverage which cannot presently be mobile or manufactured at a price point accepted by the consumer market.[160]

There are currently three international standards for terrestrial DTV. The European Digital Video Broadcasting - Terrestrial (DVB-T) transmission standard, adopted in Europe, Australia (for HDTV), New Zealand, India, Singapore and South Africa. The second standard is the Advanced Television Systems Committee (ATSC) standard developed in the USA and selected in USA, Canada and South Korea. The Japanese standard Integrated Services Digital Broadcasting-Terrestrial (ISDB-T) is a variant of the European DVB-T standard. Both television and radio broadcasting can be carried through using this standard.[161]

Basically, all three systems provide the same service, DTV transmission, but have slightly different operational modes. The Japanese ISDB-T provides the best performance for mobility, but the gain on European DVB-T is marginal. Both systems have to consider the special requirements of indoor and mobile operation when networks are planned. The US ATSC was originally optimized for fixed terminals and large bandwidth, but the modulation used does not support any kind of mobility.[162]

4.3.1 Digital Video Broadcast – Terrestrial

The European DVB-T standard[163] is a worldwide accepted system with an application range from High Definition Television up to mobile reception.[164] Conventional terrestrial TV frequencies are used to broadcast the digital video and audio signals. It is a flexible system which allows terrestrial broadcasters to choose from a variety of options to suit their various service environments. It also allows the choice of fixed roof-top antenna, portable and even mobile reception of DVB-T services. However, it is difficult to attain DTV reception from terrestrial DVB-T network in motion (>40 km/h) and indoors with a small antenna because the accurate modulation of the TV signal and large number of carrier frequencies. According to supporters, the use of DVB-T as the transmission method for mobile TV is already standardized, while critics point to problems with in-building coverage, power and processing.[165] An EU project, CISMUNDUS, is exploring complementary coverage and service provisioning models between broadcast and telecommunication vendors. The project

---

[160] Karlsson & Maizeret (04-29-2004); Cronström; Björkman (05-02-2004)
[161] Nokia (2003)
[162] Ahmavaara (2003)
[163] EN 300 744
[164] www.dvb.org (04-19-2004)
[165] Ahmavaara (2003)

looks at the convergence of DVB-T and UMTS with asymmetrical forward and return channels.[166]

4.3.2 Digital Video Broadcast – Handheld

To increase the mobility of DVB-T the DVB Organization started a development project in 2002 with the purpose of enabling mobile receiving, e.g. reception of TV and video to small hand-held devices such as phones. The work has resulted in the new standard Digital Video Broadcast – Handheld (DVB-H)[167] based on the DVB-T technology. The transmission will use the Internet Protocol Data casting (IPDC) technique, and pilot tests are scheduled to begin during 2004. The technique is useful to a great variety of services; TV or sound; real time or repeat, weather information, maps, news, newspapers and "near-on-demand" programs, which have a predestined transmission time, but where the user must order the program to be able to see it.[168] A DVB-T network may be used for transmission of DVB-H in parallel to DVB-T. This enables usage of the existing DVB-T network for mobile receiving outdoors. To achieve good indoor reception for handheld devices where the receiver may be in a pocket, the DVB-H network must be complemented with more transmitters than the DVB-T network. A DVB-H net can be built according to the mobile networks model. DVB-H is an open standard, thus manufacturers can make receivers without paying license fees.[169]

The main objective for IPDC standardization is to create a basis for a horizontally structured, global market, i.e. a multi-vendor market for IPDC services, terminals and infrastructure. The ongoing DVB-H technology specification work, conducted by the DVB Organization, represents the key standardization activity for mobile TV. IPDC Forum[170] is an open, international association of the industry players cooperating to promote the growth of IPDC.[171] Nokia is one strong promoter of IPDC and DVB-H involved in the development project along with TeliaSonera, Teracom, Tandberg, Philips, Deutsche Telecom, France Telecom, BBC, Sony, Panasonic, etc. Crown Castle, the powerful American broadcast network operator, is also a member of both IPDC-forum and DVB. A pilot project for DVB-H by Broadcast Mobile Convergence has been established in Berlin by Nokia, Philips Electronics, Vodafone and Universal Studios.[172] Nokia and TeliaSonera have decided to carry out a field trial in Finland of the DVB-H standard. Also, other countries will carry out pilot projects to evaluate the new system.[173]

---

[166] Berg (2003)
[167] SOU 2004:16 pp. 140-143
[168] Nokia (2003)
[169] www.swedlab.com (04-19-2004)
[170] www.ipdc-forum.org (04-15-2004)
[171] Nokia (2003)
[172] www.dvb.org (04-19-2004)
[173] SOU 2004: 16 p. 143

The transmission of large data amounts creates battery problems in the phone. The power will last for 15-20 approximately minutes when downloading a film. Work is currently underway to solve this problem. The technique suggested by the DVB-H Organization, *"time slicing"*, means that the receiver is connected to the DVB-H net only for short intervals, when a large amount of information is received and stored in the internal memory. By the use of time slicing the power savings will be approximately 90%.[174] According to Sattler, manager of the Berlin field trial, using digital signals consuming less power, it is possible to get three hours of television reception from a single battery.[175]

4.4   3G

Current 3G systems provide point-to-point services. The Third Generation Partnership Project (3GPP) started in 2001 as an effort to enable efficient support for point-to-multipoint services. The new service, Multimedia Broadcast/Multimedia Service (MBMS), includes two models; Broadcast, close to DTV type of service, and multicast, dedicated for focused and localized group services. Multicast mode provides more advanced charging features including service subscription and join and leave functions. The service is forecasted to be ready no sooner than 2010.[176]

MBMS is intended to provide flexible and efficient mechanisms, and to achieve the most efficient use of air interface and network resources when sending the same information to multiple users. Any type of information, e.g. text, multimedia and streaming media, could be transmitted and delivered via the most efficient transmission technique based on the density of MBMS users and information being transmitted. Transmission territory for each MBMS program can be independently defined. Programs can be transmitted in time sequences on a given channel (looping). Simultaneous programs can coexist in the same cell and MBMS programs may be transmitted to all or selected regions of the network, constituting the transmission area. The MBMS programs may be received by all users or may be restricted to a subset of users via encryption. MBMS subscription is normally associated with the program (e.g. CNN, Disney Channel), not the content (media type such as music, video, etc.). By selecting the program, the user selects the type of content he/she wishes to receive.[177]

Another question is how to make 3G cost effective with individual channels. Initially the industry thought 3G could be used for video calls, but the use of voice has increased and the capacity is a limitation today[178]. UMTS Forum summarizes the challenge nicely: *"In economic terms using cellular networks for multicasting or*

---

[174] www.swedlab.com (04-19-2004)
[175] Clark (2004)
[176] Ahmavaara (2003)
[177] 3GPP2 (2004)
[178] Lavin (04-29-2004)

broadcasting networks for uni-casting may not be optimum".[179] The 3G networks support video services at 300 kbps. Video services consume ten times the capacity of voice services and pricing for video below SEK 1 per minute [180] is unattractive for the operators.[181] If 10% of the daily TV viewing[182] is switched to the mobile device, the monthly cost for the consumer would exceed SEK 300.[183]

4.5 Players in the DTV Chain

The terrestrial DTV chain has four main players; content providers, content aggregators, network operators and the consumer (Figure 4.2). The consumer role will be further discussed in Chapter 5 below.
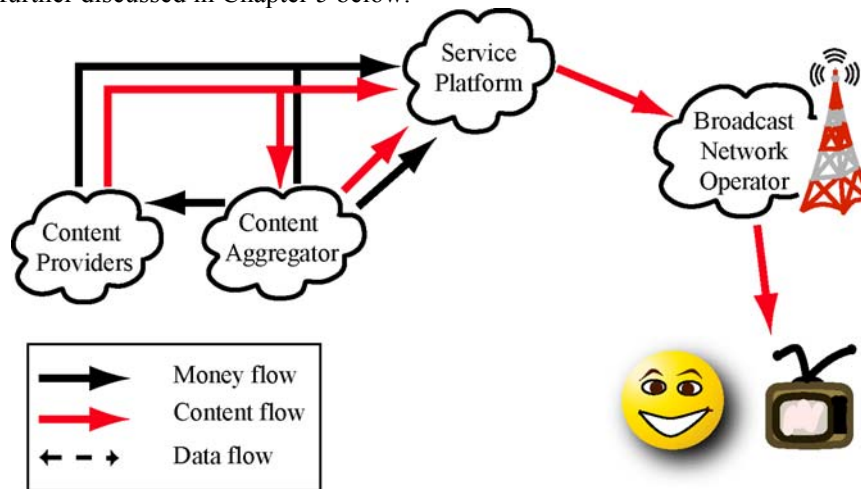
Figure 4.2 The DTV Value Chain

The DTV chain starts with the *content providers*[184], e.g. Universal Studios, TT or Jarowskij. The role of these players in this new mobile TV business remains similar to their role in traditional broadcasting; primarily to produce content. However, the new service will present new business opportunities, e.g. a new distribution channel for existing or re-purposed content, access to new mobile audiences and enabling the use of the distribution channel with limited additional costs. Maizeret also emphasizes that mobile TV will not be ordinary TV in the phone, but rather TV-similar services.[185]

---

[179] www.umts-forum.org (04-19-2004)
[180] Even before considering content costs
[181] Karlsson & Maizeret (04-29-2004)
[182] SCB (04-18-2004)
[183] Karlsson & Maizeret (04-29-2004)
[184] Nokia (2003)
[185] Maizeret (04-29-2004)

Some of the content providers both produce and distribute the content, e.g. SVT, Kanal5, MTV and BBC. Being financed by a governmental license, SVT faces the unusual circumstances of not being allowed to charge the consumer for watching their content. However, the SVT strategy states the mission as reaching out to as broad a public as possible – public service shall be available for everybody. This goal leads them to communicate media in as many ways as possible. To achieve this SVT has identified the possibility of increased income through taking on the content providing role and selling their content to another content aggregator. [186]

The role of the *content aggregators* is to integrate services, provided by others or themselves, through purchasing content from content providers and then selling it through various channels based on their distribution rights. As in traditional broadcasting the success is based upon the ability to identify and obtain the services sought by the consumer since they make money based on the number of subscribers. Thus, the most important thing for these players in order to generate necessary revenues is their relationship with the content providing organizations[187]. TV3, com hem, and Kanal5, three well-established content aggregators on the Swedish DTV market are aware of the present development of mobile TV. They have considered the possibilities and consequences relating to them and carried out discussions with present partners. For the content aggregators participating in the value net involves no revolutionizing adoption of their service. TV3 and com hem both point out that their primary task is to wrap up distribute and sell the content. If the consumer demand mobile TV, and if content - the critical resource - is provided by the content providers, com hem will participate in the value chain, in part because it is important to nourish the long-term relations with the content providers. However, neither player has any concrete plans for the time being and has other priorities.[188] TV3 sees no incentives for creating a distribution channel because they have no consumer relations. Since they are not willing to distribute anything unless receiving satisfactory compensation, TV3 is waiting for the network operators to propose a business model,[189] but they are willing to react as soon as the application is happening[190]. Kanal5 has considered the possibilities of mobile TV and identified two major problems[191]:

- The content purchase contracts often state regulations concerning limitations in what media the content may be shown, e.g. "Friends" must be distributed to a regular sized TV screen and cannot be distributed to a phone. Regarding their self-produced content however, no such limitations exist.

---

[186] Gröndal (04-28-2004); Björkman (05-03-2004)
[187] Li & Whalley (2002) p. 463
[188] Abrahamson (04-27-2004); Karlberg (04-27-2004)
[189] ViaSat is a member in the MTG, which also contains of among others Comviq – a service provider most likely having a relation channel with the consumer…
[190] Abrahamson (04-27-2004); Karlberg (04-27-2004)
[191] Mannerberg (05-05-2004)

- Kanal5 is financed by commercials and must be able to estimate the number of viewers to be attractive advertising agencies. They also question it being their task to drive the development of mobile TV and prefer waiting for the major players to present an interesting business case before getting involved.

The CEO of ViaSat, on the other hand, says that ViaSat has not given mobile TV any thoughts at all[192], neither has Canal Digital[193]. com hem does not anticipate an extended consumer demand for the traditional TV concept in the phone, but rather for complementary services, e.g. ball game results and short video clips of the goals to a sports interested consumer. It is a tough market, not even 3G has yet been accepted and become a hit. In the end, it all comes down to consumer demand. Thus, the right timing is crucial for market introduction and market introduction is predicted to a basic level, followed by a quality modification and supply expansion.[194]

com hem is also a *Datacast Service Operator* controlling the IPDC distribution capacity available on digital broadcast networks. Canal Digital, ViaSat and Boxer are other players in the Swedish market. The capacity is sold directly to content aggregators and the IPDC service takes care of ensuring the protection of the broadcasted content from illegal viewing. The Datacast Service Operation role can be held of other players in the chain as well.

The *operator of the IPDC network* owns and operates the digital broadcasting infrastructure, such as transmitters, mast sites and the necessary connections to the site. The operator may also be the frequency license holder and consequently selling broadcast capacity and coverage to those companies operating IPDC services.[195] In the Swedish market Teracom is the only license holder and IPDC network operator. Teracom is one of the driving players in the DVB organization (see Chapter 4.3 above). The future will tell if Post & Telestyrelsen will parcel out the frequency license to promote competition[196], which would result in difficulties to customize the program offer. Teracom is the key to success for DVB-H in Sweden and the business model proposition of Teracom is of great importance for the future development.[197]

4.6 Players in the Mobile Phone Chain

The players in the mobile phone chain (
Figure 4.3) are the phone manufacturers, service providers (including both mobile network operator and virtual service provider) and the consumer.

---

[192] Levert (05-03-2004)
[193] Värmå (05-03-2004)
[194] Abrahamson (04-27-2004)
[195] Nokia (2003)
[196] Axelsson (04-28-2004)
[197] Güll & Staf (05-06-2004)
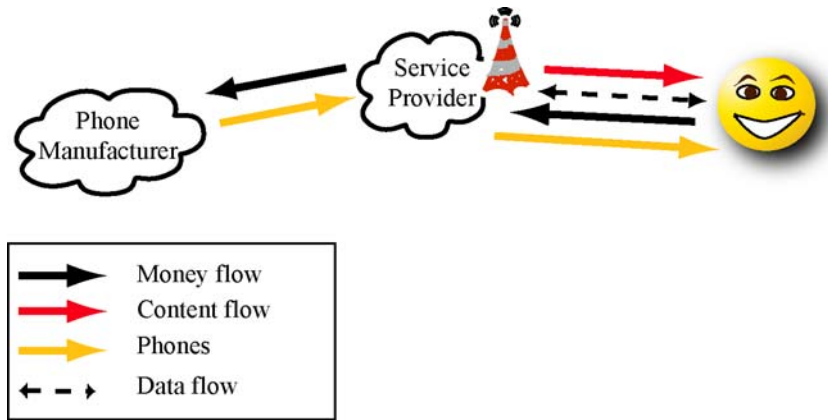
Figure 4.3 The Mobile Phone Value Chain

It is not yet certain whether the role the phone manufacturers and service providers in the new mobile-TV business will differ much from today. Sony and Ericsson (the parents of SEMC) and SEMC are, at least strategically, evaluating the opportunities and possibilities. The selling channel for phones is primarily via service providers who are the customers of SEMC. Thus, as a phone manufacturer it is important to nourish that relationship. The phone manufacturer needs to develop new technologies to enable good reception and usage of the mobile TV service.[198] Service providers provide consumers with voice today. Like the broadcast network, the mobile network operator owns and operates the mobile network infrastructure, holds the frequency license, and often sells network capacity to various service providers.[199] Some service providers see themselves as distribution channels with their previously strong position in the value chain migrating to content providers and consumers.[200]

In the Swedish market the operators Hutchison Whampoa (3), Tele2, TeliaSonera, Comviq and Vodafone have committed huge amounts of capital to build the 3G infrastructure with the result that they need a major part of the traffic and the value-added services that 3G makes possible to justify theses investments. Traffic in the 3G network is important and mobile TV is a complement to available services.[201] However, services offered must attract the consumer and not only exist because they are a technical possibility. A third party provider has to produce content resulting in a need for competence regarding mobile TV production further back in the chain. The producing organization must understand what types of content the consumer finds

---

[198] Nelson (02-18-2004)
[199] Nokia (2003)
[200] Blondell (04-26-2004)
[201] Lavin (04-29-2004); Güll & Staf (05-06-2004)

interesting while the service providers should act as distributors of content and possibly also as marketers of the service.[202]

The service provider Vodafone considers DVB to be an attractive alternative and is curiously looking at the development. However, they have not decided to commit.[203] The same is true for TeliaSonera who even ran a field trial for streaming clips via the 3G network during the Swedish Song Contest 2004.[204] 3 is also studying the development but has not yet identified any obvious advantage with DTV receivers in the phone and find mobile broadcasted TV to be too far off into the horizon.[205] Tele2 is only moderately interested and has done no research in the area.[206] All the service providers point out the importance of having a wide perspective. It is too early to estimate revenue but the players are also afraid of missing chances[207].

At least three phone manufacturers producing phones with TV receivers is the criterion for TeliaSonera to venture and invest in the technology, since that would enable a mass market. The quality of the carrier may differentiate the content and TeliaSonera sees a possibility to charge the content providers based on the quality level and to adapt the content to different screen sizes. TeliaSonera understands that other players expect the service providers to be the main players in a potential mobile-TV value chain, but also identifies many obstacles from their point of view. By handling too much money the service providers risk qualifying as banks, leading to unwanted regulations.[208]

The players believe there will be different opinions regarding what content the consumer will find important. Fun video clips streamed in the 3G network are extremely popular today in the purchasing group age from 20 to 35 says 3, who also believe that content providers and aggregators may build their own portals for the consumer to stream from.[209] Staf think there is a great step from streaming video clips in the present 3G net to broadcasting TV in the phone. Daily news may not be worth paying for whereas breaking news or catastrophes, e.g. September 11th are. To build and hold a service to use only when such things happens is too great of an investment and risk.[210]

---

[202] Güll & Staf (05-06-2004); Blondell (04-26-2004)
[203] Gustavsson (05-03-2004)
[204] Lavin (04-29-2004)
[205] Blondell (04-26-2004)
[206] Svanstein (05-04-2004)
[207] Gustavsson (05-03-2004)
[208] Güll & Staf (05-06-2004)
[209] Blondell (04-26-2004)
[210] Güll & Staf (05-06-2004)

4.7   Sources of Revenue and Possible Business Models

In America the service provider Verizon Wireless offers unlimited usage of the 3G net for a fixed cost of SEK 600 per month. NTT DoCoMo in Japan offers the same service for SEK 270 per month. In Sweden the options are pay-per-usage and download from the 3G net with a cost of SEK 5 -10 per Megabyte. The cost for only five minutes view of Rapport will be SEK 50 - 100. The price difference is explained by the fact that America and Japan are more mature markets.[211]

Sources of indirect revenues are also possible and likely, e.g. through advertising and the return channel traffic. The direct fixed monthly fee for mobile TV and complementary services cannot exceed approximately SEK 75 per month. Because of the possibility to use the existing radio tower infrastructure to build the new network infrastructure, the technical network broadcasters regards the DVB-H as a business based on marginal costs - for all participating players: The input required from the receiver manufacturer is only an extra chip, the service operators may manage the consumer relationship through existing business systems and the content for mobile TV is easily created by adopting existing content.[212]

Some models of revenue flows may eliminate certain players from the service delivering, e.g. a service provider may be downgraded to play a bulk data carrying role and then finds itself operating in a commodity market where the revenue received is based on the amount of data transported rather than on the service value the transport enables. Or, the service provider may end up more lucratively managing the contact with the consumer and having knowledge of the profile of the consumers.[213]

---

[211] Lewan (2004)
[212] Maizeret (04-29-2004)
[213] Blondell (04-26-2004); Li & Whalley (2002) p. 463

5 Empirical Findings– Focus Group Discussions

This chapter gives the reader a description of the important themes and etiquettes discussed during the focus group sessions, analyzed through a thematic content analysis. The findings will be summarized in Chapter 5.4 below.

Three main themes including several etiquettes emerged; (1) general questioning regarding the mobile TV phenomenon; (2) the fact that many functions, service etc. are taken for granted; and (3) obstacles hindering the function. The etiquettes are presented per theme in Table 5-1.

Table 5-1 Themes and Etiquettes of the Focus Groups

THEMES	ETIQUETTES
1. Questioning	• Why?
	• When?
	• What?
2. It is taken for granted	• Access /Technologies
	• Unwillingness to pay
	• Quality requirements
	• Simplicity
3. Obstacles	• Size
	• Battery
	• Memory
	• Easily break down

5.1 Questioning

A consistent theme is why they would want to watch moving pictures, when they would do it, how it would work and what kind of programs would be offered. These etiquettes seemed to function as a landmark to which the participants returned all the time. Mobile TV is strongly questioned and the different obstacles indicate a resistance to the mobile-TV function. Statements like; *"I prefer reading news"* or *"can just as well listen to the news on the radio"* are connected to the etiquette why. *"No dead time"*, *"always on the move"* and *"you can't do anything else simultaneously"* belong to in the etiquette when. This is particularly characteristic for the American groups. They mention that they are always driving and ask for functions to simplify talking on the phone rather than functions such as mobile TV (Example 3). An effect of the fact that Americans often go by car instead of walking or by bus is the lack of "dead time". People are constantly on the move and therefore have not got

time for extra features. These are the times when other nationalities play games, send SMS or add information in their personal calendar (Example 4).

Example 3: **When?**
(U.C.R. 03-05-2004)

Leila: *I think that (?) in LA at least with no public transports you are never sitting someplace being taken somewhere so you don't have a whole lot of just down time you are always like either driving or walking, not that you really walk somewhere, you are always kind of have to be alert rather than just kind of sit down and play with the phone use the Internet or whatever*

Josef: *What if the mobile had a like a GPS function. Then moving pictures would be god.*

Example 4: **When?**
(SISU 03-12-2004a)

Laura[214]: *[…] …And I think the game is very important. Because nowadays we always feel very boring during the traveling and the way to go to one to go back and to back home and I have nothing to do […]*

The question of why is the most distinguished question. No participant spontaneously suggested TV as a function they would like to have in the phone and when introduced to moving pictures in the phone many participants have a hard time to see the need for it and question why they would use it. *"The phone should be used for voice and functions related to voice, music is okay. A camera or TV is not natural to have in the phone"* says Lisa in (Fudan 03-09-2004a). "One Chinese group discussed, in accordance with the N-Gens skepticism to marketing efforts, that technology is integrated in the phone just because it is possible. The Swedish groups were less homogeneous in their opinions and clear splits within the groups could be discerned: In Example 5 below is mobile TV is discussed.

Example 5[215]: **Why?**
(LTH 03-23-2004)

Kalle: ***Varför? Varför skulle jag använda det?***

Mattias: ***Absolut***, *ha TV i mobilen, att kunna titta på små nyhetssnuttar och film-snuttar och sånt det tycker jag är skitkul alltså, det kommer ju*

Everybody: *=nyheter, framför allt nyheter*

? *=Simpsons*
[…]

Andreas: *Ja men man gör det när man sitter och pendlar och sånt, det är då jag spelar Tetris*

Kalle: *=Det känns mer som att man gör det för att man **kan** inte för att man egentligen har nån nytta av det*

Andreas: *= det räcker ju att man pendlar 20 minuter per da eller står i kö eller, det är ju inte så att man sitter hemma och kollar på det men just när man är ute nånstans*

Mattias: *=ja men det är en kul grej!*

---

[214] Most young people Chinese call themselves with either Chinese or English names depending on the situation.
[215] For translation see Appendix 3

Moderator:	*Vilka av er är intresserade av Mobil TV?*
	(Tre av sju räcker upp handen.)
Simon:	*Det är bara ni prylbögar som vill ha det*
Alla:	****
Mattias:	*Ja vi kommer ju att köpa det är så*
	[…]
Kalle:	*Men jag har en kompis som köpte en ny telefon han kunde se musikvideos i telefonen rätt fin bild, det var ju* **fullständigt** *meningslöst att se det! Vill jag kolla på MTV så kan jag ju se det när jag vill ju*
	[…]

One of the benefits of mobile-TV is being able to watch one's national TV programs while being on vacation or on business trips abroad. Breaking news, weather and financial news are the most important programs (Example 6). In the first two cases it is important not only to receive the information but to get it visualized. Sport is also interesting. The participants would like to set up what they like to be notified about and receive an alert when the program starts.

Example 6[216]: **What?**
(LTH 03-23-2004)

Andreas:	*På tunnelbanan har dom det ibland att de visar sådana här text-tv med nyheter och sånt*
Jimmy:	*= Arlandaexpressen har det*
Robert:	*Sen hade det varit bra med information, kanske om man kommer till Arlanda liksom, lite information om vad man kan göra i Stockholm*
Mattias	*=Tidtabeller tycker jag hade varit bra*
	[…]
Robert:	*Jag vill välja på olika headlines och sen tittar man på den*
Kalle:	*Vad skall du ha gubben till?*
	[…]
	Jag menar mer så har att som World Trade Center till exempel då hade jag gärna velat se bilderna
Simon:	*= Det kan du ju göra på TV när du kommer hem!*
Alla:	****
	[…]
Jimmy:	*…det behöver inte vara ett nyhetsankare som sitter där, men bilder från nyheterna*
Andreas:	*= jag läser nog hellre nyheterna då får man en djupare blid av vad som hänt*
Jimmy:	*= om det är en sportsändning är ju bra att kunna* **se** *ju vem som gjorde mål*

Movies are not of interest at all since the screen, the way it is designed today, is too small to watch a two hour long movie. It is also quite common to have a portable PC to use for movies when traveling.

---

[216] For translation see Appendix 3.

5.2 Taken for Granted

Americans ask for guaranteed service. Swedes often have access to broadband at home, in school and at work. Constant access to global information is something the participants seem to take for granted as illustrated in Example 7.

Example 7: **Access**
(Fudan 03-09-2004b)

Moderator:	*Lets say you go abroad, you are out traveling, would you like to watch the Chinese news or would it be okay to watch the Korean or whatever news there are?*
Brian:	*Both*
Moderator:	*Would it be okay just to watch the CNN?*
Marcy:	*I would still care much about the Chinese news*

When mobile TV would be most likely used is when people are bored and waiting for something, typically in the subway on their way to work or school. In one Swedish group the participants mentioned how irritating it was not being able to make calls when too many people are in the same area.

The participants have become very used to constant introduction of new technologies and take for granted that even advanced technology will be integrated in rather low-end, inexpensive products. Kalle (LTH 03-23-2004) says that *"Sony Ericsson producerar tekniska prylar hur snabbt som helst, folk hinner inte med"* which roughly means *"The customer cannot keep up with the Sony Ericsson technology push of today"* when discussing the use of new technologies. On the other hand, there is a clear demand that the quality of the product to be very high and that the products/technologies will be user-friendly and simple to use so that they can, and will, start using the functions as soon as they are available for them. Many of the participants are aware that they, in the future, will start to use functions they today do not see a need for (Example 8), the technology just needs to be developed further. The development of complex technologies are taken for granted and technology issues are not seen as a limiting factor for new products. Kyle (SISU 20-31-2004a) says, regarding new technologies; *"let someone else worry about it, they will fix it"*.

Example 8[217]: **Technology**
(LUSEM 03-25-2004)

Jonas	*[...] Jag har inte saknat att ha en kamera i telefonen men man kommer säkert sitta med en sån telefon om ett halvår ett år, även om man inte saknar det idag... för att de flesta telefoner som säljs idag har en sån och man kommer **säkert** börja använda den också, när man väl har tillgång till den men det är ingenting jag saknar idag*

In America the service provider provides the subscriber with a plan including certain services for a fixed monthly fee. Families often have a family plan that each family member may or may not influence. The service providers have a very strong market

---

[217] For translation see Appendix 3.

position and the consumers have a hard time separating service providers from phone manufacturers; they own a Cingular phone, not a Motorola one for instance.

Someone must pay for services and the participants realize that eventually it comes down to the consumer. In one Swedish group they discussed that a package of services swindle the consumer to think that what they get is for free (Example 9). They recommended putting the charge of the service as far away from they consumer as possible and to cover the costs in something else. However, they are also aware of the fact that once the information is available on the Internet, then no actual additional cost arises for anyone just to make the information available to the users.

Example 9[218]: **Unwillingness to pay**
(LUSEM 03-25-2004)

Nisse:	***Det måste ingå i abonnemanget*** *tycker jag faktiskt*
Lina:	*Ja det måste det göra*
Nisse:	*Jag kan tänka mig åh, jag tycker att abonnemang är bra eftersom dom här 3G-abonemangen som finns nu man betalar en klumpsumma, eh 400 kronor eller någonting, per månaden, och har **tillgång till fritt innehåll***
XXX	*= 400 spänn per månad!*
Nisse:	*= Eh, det är hundra spänn mer än jag betalar idag och det kan jag tänka mig att göra*
Lina:	*= Jaha för att ringa och alltihopa*
Nisse:	*= Ja då ingår allt då skall det ingå, tanka, ja ner en viss mängd information varje månad så mycket att jag kan prata obegränsat eh surfa obegränsat*
Lina:	*Det känns som mer och mer som att taltiden skall vara, den skall vara gratis*
Nisse:	*=Ja det skall vara gratis man betalar bara för att få utnyttja en tjänst, och finns ju inget hinder egentligen det kostar ju inte operatörerna någonting när jag öppnar upp ett samtal framförallt så finns det ju och information kostar ju ingenting*
Jonas:	*Och för det ska du inte betala någonting då? ***
Everybody:	****
Nisse:	*= jo 400 kronor*
	[...]
Jonatan:	*Alltså, jag är inte säker på att jag är villig att betala någonting*
	[...]

Of the participants interested in the service and willing to pay for it, a great majority prefer to pay a fixed monthly fee (Example 10) to get unlimited access to all the services they are interested in, instead of paying per usage or similar. They seem to value mobile TV high and are willing to pay quite a lot (SEK 200 / $10/ RMB 20 per month is mentioned) for the service including unlimited access. It is more acceptable to pay for moving pictures than for music but most worth paying for is user created content. Regular voice uses less network capacity which the participants are aware of since these new services using a lot more capacity have been introduced at a lower price per bit.

---

[218] For translation see Appendix 3.

Example 10: **Unwillingness to pay**
(SISU 03-12-2004a)

Moderator:	*What about for the news, or the concept news? Is it the same thing there that the people prefer a monthly fee or*
Laura:	*=Unlimited?*
Moderator:	*Unlimited, and how much?*
Laura:	*20 RMB*

Chinese are the most likely to be unwilling to pay for services. This may be a result from their pirate copy industry and low income level (Example 11). The Chinese also have quality concerns and are afraid that more integrated functions will make the phone easily broken.

Example 11: **Unwillingness to pay**
(SISU 03-12-2004b)

Ryan:	*If they charge me I won't accept that service! That is sure, I mean it. Just like those news messages, operators provide those news messages and you pay for that but I don't like to accept that service. Because we have access to the Internet everywhere and we can browse it online.*
Grace:	*And the extra technology XXX so many functions because multi-functions means multi-malfunctions*

The interest in receiving commercials instead of having to pay for a service is very low. No one is interested in SMS with commercials or short voice clips a la radio stations. It may become accepted to have a phone co-branded with, for instance, Sony Music or maybe even ICA if that will pay for the service. It may also be accepted to receive commercials as your "screensaver for the day" (Example 12). Best is if each person can choose whether to receive commercials or pay.

Example 12[219]: **Unwillingness to pay**
(LUSEM 03-20-2004)

Moderator:	*Är det tänkbart att få lyssna på en 20-sekunder lång reklamsnutt lite då och då om ni slipper betala?*
Everyone:	*= **Nej***
Sara:	*Grejen är jag skulle kunna tänka mig att när man inte använder telefonen så har ju de flesta telefoner skärmsläckare att det **då** kanske rullar reklam det hade ju inte gjort mig nåt.*

High product and function quality are taken for granted whereas bad quality is seen as a failure of the producing or providing organization. The bad camera quality of the T610 has given SEMC a bad reputation as a manufacturer of camera phones. The same goes for the Internet and WAP. People are used to their broadband at home, in school or at work and find the GPRS function inconvenient. Kicki (SISU 03-12-2004a) comments *"I don't think it is very important for a cell phone to get on the Internet because it is too slow, to me it is not important at all"*. The attitude of previous new mobile functions carrying bad quality is used to conventionalize mobile TV. The first reaction to the concept shows little interest in the product and quality obstacles. Example 13 shows on the other hand that there still is an interest to try out new

---

[219] For translation see Appendix 3.

integrated functions. Functions seem to attract people to buy a certain phone even if the functions are never used.

Example 13: **Quality requirements**
(SISU 2004-03-12a)

Theo: *I think nowadays we have access to so many mobile things like portable PC pocket PC and nowadays more and more players in this market are trying to integrate a phone function to a pocket PC to make it a smart phone. I think this type of product will be very popular especially when Dell and Palm are going to make phones. I am thinking of buying an electronic dictionary and an electronic notebook but if I can find a product integrated all these functions I would buy one.*

Moderator: *Are there any things that you don't want integrated?*

Theo: *I don't know, people are very greedy*

If a function or product carries high quality, the focus group participants who generally were unwilling to pay for anything changed their opinion as Eli (U.C.R. 03-05-2004) did; *"I think the quality of the picture or the quality of the things you want to add on is high quality, I don't think people would mind pay extra for that"*.

"The phone is supposed to make the every day life easier – not more complicated" states Daniel (LTH 03-23-2004). *"What is the use of a phone that can cook, but is difficult to call with"* comments Laura (U.C.L.A. 03-03-2004). *"Simplicity is the keyword"* says Leila (U.C.L.A. 03-03-2004). Functions must be simple in order to be accepted and used. User friendly is the most common phrase used when discussing the advantages and the disadvantages of a phone. Illogical user interfaces (illustrated in Example 14) bothers people and intimidates people from switching from one phone manufacturer to another.

Example 14: **Simplicity**
(SISU 03-12-2004b)

John: *As you can tell I am using a cell phone from the ancient times ** I stick to that one even though I have used a several different cell phones and I still think Nokia is the most user friendly... eum yeah I was fond of that type when I saw it around five years ago and I just got it and I keep to using that one until today [...]*

Attractive functions may entice consumers to buy a specific cell phone. In Example 15 the radio function is seen as fuzzy and therefore not used. Simon (LUSEM 03-25-2004) says that *"Funkar en funktion inte de första två gångerna så testar man inte igen"* which roughly means; you give up trying a function if you cannot make it work the first two times. If the profit is related to the usage the value of the function decreases drastically.

Example 15[220]: **Simplicity**
(LTH 03-23-2004)

Anders:	*Det jag saknar är, som jag hade på min gamla telefon, är en radio som jag tyckte var riktigt praktiskt, en integrerad radio kan jag säga för det finns ju radio till Sony Ericsson sån man kopplar på men det känns bökigt*
Robert:	*Får jag titta på den?*
Anders:	*Javisst självklart*
Andreas:	*Vad jag saknar på min är livslängd som håller lägre än tre dar efter ett halvår batteriet blir ju dött efter ett halvår*
Jonas:	*För att tillägga, jag har ju faktiskt sån där radio i min telefon fast jag använder den i princip aldrig för det hänger ju på att man har med sig det där headsetet som man alltid trasslar ihop fullständigt när man tar det med sig.*

Students and youth of today (the N-Gen) look to the web first for just about everything, tend to take the interactivity offered by the Internet for granted and have an expectation that information will be provided instantaneously. If information isn't readily available, they are unlikely to dig deeper. Especially the American users are used to getting everything served and not looking for information themselves. They do not use many integrated phone applications today and ask for functions that already exist. Leila from Example 16 thinks she has come up with a great idea; to have music or radio functions in the phone. The radio feature has existed for several years without her knowing about it.

Example 16: **Simplicity**
(U.C.L.A. 03-03-2004)

Laura:	*I like the fact that some phones have a radio on it. I just think that is kind of convenient. My phone does it and my friend's phone does.*
Leila:	*Is it real? I think that is the greatest feature. I thought wow… that I could come up with a phone that had a radio or something*

5.3 Obstacles

There are many consumer-perceived obstacles regarding mobile TV. The first obstacle mentioned in the sessions, and it is mentioned immediately after introducing the subject, is the screen size. Everyone finds it logical that the screen size has a major impact on the size of the telephone, and to them; the size matters (Example 17). It is important to have a small phone; the thinness is the most important. To appeal to the consumer, special made content is required (Example 18). Content made for regular TVs are not found very interesting.

Example 17: **Size**
(U.C.L.A. 03-03-2004)

Moderator:	*Would it be ok to have a little bit bigger phone?*
Leila:	*To me size is important*
Maria:	***Size does matter!***

---

[220] For translation see Appendix 3.

Example 18: **Size**
(U.C.L.A. 03-03-2004)

Leila*:*   *I think that it would be better if it was like a picture of something like showing something happening like if there was like, like for example 9-11 like when you kind of see the building but if it was like a guy talking then there is going to be no difference then looking and you can barely see that little lip moving*

Futuristic solutions were invented when discussing the size issue (Example 19). To project the picture or to use special glasses were the most recurring solutions. After discussing such areas the group members seemed less negative to mobile TV. Usually a significant number of the participants were against mobile TV when introduced to the phenomenon, but a slight change in standpoint during the session was discerned as a clear trend. The argumentations helped the participants to let go of their preconceived opinions and to see new possibilities.

Example 19: **Size**
(U.C.L.A. 03-03-2004)

Laura: *I don't know, it would not be as good as watching on a normal TV. It would not be as enjoyable*
Tiffany: *There are glasses that you can like*
Josef: *=There are things like that*
Josef: *If you could guess for the screen to come you like a hologram*
Everybody: ****

Everything that decreases the functionality of the phone is strictly unwanted (Example 20). People ask for better quality of existing features and function, not inferior. It is not good enough to have many attractive functions in the phone if the phone does not attain the basic requirements of today. The basic requirements increase continuously and phone manufacturers must exceed the expectations of the consumer to avoid disappointment.

Example 20: **Memory**
(U.C.L.A. 03-03-2004)

Nancy: *I just think that maybe the more memory, the bigger it is going to be, it is like the same thing with the mini Ipod.*
Clare: *I wouldn't want that if it is going to make my phone slower either, because my phone today has got a lot of features right now but if it takes like a full second to get from function to function and sometimes it is coming on like you are trying to do something and [...] If it is going to affect the memory then the disadvantages are bigger than the advantages.*

One of the overall trends is that the phones are found too intricate. By having the option to pick what functions you like when purchasing the phones or at least be able to turn off functions from the generic content, the problem is solved. A phone with few functions is easy to accept if you have chosen the functions yourself. Another clear trend is the wish of an all-in-one device with a detachable phone. This device would have all the functions of a PDA, MP3 etc. The phone should be very slim and only have voice in it. The other camp asks for a phone with excellent performance in the main area of usage, i.e. voice. The more functions a phone has the more likely it

breaks down. The integration trend is almost found to be stupid by some participants (Example 21).

Example 21: **Easily broken**
(FUDAN 03-09-2004a)

Nina: *I don't think more functions many… I can't imagine when I get back to my home and the wash machine who can sing or can watch TV or can make phone calls no no no. I can't imagine that, it is terrible, and so to me the telephone just is a XXX and the cell phone that can call and send messages and it can communicate with others … and okay with so many functions, and I agree with this boy, I worry that one day it can go wrong.*

5.4   Conclusions of the Empirical Findings

Students participating in the focus groups most likely belonged to the same cohort. The focus group findings were quite similar in the different countries supporting the cohort theory of the N-Gens. Therefore the participants are referred to as the N-Gens in the rest of this thesis. They seemed to have the same defining moments related to the globalization of the world through the Internet. They also seemed to be at the same life stage; students, optimistic about the future, in their later part of the education.

The spontaneous reaction when introduced to mobile-TV is thoroughly negative. The obstacles are too many and the obvious need and the willingness to pay too low. Students generally have a critical attitude since they are used to asking questions until sufficient information is obtained. But students are also used to being introduced to new information and having to look at it from different perspectives. When the discussions had proceeded for a while the attitudes changed slightly and areas of interest arose.

When bored or on the move was the time when TV-like services were found most interesting. With a screen sized like a mobile phone screen one would only look at short clips, such as news, weather or customer created content. The quality of the picture was of great importance and the phone needed to be very simple to use. User-friendliness was often mentioned and the focus group participants expressed a wish to customize the phone and the content, this in accordance with the N-Gens characteristics. To be worth paying for, a service would need to offer added value, such as the ability to purchase concert tickets when looking at a music video. If a function lowers the performance of the phone it is not interesting since the advantage of the service is less than the disadvantage.

6 Analysis

The evolutionary strategists argue the difficulties, or even impossibilities of foreseeing which products will succeed in the market. However, organizations must try. Regarding the telecom industry in general, and mobile TV in particular, the most important factor for success is the presence of strong driving players of means. If these players decide to promote an offering and attempt to mobilize the entire value net to create the complete solution, then the product will be presented to the market. However, presenting the solution is not enough. Adoption includes the free will of the consumer, so the approval of the consumer is crucial. The interesting question is "what is needed for mobile TV to succeed?"

The Chapter Empirical Findings (Chapter 5) discusses the first part of the first purpose: "To find the opinions of the next generation users about mobile TV as an integrated function in mobile phones". The following part of the analysis (Chapter 6.1) discusses the second part of the first purpose: "To find the requirement for mobile TV to be appealing to the consumer".

6.1 An Offering Attracting the N-Gens

The telecom industry is a very dynamic high-velocity industry that continuously needs to satisfy the consumers who, with increasing speed, demand new products. This both requires and gives an opportunity for many different players to enter and affect the industry. The borders are blurred and players take on different roles to gain revenue. The entry barriers in some player groups are low and both new and old players try to match their products to the new and brief windows of opportunity. The constant wish of the consumer to be surprised leads to a very short window of opportunity. In order to be a successful player one needs to, at the right time, hit the right windows of opportunity. In a utopian world the development cycles of new products would, in accordance to the window of opportunity, be short as well. The telecom industry requires advanced technologies, often in need of both standardization and cooperation between players. Thus the development cycles are quite long and the players therefore have to look at a future further ahead with a wide approach. The key to success in high-velocity markets is radical changes obtained by a combination of different technologies and areas.

To discuss the potential of mobile TV the consumer choice is a natural starting point. Unfortunately, the consumer shows very little interest in mobile TV; many obstacles are identified when the need for it is questioned.

The consumer says *"no thank you".*

Consumers of today expect highly volatile markets to constantly present radically new and cool products. Incremental innovations are not enough, the consumers expect to be surprised and one focus group participant said "*The technology is no problem – someone will fix it*". On the other hand one of the Swedish participants said "*The customer cannot keep up with the Sony Ericsson's technology push of today*" because the services are not user-friendly enough. In addition, the consumer of today does not choose a product or a company, their unit of choice is a complete *offering*. Thus, the consumer requires exceptional solutions of an offering which must be completely developed with complementary services. If the product is not satisfying the first few times the consumer gets in contact with it, the interest disappears. The offerings must have good recommendations from media and friends, be user-friendly, the quality has to be exceptionally high and yet the price has to be low. In addition, the N-Gens are critical towards marketing efforts. The Internet has made the N-Gens take individualized content for granted, thus they require being offered a wide range of services to create exceptional and valuable content generating personal solutions. The offering must match their lifestyle and regarding mobile TV TV-on-demand would be taken for granted.

A correctly designed combination of TV and telecommunication services may result in mobile TV as a radical innovation. A shrunk regular TV will not do the job. Mobility is radical, but looking at a TV limits the possibility to perform simultaneous tasks. Therefore mobility is not enough. A mobile TV must be combined with the right related services; resulting in the *offering* to achieve radicalism. New ways of combining activities are producing new opportunities for creating value.

It is probably specific content propositions, rather than traditional TV - which only is interesting to previous cohorts (the middle-age men developing the service), that create substantial and profitable business opportunities. To create this specific content requires an understanding of the consumer preferences. Specific data on usage characteristics, preferences and location are examples of information that enable the providers to create specific and individualized services. The content related opportunities lie not only in providing the content, but also in delivering the content in the right context over the right platform. This maximizes the total consumer perceived value of the content and may therefore enable a profitable business model. Thus, it is not enough to serve a customer need in order to create value – creating value requires providing matching content to what a specific user wants at a specific time. The dimensions that make the content compelling to the consumer can be anything from timeless and quality to community based (see table 6-1), i.e. the available to consume the content 24/7 or the right "hip factors".

Table 6-1 Content Dimensions

CONTENT DIMENSIONS	
Timeless:	Availability 24/7 i.e. stock reports
Quality:	TT-News headlines
Location specific:	Traffic updates, tourist info, bus time tables, weather
Community:	Soccer info
Pre-selected:	Portal contents
User objective:	Product search
Entertainment:	Short TV-series; The Simpsons, Friends
Hip factor:	Fashion, film info, stream music videos

When initially introduced to the mobile TV concept the focus group participants reacted quite negative and uninterested. Some of this resistance can be explained by the persistence of the concept "mobile TV" as just traditional TV transmitted via the phone. Thus, "mobile TV" is not appealing enough as title of the offering. The N-Gens are looking for information and entertainment. The complete offering has to be individualized and enable interactivity. It needs to be a mobile Internet or a mobile information and entertainment TV phone; a mobile infotainment TV; an offering called *"miTV"*.

The following part of the analysis (Chapter 6.2) discusses the second purpose: "To find out what the value chain of mobile TV may look like and if there are incentives for all players required".

6.2 Value Creation through Relationships

There are lots of barriers to mobile TV and heads need to be banged together and personal ambition dropped for the greater good.

6.2.1 The Need for Cooperation

The value chain concept does not apply to the industry reality of today since the reality is more complex than the traditional chain view. Rather than chains of players manufacturing physical components and eventually building the consumer product, the value constructing structure of abstract services including mobile TV will be a complex value system or a value net. The players within this net will be connected by no physical transactions, but still be extremely dependant on each other – all player categories are required and no player alone can create such exceptional complex solution. Instead, a combination of the core competencies of several players is required; the miTV offering needs to be created through cooperation among players all possessing core competences in their specific areas.

Due to the fact that the N-Gens require a complete offering from launch to accept the product, the value net cannot slowly evolve, but has to be actively created from scratch by the involved players. Thus, the initial steps toward the miTV offering are to proactively establish the net. However, a natural reaction to any development or

trend, especially when extensive amount of resources are required to have a chance to success, is to "wait and see" what happens. This inertia in the adoption and diffusion process will, under these new circumstances, result in no development happening. Players of means must cooperate since driving the development is risky and less wealthy organizations, such as Kanal5 and com hem, are waiting for one prosperous solution to discern.

No one player alone can succeed in creating the complete offering which forces the players to share the revenue and invite new, but necessary, players to the partnership even if the revenue per player decreases. Competition today is not between organizations, but between value nets. In the same way value migration is no longer about value migrating within the net, but between nets. Earning income is about catching the interest and getting the attention of the consumers, often only for a short while. Being a couple of steps ahead of the consumer and to attract the consumers to change the area where they spend their money. The key to avoid value migration is by constantly presenting new concepts to the consumer influencing the consumer to want it. The possibility of future income is always the strongest incentive in any business action. The N-Gens are, however, not willing to pay much for any service since so much is practically free; the value nets have no alternative but to cooperate and fraternally sharing the possible income. The N-Gens are, on the other hand, very curious and anxious to have the right image. Therefore they accept new trends, gadgets and attitudes quickly and soon adapt to "the latest thing" no matter if it is iPod, GI-cook-books or camera phones. To constantly rebuild value by studying the consumer is difficult for an organization in a highly volatile market since the consumer does not yet know what is possible and what it wants.

6.2.2 The Need for the Right Partners

Since value consists of a complex offering, cooperation is necessary to achieve the driving forces needed to create value. However, the value net must be composed in the right way including the right players with relationships to the right partner to be successful. Players in both the DTV and the telecom value chain are aware of and interested in the development of mobile TV, but most of them are not actively involved in the current development.

The content aggregators; the broadcasters, have already had their fingers burned by the mobile industry. They were convinced to commit to WAP which did not become the promised hit, despite the popularity of Internet. The potential opportunity of miTV is clear with the mobile user base, but the aggregators still need to be convinced that this is a potential money-making industry. As a result, the aggregators will not be interested unless it is clearly a viable proposition for them and the telecom industry is working together on international standards and platforms.

When first mapping the miTV value net one may think that the content aggregators will carry out the consumer contact as done today regarding DTV. However, the advertising financed content aggregators, e.g. com hem, need to measure the number

of viewers to attract advertisers. The service provider customer base may provide such data. Therefore, the service providers are needed in the value net from the aggregator perspective. The content aggregator would also have difficulties supporting such databases needed to keep good relations to all operators. When content providers talk about their customers in a potential value net they talk about the service providers. The content providers consider the service providers to be the driving force of a mobile TV service and expect the service providers to introduce an interesting business case to them.

The ideal value net partner is one like the broadcast network operator Teracom; an integrative partner constituting a low operating risk and adding value in the form of knowledge, relations and infrastructure. The service providers add value by constituting the link between the value net and the consumer and have the financial means to provide the initial investments required. They are associated with the tele-communication industry by social representations and the potential players in the miTV value net consider them as obvious players in the net, as well as the consumer finds it natural to turn to the service provider to get miTV in their phone. Beyond relationship management and support, a mobile network operator can offer consumer authentication, advanced and cost-efficient billing services, the two-way access necessary for content purchase and the use of other interactive services related to the IPDC service. It is therefore important to ensure the presence of the service providers in the value net. However, their primary focus is to make money for themselves and may therefore also be a partnership risk, thus the service providers will be developmental partners. If not included in the value net, the powerful service providers may exclude phone models with certain functions from their portfolio, drastically limiting the user base. The service providers are even powerful enough to create similar competing services resulting in two different and incomplete mobile TV offerings.

Service providers devoted to the partnership can be integrative instead of developmental. Hence, it is important for other players to be attentive and influence service providers to commit to or retain the cooperation

Several main players in the telecom and DTV industry, such as Vodafone, Nokia, TeliaSonera and Teracom, are involved in different partnerships developing standards and platforms for mobile TV, i.e. DVB-H and MBMS and are thereby already working together today. It is a fact that it is easier to improve existing relationships than to create new ones. It is therefore likely to think that companies working together today, such as content providers and content aggregators, also will do so in the future.

From a value net point-of-view, acquiring the right capabilities to create the right content includes providing the ability to handle the flexibility – constant shifts, in the market. For instance, when a telecom provider acknowledges that news content becomes more interesting to the consumer, it should partner with a publisher to acquire editing capabilities in order to ensure the quality of this product enhancement.

Basically, obtaining access to certain platforms and capabilities requires working together with the right partners.

6.2.3 The most Prosperous Solution

The question is whether the incentives are sufficient to make the players willing to take the investment risk involved in developing the required complex and complete offering? DVB-H using IPDC, a further development of DVB-T is one try. Efforts have been made with cooperation among several main players from both the telecom and the DTV chain to overcome problems characterizing DVB-T, such as limited battery capacity and mobility. Some main DVB-T players are involved in the DVB-H development, which indicates a low belief in DVB-T for mobile TV. DVB-H would, just as DVB-T, need more transmitters to achieve indoor reception. The final standardization actions for DVB-H will be taken during 2004. The fact that an actual standard has been developed indicates a strong belief in the solution of the development companies.

DVB-H alone will not do the job since the N-Gens demand an offering capable to influence and individualize, possibly TV-on-demand with endless opportunities for Internet, shopping, banking etc. miTV needs new technologies requiring new skills, processes and systems. However, the core competences required already exists today in two separate markets; DTV and the telecom. DVB-H is strongly promoted, not only by phone manufacturers and broadcast network operators, but also by service providers. The service-provider involvement in the development indicates a positive standpoint to the integration of DTV in the phone. The service providers must see a potential business case, with themselves involved, in the solution, to be such strong promoters. The 3G networks could be used as the DVB return and interaction channel for interactive and on-demand services. IPDC and 3G have their own specific service control point. Together they complement each other and their systems can benefit from each other. IPDC provides 3G with an efficient broadcast media, while IPDC can use 3G as a control channel and a multicast provider.

Based on the discussion above the new value net, needed to generate a miTV offering, may automatically be formed by merging the DTV and the telecom value chains resulting in a hybrid miTV value net, looking at service convergence and network cooperation between IPDC and 3G platforms (Figure 6.1).
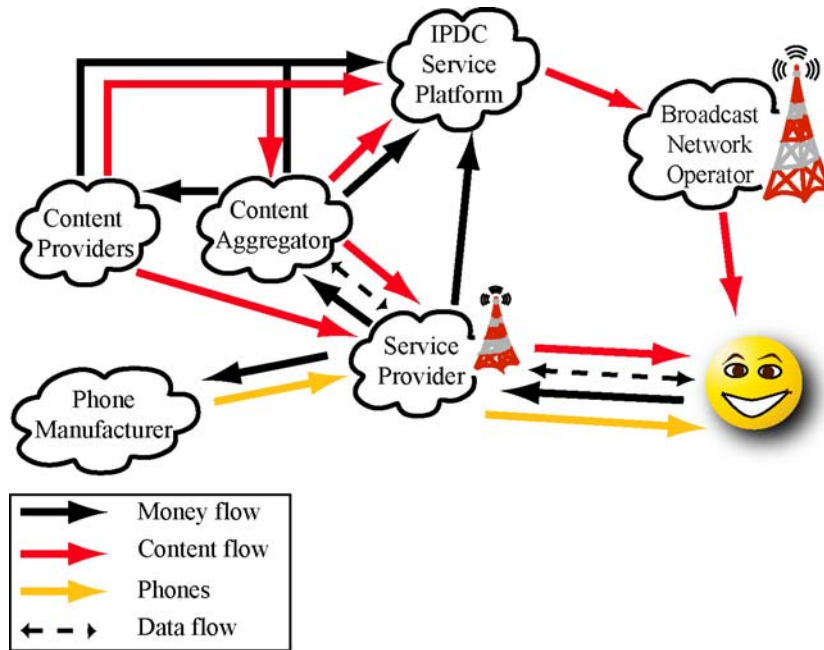
Figure 6.1 The Hybrid Solution

The hybrid solution of IPDC and 3G supports mobility which is one piece of the puzzle to achieve radicalism. The user experience of a dual mode terminal is more than what one system separately can offer that may result in the necessary offering demanded by the N-Gens. Casting technologies can offer links to the chargeable "point-to-point" traffic and that way increase operator revenue streams.

6.2.4 Incentives Speeding Up the Development

Considering the risk the players may see themselves taking while joining the yet un-developed and unwanted mobile TV value net, there must be sufficient incentives to balance and justify the investments. Mobile TV may quite easily be created to result in a business case based on marginal income and low initial investments. However, this will not provide the complete offering the consumer demand. In order to offer a solution that will impress and attract the N-Gens the net must tailor-make content, manufacture phones with built-in receivers, complement the net for indoor reception etc. all meaning extensive investments and risk-taking especially considering the uncertainty deriving from the *"no thank you"* of the N-Gens.

The possibility of future income is always the strongest incentive in any business action. In this industry the technology itself may be a very strong driver. Products are introduced to the market only because the technology possibilities exist and the technology-pushing organization is sure of consumer interest. The fear of "missing

the train"; being left behind seeing the competitors gaining market shares, good-will etc., while having to wait for the next opportunity may also be an incentive to investigate in the potential value net. An organization must dare to take chances. By cooperating with others leading to the ability to offer many alternative solutions, one has the possibility to influence the development and the consumer.

When an international standard is set the transmission equipment and phone manufacturers can increase their volumes and prices will drop. A standard lowers the risk and serves as a driving force for new players to commit. Since the tele-communication industry is a high-velocity industry, it is likely to think DVB-H will serve more functions in the future. The current analog TV frequencies will become available and new broadcast and multicast services can make use of that free space, giving an opportunity for even more service. This will result in even greater revenue. Mobile network operators can also consider using their existing infrastructure to improve indoor reception. This may provide an opportunity for new revenues and reuse of existing sites and infrastructure to improve their return on investment.

All players, including the consumer, will benefit from the hybrid miTV solution if it is correctly implemented. The consumer will get a richer media experience and new services with interactive content offering. The media house, i.e. the content providers, will reach a wider audience and possibility for new content formats and new revenue sources. The service providers will reach many users with one single broadcast technology and the component, terminal and software manufacturers will get the opportunity to manufacture new products.

6.2.5   Risks Slowing Down the Development

There are two player categories that can purposely, or just because of lack of interest, slow down the development of both miTV and regular mobile TV; the content providers and the mobile network operators. The content providers must be interested in creating and providing content for phones, otherwise miTV is unlikely to be developed. If the content is tailor-made, phone adjusted and not just regular TV content, the risk for the content providers to compete with themselves is lowered. Since different kinds of content are needed to satisfy all consumer groups, the content provider role can be powered by new, yet not existing organizations.

The mobile network operators have invested a large amount of money in building the 3G network and are now looking for solutions generating the highest return on investment. The service providers have an advantage compared to other players of the net through their possibility to provide streamed media, a money-making service. As long as streaming media is profitable and does not cause "air jam" the incentives to launch new services is low if the service does not seem likely to return superior profit. A service provider today is the main sales channel for phones. Since DVB-H is not fully developed and lacks complementary services, both content providers and service operators try to make revenues from existing techniques and streaming media. This

may explain why content providers are keen on keeping the service providers in the value net.

The following part of the analysis (Chapter 6.3) discusses the third purpose: "To analyze how SEMC and players in similar situations, being technology pushing, shall manage the phenomenon of inertia in technology innovation adoption resulting in deviations in consumer opinions and industry interests".

6.3   Strategies to Overcome Inertia

A good partnership in a value creating net is not enough to create the successful offering of mobile TV, the miTV offering. The players must also overcome the inertia in the innovation adoption process.

The first part of the assignment formulation and the purpose of the focus group research were to collect consumer expectations and opinions regarding future integrated phone functions. The collected data should found the base for further research of the plausible value chain of the most popular function. The focus group results from three different continents were rather unanimous and indicated a very big interest of music in the phone, but very limited interest in mobile TV.

The consumer says *"no thank you".*

Despite this fact, SEMC, even if very interested in the thoughts of the interviewed students, quite openly ignored the results since they themselves were very confident of the technologies developing.

"*Mobile TV is happening and going to be the next big thing*" answers the industry.

6.3.1   How to Explain the Consumer Behavior

It is impossible for the consumer or anybody else to grasp the range of future technological possibilities. The anecdotes that Thomas Watson estimated the world-wide need of computers to a total of five and the Director of the U.S. Patent and Trademark Office asked the President to liquidate the authority since all innovations already had been invented, are two amusing evidences. The development and progress in every area is so fast-moving that only the experts in a respective area may be up-dated and able to think even further. So, there is little use in asking the consumer of ideas to radical products. However, the consumer is very valuable in generating ideas for incremental innovations. By listening to their attitudes and preferences, and taking these into consideration when creating radically new products or services, the industry can meet their requirements without clearly knowing them in advance.

During the last decade the innovation pace has drastically accelerated and a countless number of new technological devices have been presented as high quality, without

limits. It is cool to carry the latest technique, an image prompted by the technology-pushing organizations. Many of the devices are based on increasing returns (SMS, MMS, camera phone, video clip) and require a large user base to be efficient and generate any user value. The N-Gens, being curious by nature, have tried many of these devices even if they had no actual need. Also being critical, the try-outs have mostly resulted in disappointment. The service or device was more expensive and not as high quality or as user-friendly as promised. In addition, watching TV is not as important nor a common occupation for the N-Gens as for several previous cohorts.

6.3.2   How to Explain the SEMC Perspective

One of the SEMC parents, Ericsson, has historically been, and still is, a very technology intensive organization focused on developing radically new solutions. This atmosphere is brought along to SEMC and blended with the more design and consumer focused Sony. However, the technology admiration is still deeply rooted and the main reasons for such organizations to bringing products to the market may sometimes be summarized in three words; "because they can". Of course the development is meant to satisfy and attract the consumer, but much of what is done comes true only because it is possible, e.g. phones are becoming smaller and smaller containing more and more functions even though these innovations are not demanded or even desired by the consumer. Every technology possibility can be driver enough to introduce a product to the market. However, this attitude can be explained not only by the deeply-rooted technology interest, the competition and the chase for market shares, but also by the awareness of the limitation in using market needs and whishes as ideas to radical innovation.

The ability to support operators in their launch of new services, changing business models and high quality standards in end-to-end solutions remains crucial. So is the continuous further development to create the right image and attract customers and consumers.

6.3.3   How to Manage the Interest Deviations

The literature promotes a market-oriented strategy and has given the technology focused strategies a negative commutation. Technically complex and radically new products often lack the feeling of relative advantage and compatibility, factors other-wise relieving inertia and speeding up the adoption process. Such products do rather radiate complexity, complicated technology and risk, characteristics sometimes even blown-up by the presenting organization. The adoption process will be shorter if the consumer experiences a fit between the innovation and her knowledge frame, and if relative advantages and easy understanding of how to use and for what are experienced. These factors are more easily obtained by market-driven innovations resulting in an aversion towards technology-pushing strategy.

Scholars argue the importance for organizations to generate intelligence about expressed and latent needs of the consumer and producing whatever generates

consumer value. SEMC has obediently adopted this idea and sent the authors to collect consumer attitudes and opinions. Considering the aversion of the focus group participants, this was not a very adequate way of investigating the potential of the product. The participant needed much time and answers to many questions before understanding and eventually accepting the offering. Consumer research is often quite useless for generating radical innovation ideas. For new products to become the desired successful radical innovation the product must be the result of both technology-pushing and market-oriented response in a dual drive strategy (Figure 6.2) The core competences of the organization or even the total core competence of the entire value net, the technology fascination and admiration are the source of the radical ideas and a spot at the technology frontier expected by the market.
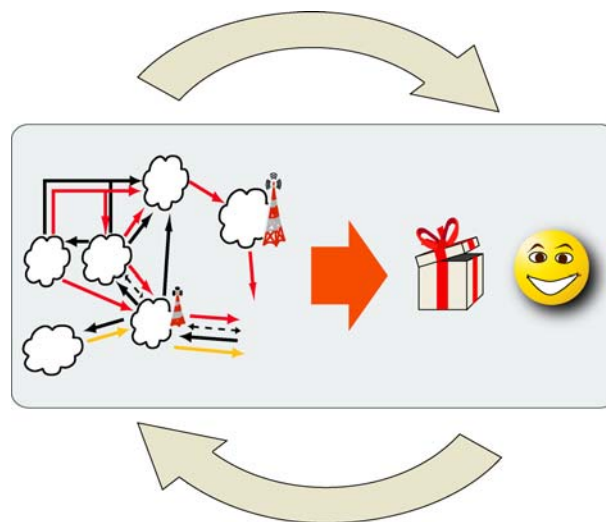

Figure 6.2 The Successful Solution

In high-tech and high-velocity markets it is not possible to rely on the market-driven ideas of the consumer since the radical product is still unknown, there cannot yet be a market drive. Today the consumers think of SEMC as technology pushing and do not feel able to keep up with the SEMC development pace because they do not understand the new technology, the one they expect and demand. However, especially considering the long development time cycles of radical innovations, SEMC cannot fall for the temptation of just being market-driven. Instead the consumer has to be taken into consideration, preferably though a market-driving approach.

To be market driving requires a discontinuous leap in the consumer value proposition and a unique business system. The value-proposition leap can be achieved by presenting a high quality, complete and expectation-exceeding offering. In fact, the offering must include an extraordinary consumer value to attract the N-Gens. This will be fulfilled if the traditional broadcasting is accompanied with complementary

services. An organization cannot create this complete offering with complementary services by itself. Organizations must cooperate in a unique business system. This system will not only include the main customers, but also with the entire net of organizations together creating the value proposition, e.g. SEMC has not come up with the mobile TV idea, but it is enough if one player within the net has come up with the idea. If all organizations cooperate a value-creating net will be much more competitive than a value-creating organization. The boundaries of industry segmentation will automatically be re-drawn since this specific miTV offering requires two different industries and separate value chains to merge into one new value-creating net.

Characteristic for market-driving products is that the consumer has to be taught what for and how to use the product. The consumer needs a quite long period of time to understand and accept a product. In the N-Gens case this is especially important because even if the N-Gens are curious to try out new things, they are impatient and do not give the product a second chance if they do not understand how to use it the first time they came in contact with it. However, if the offering succeeds in attracting the N-Gens "at first sight" the much extended technology frame of references of the N-Gens will result in an accelerated adoption and learning process. miTV is an improved combination of two quite well-known products; mobile phone and TV. The mobility and completeness, not the complexity, makes the miTV offering radical. The learning process should be easily overcome as long as it is presented in a user-friendly package.

Radical innovations require a quite long development period of time even if the window of opportunity is short. For mobile TV several years will pass until the complete miTV offering is ready to be introduced to the market. This means that there is plenty of time to educate the consumer about the miTV offering and to create a need for miTV. The most effective way to attract the interest of the N-Gens is to give the miTV a high "hip factor" and to make people think of miTV as a part of a life style in the same way as iPod is marketed.

Another factor important to balance is the price point and marketing actions. The focus group participants stated that they do not mind paying for a high quality offering. By "paying for" they mean maximally SEK 200 per month. No consumer mass market is willing to carry the initial cost for building the system so the miTV offering has to be introduced at a consumer acceptable price point. However, for the offering to succeed, it needs to initially attract a mass market which will generate high revenue from the market introduction. An extended user base is also needed for the content aggregators financed by commercials. The marketing actions required to create the initial demand can be combined with the education action. Also, media should be easily convinced to promote the miTV since it is really is an offering in their own best interest.

6.3.4 Triple Drive

The customers of SEMC are very powerful and dictate service providers, who are basically the only channel to the consumers. Evidently SEMC is dependent on the operators and need their approval so that they will buy the phones and sell them further to the consumer. The service provider must be part of the market-driving organization, but extended efforts will be required by SEMC to receive the approval of the service providers. Thus a dual drive strategy is not enough. SEMC has to have a market-driven approach towards the service providers. Thus, a *triple drive* strategy is required.

7 Conclusions

In this chapter the authors describe their most important conclusions. These fulfill the purpose and give answers to the research questions in the introduction chapter. The implications are followed by areas of interest to further research.

7.1 Concluding Discussion

In the focus group literature several risks and disadvantages of "buddy groups" are high lighted. Our study with N-Gens as target group shows the opposite; the reactions of the friends explained further the statements of the person talking. The N-Gens are strong individuals used to argument for their opinions and are not afraid to promote attitudes contradicting the rest of the group. Therefore an adjustment of the existing focus group theory is necessary: To attain valid as well as explanatory results regarding the N-Gens we recommend a combination of "buddy groups" and groups where the participants do not know each other.

In line with the theory stating that consumers are bad at generating radical innovation since this exceeds their imagination, we recommend focus group studies only as a research method if searching for attitudes and opinions, not straight-forward answers about new technology innovations.

Cohorts are characterized by their defining moments. These moments are often cultural specific. However, regarding the adoption of new technology innovations of the N-Gens, our focus group research, carried out in three continents, show no differences. Thus, this fact in combination with the hybrid solution presenting a complete offering, gives the solution global potential.

The N-Gens are spontaneously negative when first introduced to the mobile TV concept. We believe that this resistance can partly be explained by the perception of the concept "mobile TV" as just traditional TV transmitted via the phone. The N-Gens find neither need nor use for this kind of service. To become appealing to the N-Gens the offering must be perception as mobile, interactive, individualized information and entertainment. For this to be achieved the offering should be launched as mobile infotainment TV, entitled *"miTV"*. In addition, based on earlier experiences the N-Gens only identify obstacles negative for the mobile TV concept. This is a consequence of the resistance towards new concepts before understanding how to benefit from them. Even if being curious and technologically advanced, the N-Gens need time to get used to new ideas. This is why the industry needs to proactively educate the users along with marketing efforts prior to market introduction.

© Pettersson & Rydholm

These educational and marketing actions are also important to have a wide user-base already at launch. This user-base is required to attract the players to cooperate and together create the value net necessary to form a complete miTV offering. This complete offering is the only thing able to change the opinions and match the conditions of the N-Gens. All conditions taken for granted by the N-Gens, e.g. easy-to-use, exceptional quality, individuality and interactivity, for instance TV-on-demand, have to be fulfilled and their expectations exceeded. Otherwise the N-Gens will not adopt the solution. However, if these tough conditions are met the N-Gens will economically value the mobile TV service higher than other phone services.

The most prosperous solution that meets these requirements is the hybrid solution. This offering requires active involvement by all players in the DTV value chain as well as the service providers, the telecom industry players with the most extended possibilities to affect the evolution of mobile TV. The DTV have to contribute with knowledge of TV and relations within the TV industry. The service providers have to contribute with knowledge of, and established relationships with, the consumer. Both value chains have to contribute with their respective core competence and form a value-creating net with the capability to create an offering attractive enough for the N-Gens. The hybrid solution is likely to happen even in the United States since the main American broadcasting network operator is a member of both the DVB Organization and the IPDC Forum. This player is today globally growing.

This value net has to compete together to catch the brief interest of the unpredictable N-Gens. Cooperation within the net is the only way to avoid value migration, i.e. value migrating to other nets that catch the interest of the changeable N-Gens. Within the value net the players have to fraternally share the profit and avoid competing with each other. If an appealing enough offering is presented to the market the profit will be high enough to share and still make a strong incentive to participate.

When studying different business model possibilities and technical solutions the service operators do not appear to have an essential role in this value net. However, the other players in the net perceive the services operators as having an obvious role regarding all phone issues. Therefore, participation of the service provider is necessary for further development of the solution. This does not cause any problem since major service providers show a big interest in, and in some cases even have started pilot projects of, the service. Since economically strong players within the net promote and develop the service, mobile TV is happening.

To survive the market competition a technology-pushing strategy is necessary. Even though the N-Gens both require and expect radical innovations, they need to feel that the development is based on their opinions and preferences to speed up the adoption process. However, customers cannot contribute with radical ideas since these exceed the imagination of the customers. Therefore this market requires a dual drive strategy based on technology-pushing and market-driving, not market-driven, approaches.

A fact complicating the situations for the phone manufacturers even more is that their customers are powerful and demanding service providers. These service providers continuously demand customized phones. Thus a market-driven approach is necessary to match their demands resulting in the requirements of a triple drive strategy.

The implications presented above for overcoming inertia are not specific for mobile TV. The themes and etiquettes of the focus group participants were similar in all three markets and for all innovations discussed. High-tech players in various markets face these global themes of the N-Gens and consequently have to manage them. Based upon our research and the resulting conclusions stated above we recommend all these players to implement a dual drive strategy.

7.2   Conclusions

- Focus group research with participants belonging to the N-Gens should be conducted through a combination of "buddy groups" and groups where the participants do not know each other.

- Focus group studies should only be used as research method if searching for attitudes and opinions, not straight-forward answers about technology innovations.

- Since the N-Gens is a globally relatively homogenous cohort, the hybrid miTV solution has global potential.

- For the mobile TV to become successful several requirements have to be fulfilled:

  - The mobile TV offering has to be launched as "miTV" signaling more than just regular TV.

  - The miTV offering has to be complete including all the characteristics taken for granted by the N-Gens.

  - The industry needs to proactively educate the users along with marketing efforts prior to market introduction of the miTV offering.

- The most prosperous miTV solution is the hybrid solution requiring involvement of players in the DTV value chain as well as mobile phone chain players in a value-creating net. This solution is likely to happen even in the United States.

- To enable the creation of an attractive miTV offering the value net players has to cooperate and fraternally share the profit. Only then the profit will be high enough to share and still make a strong incentive to participate.

- The service provider must participate in the development of the miTV solution. In addition, the participation of these economically strong players ensures the development.

- This market requires a dual drive strategy based on both technology-pushing and market-driving approaches.

- The phone manufacturers also need a market-driven approach towards the service providers resulting in the requirements of a triple drive strategy.

- To overcome inertia, all high-tech players targeting the N-Gens, must implement a dual drive strategy.

7.3 Further Research

From the discussions carried out in the analysis some areas of interest for further research have been identified. Some of these are of special interest for SEMC, while others are of more general interest and importance.

- This study only discusses the opinions of the N-Gens. To fully clarify the phenomenon regarding attitudes and inertia in innovation adoption of the population all other cohorts need to be studied.

- After having conducted a large number of interviews with the potential net participants we have concluded that most of them identify sufficient incentives to invest resources in the value net. To verify this, the exact reimbursement levels demanded need to be mapped and related to the price tolerance of the consumer. The profit possibilities also need to be related to the initial costs for building the complete offering and bringing it to the consumer.

- This thesis is, in part, based on a thematic content analysis of the focus group material. The authors do not find the focus group method to be the most appropriate method when investigating future issues. The same issues should be investigated by other qualitative methods to validate the result.

- Further work can be done elaborating on product realizations, attractive service offerings, target groups, market segmentation, as well as direct business opportunities. These questions are interesting both for SEMC and other players in the value net.

- The thesis and the conclusion promote cooperation. The authors are aware of the problems regarding cooperation, e.g. needed information sharing etc., and that cooperation is more easily promoted than performed. Thus, a further research regarding what specific information sharing is required and the willingness of the involved players to actually support this.

List of References

Literature

Abnor, I. & Bjerke, B. (1994) *Företagsekonomisk metodlära*; Studentlitteratur; Lund

Ahamavaara, K., Jorma, P. & Raivio Y. (2003) Broadcast and Multicast Services in Mobile Networks; *nds2.ir.nokia.com/downloads/aboutnokia/research/library /mobile_ networks/MNW9.pdf*; (accessed April 2004); pp.1-2

Alchian, A. A. (1950) Uncertainty, evolution and economic theory; Journal of Political Economy; vol. 58, issue 3, pp. 211-221

Alvesson, M. & Sköldberg, K. (1994) *Tolkning och Reflektion*; Studentlitteratur; Lund

Avishai, B. & Taylor, W. (1989) Customers Drive a Technology-Driven Company: An Interview with George Fisher; *Harvard Business Review*; Nov-Dec 1989, pp. 107-114

Barney, J. B. (1986) Organization culture: can it be a source of sustained competitive advantage; *Academy of Management Review*; vol. 11, issue 3, pp. 656-665

Beard, C. & Easingwood, C. (1996) New Product Launch, Marketing Actions and Launch Tactics for High-Technology Products; *Industrial Marketing Management*; vol. 25, pp. 87-103

Berg, M., Butterfield, S., Cosmans, J., Casagranda, P., Garrec, D., Guiraudou, M., Martinez, G., Launay, E., Mazieeres, B., Milanesio, D. (2003) Cismundus: Convergence of Digital Broadcast and Mobile Telecommunications; *www.brunel.ac.uk/project/Cismundus/pdf* (accessed April 2004)

Betti, D. & Delaney, J. (2003) Mobile video services: the fourth screen; *www.ovum.com* (accessed 04-01-2004)

Billing, M. (1996) *Arguing and Thinking. A Rhetorical Approach to Social Psychology*; 2nd ed.; Cambridge University Press; Cambridge

Brabazon, T. (1999) Value Migration; *Accountancy Ireland*; June

Chaib, M. & Orfali, B. (2000) Preface, *Social Representations and Communicative Processes*; Jönköping University Press; Jönköping

Clark, N. (2004) Wireless: Quick, the cellphone: I want to watch TV; *International Herald Tribune*; (April 19, 2004)

Crawford, M. C. (1991) The Dual-Drive Concept of Product Innovation; *Business Horizons*; May-June 1991; vol. 34, issue 3, pp. 32-39

Curtis, T. (2000) Technology driven or market led – the new product development trap; *Engineering Management Journal*; Aug 2000; vol. 10, issue 2, pp. 197-204

Dong, D & Saha, A. (1998) He came, he saw, (and) he waited: an empirical analysis of inertia in technology adoption; *Applied Economics*; vol. 30, issue 7, pp. 893-905

Eisenhardt, K. & Martin, J.A. (2000) Dynamic Capabilities – What are they?; *Strategic Management Journal*; vol. 21, pp. 1105-1121

Ensor, J. G. (1996) The Role of Strategic Marketing; *Marketing from an Engineering Perspective*; issue 172, pp. 8/1-8/3

Eriksson, L. T. & Wiedersheim-Paul, F. (1997) *Att utreda, forska och rapportera*; Liber Ekonomi, Malmö; Sweden

Feder, G., Just, R.E. & Zilberman, D. (1985) Adoption of agricultural innovations in developing countries: a survey; *Economic Development and Cultural Change*; vol. 33, issue 2, pp. 255-299

Geroski, P. A. (2000) Models of technology diffusion; *Research policy 29 (2000)*; pp. 603-625

Grant, R. M. (2002) *Contemporary Strategy Analysis, concepts, techniques, applications*; 4th ed.; Blackwell Publisher Inc.; Malden; MA

Hamel, G. & Prahalad, C. K. (1994) *Competing for the future*, Harvard Business School Press, Boston

Herbig, P. A. & Day, L. (1992) Customer acceptance: The key to successful introductions of innovations; *Marketing Intelligence & Planning*; vol. 10, issue 1, pp. 4-17

Holme, I. & Solvang, B. (1991) *Forskningsmetodik*; *Om kvalitativa och kvantitativa metoder*; Studentlitteratur; Lund

Holšánová, J. (1998) Att byta röst och rädda ansiktet. Citatanvändning i samtal om 'de andra'; *Språk och Stil*; issue 8, pp. 105-133

Horvath, L. (2001) Collaboration: the key to value creation in supply chain management; *Supply Chain Management: An International Journal*; 2001; vol. 6, issue 5, pp.205-207

Jovchelovitch, S (2001) Contextualizing Focus Groups: Understanding groups and cultures; *Paper prepared for the V Meeting of the Group "Conversation et Langage" Laboratorie Européen de Psychologie Social*; Paris

Jaworski, B. J., Kohli, A. K. & Sahay, A. (2000) Market-driven versus driving markets; *Journal of the Academy of Marketing Science*, vol. 28, issue 1, pp. 45-54

Kevern, J. & Webb, C. (2000) Focus groups as a research method: a critique of some aspects of their use in nursing research; *Journal of Advanced Nursing*; vol. 33, issue 6, pp. 798-806

Kothandaraman, P. & Wilson, D. T. (2001) The Future of competition, Value-creating networks; *Industrial Marketing Management*; vol. 30, pp. 379-389

Kumar, N., Scheer, L. & Kotler, P. (2000) From Market Driven to Market Driving; *European Management Journal*; vol. 18; issue 2, pp. 129-142

Lewan, M. (2004) Japan och USA brädar Europa på 3G; *Ny Teknik*; (March 24 2004)

Li, F. & Whalley, J. (2002) Deconstruction of the telecommunications: from value chains to value networks, *Telecommunications Policy*; p. 454

Linell, P. (1982) *Modeller och metaforer för kommunikation*; Linköpings Universitet; Linköping

Linell, P. (1998) "*Approaching Dialogue. Talk, Interaction and Contexts in Dialogical perspective*"; Amsterdam

Lynn, G.S., Morone, J.G. & Paulson, A.S. (1996) Marketing and discontinuous innovation: the probe and learn process, *California Management Review*; vol. 38, pp 8-73

Mathur, S & Kenyon, A (1997) *Creating Value: Shaping Tomorrow's Business*; Oxford, Butterworth-Heineman

Matsuno, K. & Mentzer, J. T. (2000) The effects of strategy types on the market orientation – performance relationship. *Journal of Marketing*; vol. 64, pp. 1-16

Meredith, G. E. & Schewe, C.D., with Janice Karlovich (2002) *Defining Markets, Defining Moments - America's 7 Generational Cohorts, Their Shared Experiences, and Why Business Should Care*, Hungry Minds, Inc., New York

Moscovici, S. (1984a) "The Phenomenon of Social Representations"; *Social Representations*; Cambridge University Press; Cambridge

Moscovici, S. (1984b) "The Myth of the Lonely Paradigm: A Rejoinder"; *Social Research*; Issue 51, pp. 939-967

Moore, G. (1994) Crossing the consumer chasm; *Upside*; vol. 6, issue. 8, pp. 14-16

Moreau, C. P., Lehmann, D. R. & Markman, A. B. (2001) Entrenched knowledge structures and consumer responses to new products; *The Journal of Marketing Research*; vol. 38; pp. 14-29

Morgan, David L. (1996) Focus Groups, *Annual Review of Sociology*; vol. 22, pp. 129-152

Nayak, P. R. & Ketteringham, J.M. (1993) *Breakthroughs*; Mercury; Oxford

Neuendorf, K. A. (2002) *The Content Analysis Guidebook*; Sage Publications; Thousand Oaks; California

Nokia (2003) IP Datacasting – Bringing TV to the Mobile Phone (Nokia White Paper); *www.ipdcwhitepaper2_2004.pdf* (accessed April 2004); pp. 2-6

Norrman, R. & Ramirez, R. (1993) From value chain to value constellation: designing the interactive strategy; *Harvard Business Review*; July-Aug 1993, vol. 71, issue 4, pp. 65-78

Paulsson, U. (1999) *Uppsatser och rapporter – med eller utan uppdragsgivare*; Studentlitteratur; Lund

Pelham, A. M. (1999) Influence of environment, strategy, and market orientation on performance in small manufacturing firms; *Journal of Business Research*; vol. 45, pp 33-46

Peters, L. S. (1999) Inter-firm knowledge management and technology development in radical innovation; *Portland Int. Conf. Manage. Eng. & Techno. PICMET*; vol. 2, pp. 179-185

Porter, M.E. (1985) *Competitive Advantage*; Free Press; New York

Quinn Patton, M. (2001) *Qualitative Research & Evaluation Methods*; Sage Publications; Inc.; Thousand Oaks, California

Rajeev, K. (2002) Supply Chain: Managing Value; Dealerscope; vol. 44, issue1, pp. 48-49

Rogers, E. M. (1976) New product adoption and diffusion; *The Journal of Consumer Researc*; vol. 2, issue 4 (March 1976) pp. 290-301

Rogers, E. M. (1995) *Diffusion of innovations*; 4th ed.; The Free Press; New York; NY

Sahay, B. S. (2003) Supply Chain Collaboration: The Key to Value Creation; *Work Study*; vol. 52, issue 2, pp. 76-83

Saaksjarvi, M. (2003) Consumer adoption of technological innovations; *European Journal of Innovation Management*; vol. 6, issue 2, pp. 90-100

SCB "Genomsnittlig tid för Fritidsaktiviteter efter familjecykel år 2000/01" (Population 24-80 years; All days); *www.scb.se* (accessed 04-29-2004)

Schuller, V. (2000) Broken Links; *Communications International*; Dec, pp. 75-78

Sherif, M.H. (2003) Technology substitution and standardization in telecommunication services; *Standardization and Innovation in Information Technology, 2003. The 3rd conference on*; *IEEE*; pp. 241-252

Slater, S. F. & Narver, J. C. (2000) Intelligence generation and superior customer value; *Journal of the Academy of marketing Science*; vol. 28, issue 1, pp120-127

Sloan G. (1998) Focus group interviews: defining clinical supervision; Nursing Standard; vol. 12, pp. 40-43

Slywotzky, A. (1996) Value Migration: How to think several moves ahead of the competition; *National Productivity Review*; vol. 15, issue 2, p.120

SOU 2004:16 Digital Radio pp. 140-143

Takezaki, N. (1998) Competition and cooperation in the global telecom market; *Computing Japan*; vol. 5, issue 8, pp. 17-20

Taylor, P. (2003) Entertainment Market: Value Chain Evolution & Platforms Analysis; *Ericsson Strategic Planning Session*; (11 November 2003)

Tuominen, M., Rajala, A. & Möller, K. (2004) Market-driving versus market-driven: divergent roles of market orientation in business relationships; *Industrial Marketing Management*; vol. 33, pp. 207-217

Tushman, M. & Nadler, D. (1986) Organizing for innovation; California Management Review; vol. 28, issue 3, pp. 74-93

Ulrich, K.T. & Eppinger, S.D. (2000) *Product design & Development*; McGraw-Hill Higher Education; International ed.; United States of America

VTT (2003) Mobile Television – Technology and user experiences: Report on the mobile TV project; http://www.vtt.fi/inf/pdf/publications/2003/P506.pdf (accessed April 2004); pp. 17.ff

Webb, J. & Gile, C. (2001) Reversing the Value Chain; *Journal of Business Strategy;* March/April 2001, vol. 22, issue 2, pp. 13-18

Whittington, R. (2002) Vad *är strategi – och spelar den någon roll?*; Liber AB; Malmö

Wigblad, R. (1997) Karta over vetenskapliga samband - Orientering i den metoddjungeln samhällsvetenskapliga; Studentlitteratur; Lund

3GPP2 (2004) Broadcast/Multicast services – Stage 1, Revision A; *http://www.3gpp2.org/Public_html/specs/S.R0030-A_v1.0_012004.pdf* (accessed 04-22-2004)

Electronic sources

www.canaldigital.com	04-15-2004
www.dtg.org.uk	04-15-2004
www.dvb.org	04-19-2004
www.fub.it/dvb	04-19-2004
www.ipdc-forum.org	04-15-2004
www.mobileoffice.co.za	02-14-2004
www.swedlab.com	04-19-2004
www.umts-forum.org	04-19-2004

Interviews

Abrahamsson, Christer	Technical Strategy Manager, com hem	04-27-2004
Alvi, Haroon	Head of Application Planning, Sony Ericsson Mobile Communication	12-18-2003 01-29-2004
Axelsson, Lars-Erik	Dep. of Supervision & Competition, Post & Telestyrelsen	04-28-2004
Björkman, Per	Head of Media & Technology Development, Sveriges Television	05-03-2004
Blondell, Björn	Business Developer, 3	04-26-2004
Cronström, David	Business Strategy Senior Manager, Sony Ericsson Mobile Communication	Continuously throughout the Spring.
Erlingsdottir, Gudbjörg	University Senior Teacher, Lund University	02-06-2004 02-09-2004
Gröndahl, Aulis	Project Manager, Strategy Dep., Sveriges Television	04-28-2004
Gustavsson, Arne	Business Development & Key Projects, Vodafone Sweden	05-03-2004
Güll, Martin	Business and Service development, TeliaSonera	05-06-2004
Karlberg, Henrik	Assistant to CEO of MTGSverige	04-27-2004
Karlsson, Tore	R&D Engineer, Teracom	04-28-2004 04-29-2004
Lavin, Ove	Responsible for long-term business analysis, TeliaSonera	04-29-2004
Levert, Martin	CEO Viasat Satellite Services	05-03-2004
Maizeret, Frèdèric	Business Developer, Teracom	04-29-2004
Mannerberg, Carl-Fredrik	Head of Distribution, Kanal5	05-05-2004
Nelson, Joakim	Head of Business Strategy, Sony Ericsson Mobile Communication	Continuously throughout the Spring.
Rendahl, Jan-Erik	Professor, Ergonomic & Aerosol Technology, Lund University	02-19-2004
Staf, Oskar	Produkter och tjänster, TeliaSonera	05-06-2004
Svanstein, Henrik	Fight Management, Tele2	05-04-2004
Värmå, Magnus	Head of Technology, Canal Digital	27-04-2004

Appendix 1 – Moderator Guide

Introduction

Moderator to introduce research and himself:
- Name and writing Master thesis…
- *Purpose of session*: Explain that this session will involve their interest in new integrated devices in the cell phones.
- Want their honest views; there are no right or wrong answers
- Explain that they may say whatever they like about different brands/companies in the business. The company behind this research will become clear later in the discussion, but they do not need to care about it.
- Set-up:
  - Ignore the technical possibilities of today /Ignore the costs of things
  - We will play a passive role, not asking leading questions and communicate with the participants with the help of stimuli such as pictures and printed words.
- Explain that the session will be video and audio recorded
- The group discussion will last for about two hours, no breaks
- Any questions before session starts?

Respondent introductions:

- Ask each respondent to introduce himself: name, major, relationship towards technology?

Mobile Phones Owned

Objective: To focus the group on the subject of the group discussion and to understand what is important to them when they buy a mobile phone and why

Moderator to ask respondents to place their mobiles on the table for all to see

- *How long have you owned your current phone?*
- What is the most important aspect of your phone, what motivated buying that one?
- How do you make use of your mobile phone, aside from making calls, e.g.
  - Play games?
  - Using the camera?
  - SMS? MMS?
  - E-mails? WAP?
  - Listen to radio?
  - Alarm clock, calculator?
  - Other?
  - Has your usage changed?

- When do you plan to buy a new phone? What will be important for your choice? Is it important to have "the latest"?
- Then do you **not** bring your phone? (Why not, what would it take to get you to do?)

New Devices

<u>Objective:</u> To see if they have an idea about what the phone can be used for and what they spontaneously desire.

Moving Pictures

<u>Objective:</u> To understand if they have an idea about what the phone can be used for and what they spontaneously want
Interest

- Do you find it interesting to watch moving pictures on the phone

Range
- At what occasions would you like to be able to watch moving pictures?
- Is it important to be able to watch different channels?
- Do you take for granted to be able to watch moving pictures in all countries, like for instance when you are traveling?
- Is it ok to only be able to watch Chinese channels in China?
- Are global or local channels most important?
- Are you interested in watching movies or news?
- Are you interested in watching short trailers of, for instance, movies?

Features
- Is the cell phone screen to small to use as a TV screen?
- Are you interested in a larger phone in order to get an improved screen?
- Screen quality?

Music

<u>Objective</u>: To understand if they have an idea about what the phone can be used for and what they spontaneously want.

Interest
- Do you find it interesting to listen to your favorite music via your phone?

Downloading
- In what situations would you like to down load music?
- How would you like to do the down loading?
- Is it important to be able to down load and listen "I REALTID"?

Save
- Would you like to save the music on some kind of a memory?
- Would it work to down load the music via your computer?

Quality

© Pettersson & Rydholm

- Is the quality of great importance?
- Supply:
- Would you require all your favorite artists to be available? (national/ international)

Pay Method

Music:
- Are you willing to pay for music? / Are you used to get music for free?
- Pay per download or a monthly fee?
- What is a reasonable fee per alternative?
- Jalda/Pre/Post
- Commercials

Moving pictures
- How would you like to pay for the service, per program or a monthly fee?
- Would you accept commercials to get a lower price?
- Jalda/Pre/Post
- Commercials

Concluding Phase

THANK AND CLOSE
GIFTS ☺

Appendix 2 – Transcription Conventions

,	short pause, without termination intonation
.	termination intonation, often combined by a pause
…	longer pause, no termination intonation, indicates hesitation
=	the turns comes immediately after each other
**	laughter in the voice
[…]	a short sequence is left out
inter-	interrupted word
<u>underlined</u>	concurrent speech
fat	clear emphasis
XXX	unhearable word
(?)	uncertain transcription

Appendix 3 – Transcription Translations

Example 5: **Why?**
(LTH 03-23-2004)

Kalle: ***Why? Why would I use it?***

Mattias: ***Absolutely***, *I really like having stuff like that, being able to watch short video clips and movie clips and such is a lot of fun, it is gonna happen*

Everybody: *=news, above all news*

? *=Simpsons*

[...]

Andreas: *Yes, you do it when you're on the bus etc, that's when I play Tetris*

Kalle: *=it feels as if you do more stuff just because you can than because it is any useful to you*

Andreas: *= it is enough to be on the bus for 20 minutes per day or stand in line, or, it is not like you sitting at home and watching it, but it's fun when you're out somewhere.*

Mattias: *=yeeh, it's a cool thing!*

Moderator: Who of you are interested in *Mobil TV?*
(Three of seven put their hands up.)

Simon: *It is only you gadget freaks who want it*

Alla: ****

Mattias: *Yeh, we're gonna by it*

[...]

Kalle: *But I have a friend who bought a new phone and he could watch music videos in the phone it was a pretty nice picture, but it was **totally** pointless to watch it! If I wanna watch MTV I can do it whenever I want on real TV*

[...]

Example 6: **What?**
(LTH 03-23-2004)

Andreas: *in the subway they have sometimes they show those text messages with news and such*

Jimmy: *= the Arlandaexpress has it*

Robert: *it would have eben good with information, like when you arrive to Arlanda, some information about what you can do in Stockholm*

Mattias *=I think time tables would be good*

[...]

Robert: *I wanna chose between different headlines and then watch the one I like*

Kalle: *What do you want the old man for?*

[...]

I mean more like with World Trade Center for example then I would have liked to see the pictures

Simon: *=You can do that at TV when you get home!*

Alla: ****

[...]

Jimmy: *...it doesn't need to be a news anchor who sits there, but the pictures from the news*

Andreas: *= I rather read the news cause then you get a to get a deeper understanding of what has happened.*

Jimmy: *= if it is sport news would it be nice to be able **see** who scored!*

Example 8: **Technology**
(LUSEM 03-25-2004)

Jonas   *[...] I haven't missed having a camera in the phone but I guess that I will have a phone like that within the next 6 month, even if you don't miss it today... most of the phones sold today have a one and you will probably start using it too when you have it but it's nothing I miss today*

Example 9: **Unwillingness to pay**
(LUSEM 03-25-2004)

Nisse: ***I really think** it must be included in the plan*

Lina: *Yes it really has to*

Nisse: *I think that the plans are good since those 3G-plans you can buy now you only pay one sum, eh SEK 400 or something per month and get unlimited content*

XXX   *= SEK 400 a month!*

Nisse: *= Yeah, it is SEK 100 more than I pay today and that would I not mind paying*

Lina: *= Oh, for calling and all*

Nisse: *= Yes, then everything is included, to get certain amount of info every month so much that I can talk as much as I want and surf as much as I want*

Lina: *It feel like the talk time more and more it's gonna be free*

Nisse: *=Yeh, it has to be for free you only pay for using a service and there is no obstacle really it doesn't cost the service providers anything when I open a call the service is already there and the info costs nothing*

Jonas: *So you're not gonna pay anything for it then? ***

Everybody: *** *

Nisse: *= yeah SEK 400*
              [...]

Jonatan: *Well, I'm not sure I wanna pay anything for it*

Example 12: **Unwillingness to pay**
(LUSEM 03-20-2004)

Moderator: *Is it possible to listen to a 20 seconds commercial every now and then if that would mean you don't have to pay?*

Everyone: *= **No***

Sara: *The thing is that I could agree on when I don't use the phone then everybody have screen savers and if there were ads rolling then I would not care.*

Example 15: **Simplicity**
(LTH 03-23-2004)

Anders: *What I miss that I had on my old phone, is a radio that was really practical, it has to be an integrated radio, cause the ones to the Sony Ericsson phones that you attach are really fuzzy*

Robert: *Can I look at it?*

Anders: *Sure*

Andreas: *I miss is battery time lasting longer than three days and a battery lasting longer than half a year.*

Jonas: I have that radio and I never use it cause you have to bring the headset that always just turn into a mess