

# **Exploring resources and capabilities in an emerging market**

## **Mobile commerce in a resource-based view applied on Telenor Mobile in Norway**



Mobile  
Commerce

**Gyrid Elder  
and  
John Olve Andersen**

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## 1 Introduction - the telecom industry

### 1.1 The mobile telecom industry- background

The mobile industry has been rapidly growing in terms of revenues and customer bases during the 1990s. But during the last 12-16 months growth rate has declined in the Norwegian market. The leading “mobile” countries like the ones in Scandinavia have passed penetration levels of 80%, and one can therefore only expect a moderate increase in ARPU (Average Revenue per User; average revenue a service provider has per GSM subscription).

At the same time the whole mobile industry is holding its breath because of its big upcoming investments in UMTS licence fees and network equipment. This could very well be what Gary Hamel called “hitting the wall of diminishing returns” in his book “Leading the revolution”. This condition is characterise in the following statements:

- ✓ Working harder and harder for smaller efficiency gains?
- ✓ Is the revenue stagnating on the current business model?
- ✓ Is it difficult to push up the share price without creating new business?
- ✓ Is it difficult to gain more out of scale economies from mergers and acquisitions?
- ✓ Is it getting harder and harder to differentiate Telenor Mobile from other competitor?

All five characteristics seems to match with Telenor Mobile as a company in Norway. Gary Hamel’s only answer to this problem was “**to embrace the new innovation**”.

Is it really what Telenor Mobile in Norway needs - new innovative business models to ensure further growth in revenue? It has certainly led Telenor Mobile to develop a wide range of value added services, including a unique Mcommerce product for the Norwegian market (called mHandel in Norwegian). Vision for the product is to replace the wallet with a mobile phone. This product facilitates a meeting place for bank and telecom. But it also raises numerous new challenges for a mobile operator such as:

- Is it possible for Telenor Mobile to develop new resources and capabilities quickly enough?
- Is Mcommerce too big a step for the customer with respect to perception and trust?
- What about subsidiaries abroad, dealer outlets, customer service, and labour skills – how shall they all be handled?
- Telenor Mobile’s vision is to “create room” for the customer and the employees, but is this room too spacious and not part of the core business, or can it be viewed as a necessary extension while building up a resource position barrier?

## 2 Purpose and problem definition

### 2.1 Purpose

In this thesis we investigate Telenor Mobile’s ability to achieve its strategic ambitions within the emerging Mcommerce market. Specifically we aim to reveal the most important strategic sources of sustainable competitive advantage within an emerging market.

The following 3 questions will be answered in this paper:

1. **Which are the key sources of sustainable competitive advantage within Mcommerce?**
2. **Which strategy should Telenor Mobile select to position itself within the Mcommerce market worldwide?**
3. **Are there any resource gaps within Telenor Mobile related to Mcommerce, which will prevent them from achieving the strategy as defined above?**

We will also introduce a brief discussion on the exportability of resources and capabilities in a theoretical context according to the theories of Jay Barney.

## **2.2 Scope**

Telenor Mobile operates in the Norwegian mobile market as the dominant player, as well as internationally through part ownership in 13 local mobile operators in Europe and Asia. Our ambition is to analyse how a small, but dominant local player can position itself within an emerging market both in the home market and internationally. Internationally Telenor Mobile is a small player in a business segment where consolidations keep creating large multinational forces like Vodafone Airtouch and Orange. This is a classical “David vs. Goliath” situation. Is it even possible for Telenor Mobile to enter into the major leagues of this marketplace by focusing on resources, capabilities and competitive advantages?

It is not currently known who the major players of this market will be. It can be the mobile operators, but it can also be banks, credit card companies, phone manufacturers or newcomers. So in addition to existing mobile operators Telenor Mobile potentially face a whole new range of competitors.

Another battle going on is the battle of technology. It is not currently known which technology will be the dominant design of the future. How can Telenor Mobile build the required internal competence, when the technological options are many, and internal resources and budgets are limited? Does Telenor Mobile possess the necessary skills to enter the Mcommerce market? Does Mcommerce belong in the portfolio of Telenor Mobile’s core competencies, and overall business objectives?

This MBA thesis is written for academic purposes, and the main goal is to have it approved as a part of our MBA curriculum at Stockholm School of Economics. But we have had discussions with the management at Telenor Mobile, and they have requested that we write about Mcommerce. In that context this paper is considered another source of information to assist Telenor Mobile’s management in their decision-making.

Our approach is based upon discussions and analysis of the subject within a theoretical framework. Our assignment might therefore be of interest to any party with Mcommerce ambitions.

## **2.3 Limitations**

Telenor Mobile is a 100% owned mobile business area of the Norwegian based telecom operator Telenor. Telenor Mobile has an international portfolio with an ownership in 14 mobile companies including the Norwegian division Telenor Mobil (see appendix). Telenor Mobile as a holding company has a small staff and relies heavily on hiring Telenor Mobil’s

personnel for its activities abroad. In this thesis we therefore do not make any distinction between the two names Telenor Mobile and Telenor Mobil. We refer to Telenor Mobile's subsidiaries abroad or Telenor Mobile in Norway

We base our analysis on the strategic field referred to as Resource-based view (RBV). RBV theory focuses on resources, capabilities and competitive advantages. The reason why we find RBV so interesting is the last 2 years focus from stock market on core business and Goodwill appreciation. What is really the economic value of internal resources and capabilities?

We ignore the business model of Mcommerce. We will not try to evaluate whether the business idea is good or bad, or whether there will ever be a world-wide market for Mcommerce. We simply investigate Telenor Mobile's opportunities in the Mcommerce market, if it should emerge.

We assume that Telenor Mobile will be able to gain market leadership in Norway. Their current dominance within the mobile market will enable them to do so (70% market share, currently 60' customers on Mcommerce and 1 million SMS content users). We will therefore focus our study on their internal strength and weaknesses in Norway in relation to their worldwide ambitions.

The views expressed within this paper will primarily be seen through the eyes of a mobile operator. But we have tried to balance this by conducting interviews outside of Telenor Mobile, and by referring to published material on Mcommerce from both business and academic sources.

We have not analysed the competition in the Norwegian market. There exist 3 small newcomers within the Mcommerce market. We feel that Telenor Mobile's position in the market is so superior, so we have neglected these small players entirely. Their age, size and limited financial resources prevent them from threatening Telenor Mobile.

### **3 Method**

#### **3.1 Method used**

This is a qualitative single case study within the area of business strategy. The study will be based on information from a number of sources such as:

- Academic strategy literature studies
- Literature published within the business community
- Interviews
- Questions asked to relations within Telenor Mobile (ex. HR department for facts and figures)
- Readings of Telenor Mobile strategy and Mcommerce documents
- Telenor Web sites (both internal and external sites).

We chose to conduct interviews rather than a questionnaire for two main reasons. We believed that we would have a hard time getting the employees of Telenor Mobile (perhaps especially the top management) to spend time filling out our questionnaire. We also felt that it might be useful to conduct follow up questions. This turned out to be the case. After several of the interviews, we have had the opportunity to call or email interview candidates to clarify issues further.

### **3.1.1 Interviews**

#### *3.1.1.1 In general*

All interviewed candidates were informed that the interview would be anonymous, and that the summary of their interviews would only be available to us and our advisor at Stockholm School of Economics. But we emphasized that citations would be used in this report, but anonymously, so that no one would know who had said what. We also asked all interview candidates for their permission to tape the interview, and explained to them why we would like to tape it.

Every interview started with a brief introduction to our MBA program, and thesis that we were to write. We felt that it was reasonable to provide some explanations related to what we were actually trying to do.

All interviews have been taped, and notes were taken during the interview. After the interview the notes were inserted into an interview summary document, and the tapes were played to ensure that nothing was left out. All interviews were conducted in Norwegian, and all summaries are written in Norwegian. But within this report all interview citations have been translated into English by us.

#### *3.1.1.2 Telenor Mobile employee interviews*

We have conducted interviews with 9 employees of Telenor Mobile in Norway. 3 of 9 are top managers, 2 are middle managers, and 4 are employees within the Mcommerce group. Four interviews have been done using the telephone only. The remaining 5 interviews were done through physical meetings with us. Interview questions were made before the interviews. The questions are based upon Robert S. Grant's models for analysing resources and capabilities. None of the interview candidates replied to all questions. We focused the interview on their specific expertise within the subject area. The interview summary clearly indicates which candidate replied to which question.

#### *3.1.1.3 External parties interviews*

5 external interviews were conducted. 2 interviews were done over the telephone, and 3 were done at physical meetings. All 5 persons interviewed are holding managerial positions within their companies. We made an extract of the questions asked to Telenor Mobile's employees, and used that as a basis for the interviews with the external parties. But we also took the liberty of asking them questions related to statements made by Telenor Mobile employees. This was possible since all external interviews were conducted after we had finished interviewing Telenor Mobile's employees. None of the interview candidates replied to all questions. We focused the interview on their specific expertise within this subject area. The external interview summary clearly indicates which candidate replied to which question.

## **4 Theoretical framework**

### **4.1 Defining strategy**

Referring to Norwegian encyclopaedia Fokus, a strategist was a Greek commander or general in antiquity Athens. 10 people were chosen each year to manage the military and the foreign politics through operations and plans.

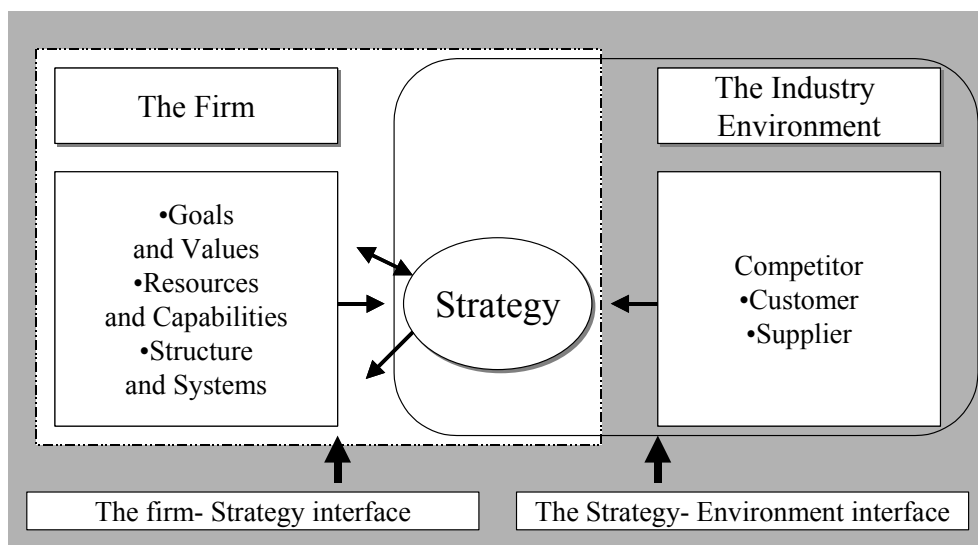
Strategy is often referred to in relation to military activities. We have chosen to refer to Jay Barney's business definition of strategy: "a firm's theory about how to compete successfully". Or as Robert Grant expresses it: "strategy is about winning".

There is another definition of strategy that's brings us into the main theoretical subject. Hofer and Schendel define strategy as: "the match an organization makes between its internal resources and skills... and the opportunities and risks created by its external environment".

Jay Barney says: "that most successful strategic theories address four aspects of the setting within which a firm operates". The four steps analysis are the Strengths, Weaknesses, Opportunities and Threats (so called SWOT). A SWOT analysis can be used to implement strategic design and evaluation, and at the same time cover both perspectives with internal and external angles.

Strategic theory divides this internal and external environment into two separated worlds. In fact no model except SWOT, cover both environments at the same time.

Robert Grant also describes strategy as the link between the firm's total assets and the environment within its industry. A company's strategies must therefore handle both worlds - the organizational part and the external environment.



There has been done a lot of research between strategy and external environment for example Michael Porter's Five Forces model.

Unfortunately research between strategy and the firm's resources and skills has been neglected. But during the last decennium several researches and authors have focused on the internal affairs of a firm, to see what it is that makes it unique in the marketplace. The focus is on differences/uniqueness and specialities of a firm, which could turn in to sustainable competitive advantages in the long run.

Telenor Mobile is trying to capitalize on unique knowledge in different subsidiaries by the recent establishment of a concept called Centre of Excellence. We will discuss this further towards the end of this chapter.



The theoretical framework is therefore based on a wide definition of internal assets, resources and capabilities with a strategic perspective represented by Jay B Barney and Robert M Grant.

## 4.2 External versus internal focus

Telenor is a registered company on the stock exchange. Along with the rest of the telecom industry Telenor's stock trading value have declined dramatically the last couple of years. Telenor Mobile is a subsidiary of the Telenor Company consisting of 13 mobile operations abroad in addition to the one in Norway.

Top managers vocabulary the last year seem to be "consolidation, rationalization, core business and synergy effects" (ref. articles on the Telenor Intranet and Telenor Internet pressroom). These are believed to be magic words to prevent the stock value from dropping, and to regain what they feel is the correct market value of the company.

The pendulum has gone from acquisition, growth, markets and innovations to rationalization and consolidation. This is believed to be a side-effect of the dotcom depression.

How can we measure a firm's internal potential, in the form of resources and capabilities, and then use this to reveal the elements that can lead to sustainable competitive advantages? Is it possible to find a unique element that is too costly for competitors to copy? Or as Birger Wernerfelt puts it: "find those resources which can sustain a resource position barrier... where no one currently has one, and where they have a good chance of being amongst the few who succeed in building one".

We need some theoretical framework to help us evaluate and map our interviews. A selection of available and known models will be discussed below, to discuss the elements of Resource-based view in both external and internal perspective.

### 4.2.1 The external perspective: Opportunities and Threats

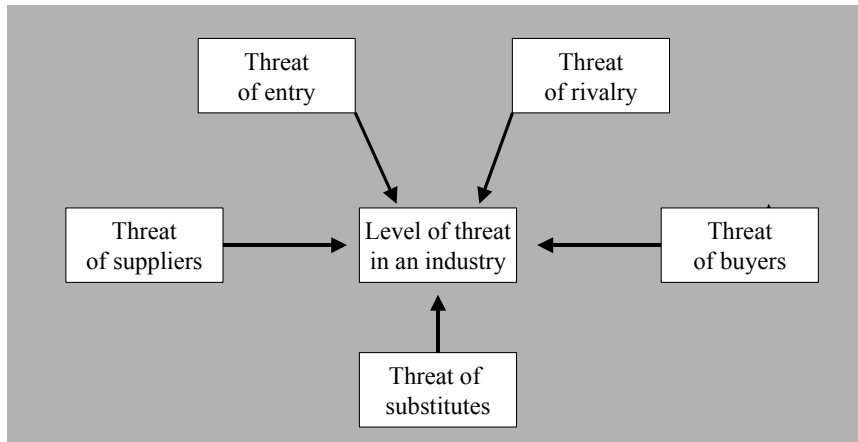
The theoretical framework that was behind the Structure-Conduct-Performance model (S-C-P-model) started already in 1930 based upon the relationship between a firm's environment, its behaviour and its performance (Jay Barney, 2001).

- **Industry Structure:** Focus on the number of competitors, the homogeneity of products and the costs associated with entry or exit from the marketplace.
- **Firm Conduct** is briefly described with the following terms: Aggressive price leaders/followers, product differentiation, trade secrets and exploiting market power.
- **Performance is divided into** two levels: Firms and society, and secondly different classifications based on performance

The S-C-P- model claims that new entrants are motivated to enter into an industry with above normal economic profits. This will increase industry competitiveness and force established firms' economic results downwards towards a normal level. This model tells us that if one firm manage to established sustainable competitive advantages, there will be many intruders, because of good margins. With this model at hand Michael Porter developed the Five Forces Framework. S-C-P based models are complements to Resource-based models of organizational strengths and weaknesses.

#### 4.2.2 Five forces: an external perspective, based upon environmental threats

Five forces focus on threats from the external environment - threats that intend to reduce the firm's performance



If we apply a five forces analysis on Dell, we would find that Dell has numerous threats, relatively few opportunities, no real substitutes, large and powerful buyers and powerful suppliers like Intel and Microsoft. But still Dell is a success story. The environment analysis (Opportunities and Threats) does not provide a good explanation for Dell's success, in fact quite the contrary.

But Barney indicates that barriers to entry could reveal some connections to a Resource-based view, since the entry barriers focus on brands, distribution channels and experience. The next question would then be: Are there any other reasons for Dell's success such as unique internal resources, capabilities and a focus on development of the capabilities" (Robert Grant, 1991). The answer to Dell's success could be found by examining the firm's Strengths and Weaknesses. The RBV question would be: "What is Dell's business?" the question is focused on two things: business and competence.

#### 4.2.2.1 Sources of cost advantages can act as barriers to entry (environment perspective)

Incumbent firms can in certain situations enjoy cost advantages that could make them independent of scale, but at the same time earn beyond normal profits. Barney claims that the new entrants have to overcome 5 cost disadvantages, which are listed in the table below.

Advantages	Why is it an advantage?	What about Telenor Mobil
<b>Proprietary tech</b>	Established firms that have secrets or patented technology that reduces their cost	<ul style="list-style-type: none"> <li>• Since May 2000 used secure SIM card as standard card on Norwegian market.</li> <li>• Produce and export SIM cards to other operators</li> <li>• Interviewers told us that SIM card technology was patented in different countries and markets</li> </ul>
<b>Know how</b>	The cost of knowledge, skills and information	<ul style="list-style-type: none"> <li>• 28 people in Mcommerce department, several have been there from the beginning in 1996/97.</li> <li>• Build the Mcommerce services from the bottom</li> <li>• Established partnership with bank and credit card industry.</li> </ul>
<b>Favourable access to raw materials</b>	Access to critical raw materials not enjoyed by new entrants	<ul style="list-style-type: none"> <li>• Got access to bank accounts, partnership with Norway's largest bank Dnb, and access to integrated bank network, and credit card networks.</li> <li>• Cheap way to refill prepaid subscriptions (1 million users)</li> </ul>
<b>Favourable geographic locations</b>	Established firm has all the best locations locked up- duplicating locations can be a barrier	Not favourable.
<b>Learning curve cost advantages</b>	Established firm has reached critical volume of production	<ul style="list-style-type: none"> <li>• Largest mobile operator in Norway, critical when talking to potential partners and 3<sup>rd</sup> party content providers.</li> <li>• Established Mcommerce routines, and a customer base.</li> <li>• Produce only highest security of SIM card.</li> </ul>

Referring to our strategy lecture (Patrick Regner, 2001) five forces and S-C-P models are not preferable when analysing emerging industries. This is because the environment within such an industry changes frequently with respect to competitors, product offerings and available services.

It's more likely that internal resources, skills and capabilities described in a Resource-based view will provide a long term strategy for the firm.

#### 4.2.3 **Industry structure and environmental opportunities**

The S-C-P logic suggests that one way of understanding an industry's opportunity is to analyse its structure and environment. Michael Porter has examined opportunities in five types of industries, which are listed below. Jay Barney identifies the last 3 types that we have included.

Industry structure	Opportunities
<b>Fragmented</b>	Consolidation <ul style="list-style-type: none"> <li>• Discovery of economies of scale</li> <li>• Altering ownership structure</li> </ul>
<b>Emerging</b>	First mover advantages <ul style="list-style-type: none"> <li>• Technological leadership</li> <li>• Pre-emption of strategically valuable assets</li> <li>• Creation of customer-switching costs</li> </ul>
<b>Mature</b>	<ul style="list-style-type: none"> <li>• Product refinement</li> <li>• Investment in service quality</li> <li>• Process innovation</li> </ul>
<b>Declining</b>	<ul style="list-style-type: none"> <li>• Leadership strategy</li> <li>• Niche Strategy</li> <li>• Harvest strategy</li> <li>• Divestment strategy</li> </ul>
<b>International</b>	<ul style="list-style-type: none"> <li>• Multinational opportunities</li> <li>• Global opportunities</li> <li>• Trans-national opportunities</li> </ul>
<b>Network</b>	<ul style="list-style-type: none"> <li>• First-mover advantages and "winner-takes-all" strategies</li> </ul>
<b>Hypercompetitive</b>	<ul style="list-style-type: none"> <li>• Flexibility</li> <li>• Proactive disruption</li> </ul>
<b>Empty core</b>	<ul style="list-style-type: none"> <li>• Collusion</li> <li>• Government regulation</li> <li>• Significant product differentiation</li> <li>• Demand management</li> </ul>

The mobile industry in Norway is in between the mature and the declining structure. Referring to chapter 1 there are several signs and common characteristics.

But the eCommerce and Mcommerce industries are quite different from core operator business, since it is a mixture of payment methods, a VAS (Value Added Service) service, no standards, and a technological race with several lock-in opportunities. This causes us to define Mcommerce as an emerging industry. Network structure is expected by several interview

candidates to arise within this industry. We believe that it will require a more international common standard or a dominant design.

For the time being Mcommerce solutions require national adjustments in every country. Opportunities within Mcommerce should therefore be located within the Emerging Industry characteristics.

### 4.3 Emerging Industry

An emerging industry is characterized by technological innovations, rapid changes in demand and customer needs.

#### 4.3.1 First Mover Advantages

This means that firms that make important strategic and technological decisions are in the starting phase of the industry. In other words it could be a major advantage, if the first mover can influence the way uncertainty are handled in the new industry. Primarily first mover advantages can arise from three sources, as listed below (J. Barney, 2001).

First movers advantages	How does this advantage work?	Is it working on Telenor Mobile's Mcommerce
<ul style="list-style-type: none"> <li>• <b>Technological leadership</b></li> </ul>	<ul style="list-style-type: none"> <li>• Obtain low cost position because of early investments in useful technology</li> <li>• Obtain a patent protection</li> </ul>	<ul style="list-style-type: none"> <li>• Telenor Mobile subsidiaries handling POS terminals and electronic fund transfer.</li> <li>• From May 2000 only secure SIM cards are distributed in Norwegian market</li> <li>• Patented Sim card security platform</li> </ul>
<ul style="list-style-type: none"> <li>• <b>Pre-emption of strategically valuable assets</b></li> </ul>	<ul style="list-style-type: none"> <li>• Protect strategically valuable assets like: raw materials, favourable geographic locations and product market position before their value is widely known- can gain sustained competitive advantages</li> </ul>	<ul style="list-style-type: none"> <li>• Unique partnership with Dnb and several other content providers</li> <li>• Been alone with Mcommerce on the Norwegian market since 1998</li> </ul>
<ul style="list-style-type: none"> <li>• <b>Creation of customer-switching costs</b></li> </ul>	<ul style="list-style-type: none"> <li>• Customers investing money in order to use one firm's unique product or service. Investments can not be used at other firm.</li> </ul>	<ul style="list-style-type: none"> <li>• Mcommerce can only be used by Telenor Mobile's customers</li> </ul>

#### 4.3.2 First Mover disadvantages

If the industry is new, how can the firms be so sure that they are making the right decisions? New competitors can copy first mover's product development costs at 65% of first movers cost. (Mansfield, Schwarts and Wagner, 1981).

Mcommerce from Telenor Mobile was design and built internally by consultants and employees. Today most of the platform is a standardised product from established suppliers like Nokia and Ericsson.

So the question is what have Telenor Mobile learned from that product development? Have they made a unique technical solution that is hard to copy? Gained critical market experience in the process? Have they reached an important customer group or a specific sales volume? What about their reputation in the market? Is the Mcommerce brand Telenor Mobile is establishing, worth anything in the market? What about their relationship with potential partners and content providers?

The employees at the MCommerce department in Telenor Mobile reveal during the interviews, that they are very resolute in everything they do. They had the highest internal score in the yearly questionnaire about work content and influence. It seems like they work great as a team. Have they managed to establish a unique culture?

Sony claims that: “one product can be copied, but we still have its underlying abilities to be innovative and creative” (Jay Barney, 2001).

#### **4.4 Resource-based view- an analysis inside the firm**

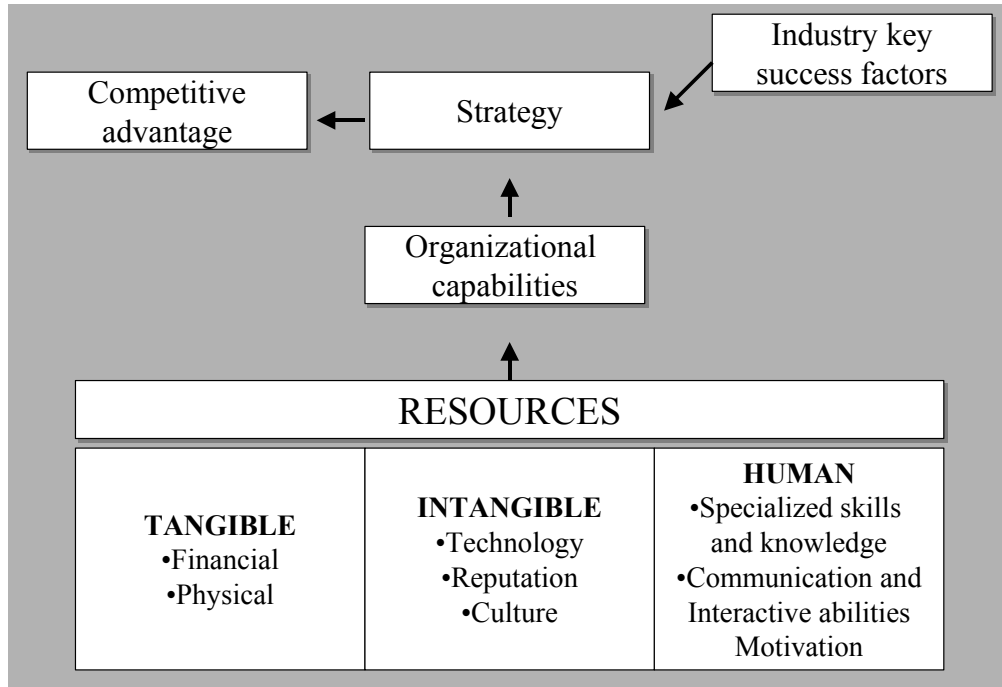
Until now in this thesis we have discussed different elements and approaches to the elements that Resource-base view are based upon. It’s important to locate the boarders and explanatory factors for Mcommerce and Resource-based view to find the sustainable competitive advantages.

##### **4.4.1 What the firm can do!**

The Resource-based view provides structure when analysing inside a firm with focus on strengths and weaknesses, to locate unique resources and capabilities that are hard to copy. Using and focusing on these aspects may give the firm competitive advantages (Jay Barney, 2001).

In this thesis we analyse the “dynamic” approach to Resource-based view. The classical Resource-based view, focus on figures and facts. But since a MBA thesis is publicly available, and this information is kept secret (since Telenor is registered on the stock exchange), we had to leave that approach. With the dynamic approach in mind, we interviewed representatives from Telenor Mobile’s management group, management and employees in Mcommerce, a representative from a subsidiary and employees of external firms, which are somehow related to Mcommerce.

We are analysing Telenor Mobile's Mcommerce department to see if there are any internal strategic sources that could lead to sustainable competitive advantages. Robert Grant is describing the relationship with resources, capabilities and competitive advantages in the following figure.



Locating the firm's resources is surprisingly difficult, since there is no document describing the firm's assets. You may find some in the accounting or management information systems. For example in accounting there is the term "Goodwill", but precaution in the accounting standard reduces the value of this term. The firm's balance sheet is not describing the firm's true unique value, which could be described as sustainable competitive advantages.

Robert Grant has categorized resources into Tangible, Intangible and Human categories, and created classifying tables to enable analysis of the resources inside a firm.

We will apply Robert Grant's practical framework of a Resource-based approach to strategy analysis, to conduct interviews and then map the findings into his classifying tables. This framework provides us with the following five steps of analysis:

1. **Identify and classify the firm's resources**
2. **Identify the firm's capabilities**
3. **Appraise the rent-generating potential of resources and capabilities**
4. **Select at strategy**
5. **Identify resource gaps**

We will go through all five steps in our analysis of Telenor Mobile in chapter 6.

Capabilities are also defined in literature as competence and core competence. Robert Grant divides the capabilities into the functional areas:

- a. Corporate head office
- b. Management Information
- c. R&D
- d. Manufacturing
- e. Product Design
- f. Marketing
- g. Sales and distribution

Robert Grant is interested in capabilities relative to other firms. To include this perspective we will benchmark during our analysis.

Jay Barney has a wide definition of a firm's resources. Resources are defined as:

- **All assets**
- **Capabilities**
- **Competencies**
- **Organizational**
- **Firm attributes**
- **Information**
- **Knowledge**

But they have to be controllable, possible to implement, and improve efficiency and effectiveness of the firm.

#### **4.4.2 Value Creation Zone**

To appraise the rent-generating potential of resources and capabilities, we have looked for models that would assist us in locating the areas that provide sustainable competitive advantage.

We have not done any efforts on calculating rent. Robert Grant claims that the resources and capabilities located will have to be put to three tests. The tests cover the issues of durability, transferability and replicability. Each test will have to be done on every single resource or capability that has been located. We have conducted a test, but only on the resources and capabilities that we have classified as strengths during our summary. The reasoning behind this is that one can probably not expect a weakness within the organization to lead to sustainable competitive advantage. We have therefore kept our focus on the strengths of Telenor Mobile's organization in Norway.

David J. Collis and Cynthia A. Montgomery have a slightly different approach to classifying competitively valuable resources. They have a figure called a value creation zone, which maps the results of testing for scarcity, appropriability and demand. They categorize five test questions to apply to the resource:

1. The test of **inimitability**: *Is the resource hard to copy?*
2. The test of **durability**: *How quickly does this resource depreciate?*
3. The test of **appropriability**: *Who captures the value that the resource creates?*
4. The test of **substitutability**: *Can a unique resource be trumped by a different resource?*
5. The test of **competitive superiority**: *Whose resource is really better?*



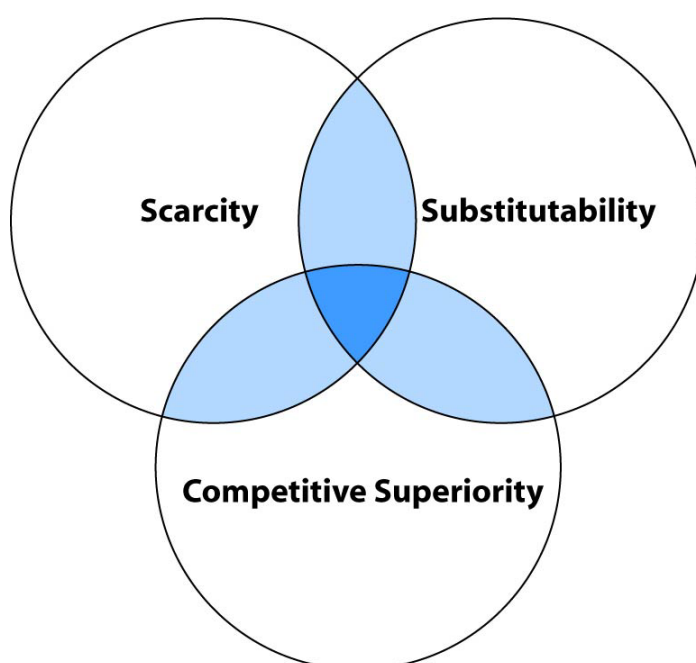
Unfortunately this article is not clear as to how one map the test questions into the value creation zone.

But we liked both approaches and decided to use the best from the two. We therefore ended up with our own set of tests and mapping into a “value creation zone” like diagram. We tested the resources and capabilities classified as strengths with the following three questions:

1. **Scarcity:** *Is the resource/capability hard to copy?*
2. **Substitutability:** *Can a unique resource/capability be substituted?*
3. **Competitive superiority:** *Whose resource/capability is really better?*

The question of competitive superiority will be answered with a benchmarking towards Telia/Netcom, which is Telenor Mobile’s main competitor in the Norwegian mobile market.

### Value Creation Zone (Shaded)



We then labeled our “value creation zone” diagram according to the test labels, as indicated in the picture below.

Based on the results of the test applied, we then mapped the resources and capabilities into this diagram in chapter 6. Competitive advantage is located within the shaded area, but sustainable competitive advantage is only found within the darkest shaded area, right in the middle of the circular diagram.

#### 4.4.3 **Vrio Model**

We will also cover Jay Barney's perspective and wide definitions in the VRIO model. We did this to double check our findings of sustainable competitive advantages.

The firm is a bundle of resources and capabilities (Jay Barney, 2001). It's possible to do an analysis of the return potential of these resources, but it must be conducted on one resource at a time, as we do in chapter 6. Jay Barney recommends an "easier" model because of limited access to internal information, economical figures and possible failures. This analysis of the whole firm, it's called the VRIO model

VRIO analyses the Resource-based perspective on another level. Robert Grant's analysis moves inside the firm, but VRIO looks on the firm as a whole.

VRIO is basically 4 questions (Jay Barney, 2001).

<b>The Question of:</b>	<b>Resource based analysis, focused on firm's strengths and weaknesses.</b>
<b>1. Value</b>	Is it possible for a firm to act on external threats or opportunities, based upon their own resources and capabilities? They are valuable if they reduce net cost or increase revenues.
<b>2. Rarity</b>	Is a resource uniquely controlled by a few competitors?
<b>3. Imitability</b>	Do other firms without the resource, face a cost disadvantage by obtaining or developing the resource?
<b>4. Organization</b>	Are the firm using their unique resources and capabilities in every thinkable way, to support and capitalize on its value?  This element are often called "complementary resources and capabilities" since it's dependable on other VRIO elements.

The VRIO framework determines if the internal resources and capabilities are strengths or weaknesses. Strength on all elements may lead to a sustained competitive advantage (Barney, 2001). We will go through this analysis in our analysis of Telenor Mobile in chapter 8.

##### 4.4.3.1 *Limitations of the VRIO model*

VRIO has got some limitations that could influence the result of our analysis. We should be aware of the following elements (Jay Barney, 2001):

- Threats and Opportunities change in a rapid and unpredictable manner .
- Managerial influence are a less costly investment, hence it is less likely that these resources could generate competitive advantages.
- It is difficult to analyse the unique bundle of resources and capabilities because of limited access to intra organizational information

We didn't find any of these elements as a threat to our analyses of Telenor Mobile.

The closest element was the rapid change and unpredictable manner. But Telenor Mobile has been working with the same partners for years. There has not been any new regulations or unpredictable competitors. After close to 5 years of service a competitor emerged from another industry calling themselves Kontopronto ([www.kontopronto.no](http://www.kontopronto.no)). Kontopronto describes themselves as a mobile wallet. Telenor Mobile interview candidates were expecting increased competition, so the market is somewhat predictable.

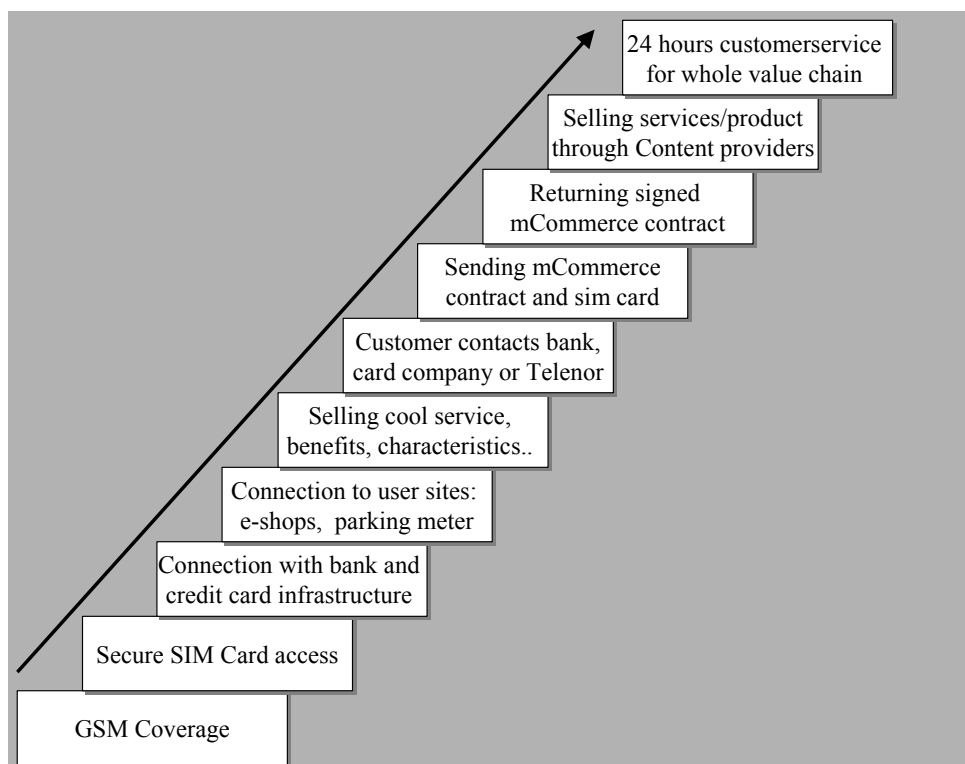
#### 4.4.4 Value Chain

A value chain makes it possible to analyse each step, looking for unique resources and capabilities. We have learned that the key to profit is to do things differently than other firms. In a combination with other analysis like for example the VRIO model and benchmarking, it's possible to establish if the uniqueness is giving sustainable competitive advantages.

Every step in the Value Chain includes elements that many authors apply while categorizing a firm's resources:

- Financials
- Physical
- Individual/Human
- Organizational

A value chain can be very helpful when identifying the elements of a firm's resources.



This figure describes a simple value chain for Telenor Mobile's Mcommerce. With first sight on the value chain, it looks like potential uniqueness and differences in:

- **Established Customer relations with Telenor Mobile brand**
- **Secure SIM card access**
- **Connection with a bank like Dnb**
- **24 hours customer service**

The different interviewed candidates use the same elements. But in the end it depends on other competitors and the way business is conducted, if one wants to gain sustainable competitive advantage.

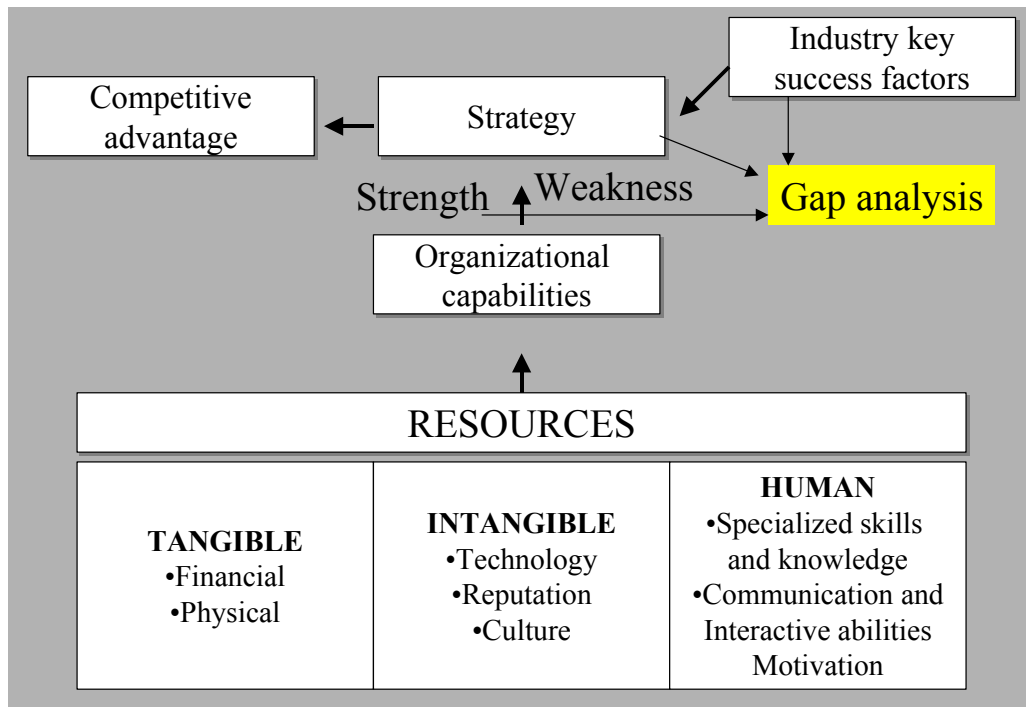
This model will not be used further during our analysis of Telenor Mobile in chapter 6.

#### 4.4.5 Resource GAPS

Resource GAPS means the difference between:

##### **Key success factors for the industry**

- Firms Strength and Weaknesses
- + Influenced by the firm's strategy
- = Firms resource GAPS



The main question for a Resource-based view and sustainable competitive advantage is: “Is the strategy easier for us to implement (part of resources and capabilities) than it is for our competitors?” In other words, is their GAP bigger than ours? What are Telenor Mobile’s weaknesses and strengths?

#### 4.5 **Trans-national Opportunities**

Multinational companies like Telenor Mobile with 13 subsidiaries have many opportunities in a Resource-based view perspective. As long as Telenor Mobile manage to respond, to control and to implement, based upon changing conditions in a country or a region. A multinational company has to interact between divisions, the headquarter and subsidiaries to neutralize threats.

McDonald’s is one of the classical examples of impressive interaction with restaurants all over the world. (Jay Barney, 2001) We find Ericsson with their Business Managers unique in the same perspective. Their job is to search for exiting activities, best practices and competence throughout the Ericsson world, and then spread the information to others in need of similar knowledge. They function as the missing link when subsidiaries search for knowledge within Ericsson as a whole.

The only problem is that an international company (like Telenor Mobile) with different markets (Europe, Russia and Asia) and different needs in each local market, must respond differently in each market. There is a lot to learn, to refine and to develop. Especially related to the development of firms domestic core competencies, and understanding their strengths and weaknesses. The critical part is to leverage those lessons learned across to the other operations. Managing local responsiveness and at the same time keeping it globally integrated is not easy. Until recently that was an impossible combination. Now this is replaced and exploited by a trans-national structure.

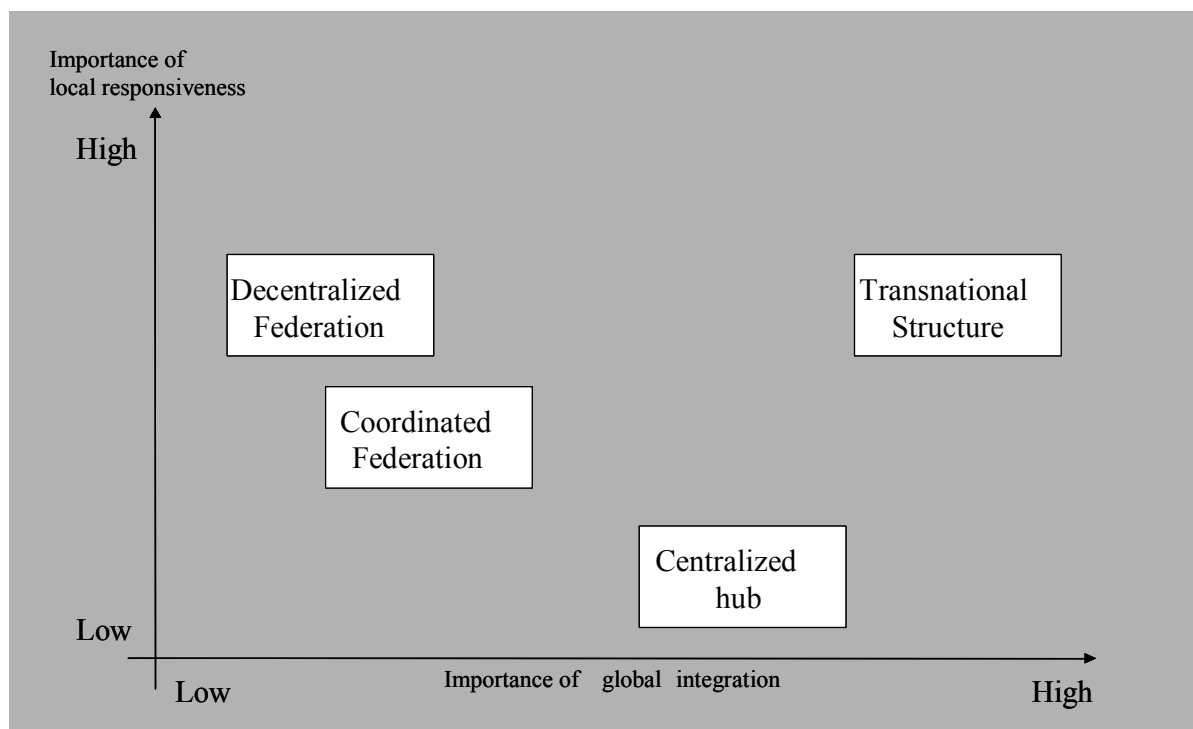
*“Firms implementing a trans-national strategy treat their international operations as an integrated network of distributed and interdependent resources and capabilities”*  
(Jay Barney, 2001)

A firm’s operation in one country are responsible for handling ideas, technologies and management approaches, that the firm might be able to use in another international subsidiary. Each country has their own corporate center constantly searching for new competencies. Telenor Mobile’s headquarter would have had an important role to constantly scan all business operations across different countries for resources and capabilities that might be a source of competitive advantage for other companies in the firm. (Jay Barney, 2001)

Let’s look into the other four structural options for a multinational organisation by Jay Barney. These structural alternatives describe different management and development concepts.

<b>Decentralized federation</b>	Strategic and operational decisions are delegated to divisions/country companies.
<b>Coordinated federation</b>	Operational decisions are delegated to divisions/country companies; strategic decisions are retained at corporate headquarters.
<b>Centralized hub</b>	Strategic and operational decisions are retained at corporate headquarters.
<b>Trans-national structure</b>	Strategic and operational decisions are delegated to those operational entities that maximize responsiveness to local conditions and international integration.

This figure shows the different structural options based upon three factors: local responsiveness, international integration and organizational structure (Jay Barney, 2001)



The most important summary and potential for this model is that each local subsidiary does not necessary need to be unique and establish sustainable competitive advantages by themselves in their local market. The important thing is to build up a unique concept that establishes sustainable competitive advantages for the multinational company as a whole. Trans-national structure claims that these different combinations are possible to combine into unique advantages compared to competitors.

## 5 Mcommerce in Telenor Mobile

### 5.1 Mcommerce definition

A mobile operator's income is often divided into two different areas: traffic and subscriptions on one hand and value added service on the other. Traffic has been the major source of income since the start over mobile business, but the traffic revenue growth rate is declining. Mobile operators are therefore searching for alternative sources of income.

Value added services (VAS) revenue has been growing from about 4% in 1997 to 20% in 2002 of the total revenue stream. VAS is expected to continue to grow at a faster rate than voice traffic in the years to come. VAS are all the new services, anything except voice communication. VAS services are data communication, messaging (SMS and MMS), voicemail, positioning, Wap services and content such as ring tones, logo, themes, and screen savers for the phones.

In Norway SMS has proven to be a fast growing source of VAS. The current revenue for SMS is 2.1 billion NOK, of which 600 million NOK is content. The most popular services are ring tones, logo, number/name services, TV quiz and chat services.

In Norway in 2001 Mcommerce revenues are bigger than e-commerce revenues from the web. Mcommerce is expected to be another revenue creator of the future. Mcommerce is in this context defined as: using a mobile phone for ordering, delivering and payment.

This includes 4 types of payment alternatives:

1. Over the ordinary mobile phone bill (called Content Provider Access-CPA users- buy content over SMS )
2. Wallets in the phone handled securely by the phone manufacturer, or wallets in the network handled securely by the operator (called SmartCash)
3. Over the customer's own ordinary debit bank account (called Mcommerce)
4. Over customer's own major credit card (called Mcommerce)

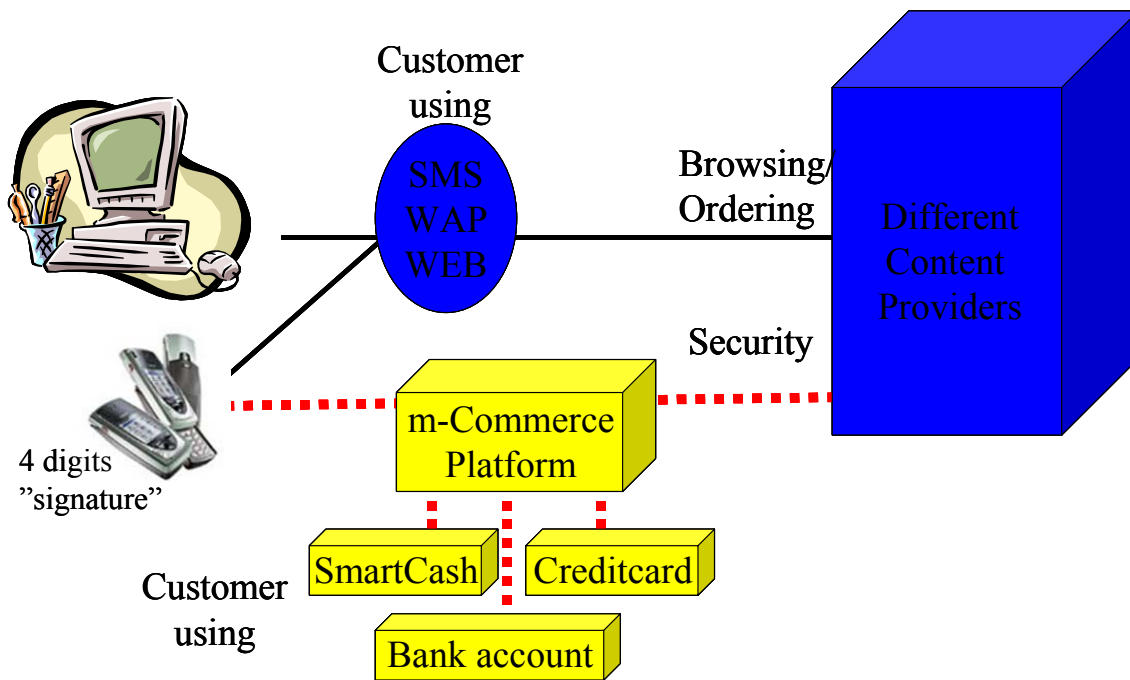
The ability to generate revenues from services is even more important in UMTS (or 3G), where the business case requires additional income to defend the investments.

## **5.2 Mcommerce background information**

Telenor Mobile and Ericsson started a common project called Mammon in 1998. The idea was to capitalize on SIM card technology for:

- Secure transactions
- Trusted Public key owner (Public Key Infrastructure- PKI)
- In combination with a large customer base (2.3 million) and the customer is registered by name plus the possibility for Telenor Mobile to take small credit risk on behalf of the customer.

The idea went to reality in a project in 1998 in Telenor Mobile, and in 1999 they launched a debit and credit service through a partnership with Norway's largest bank Dnb. Dnb and Telenor established a partly owned company called SmartPay. SmartPay made it possible to pay directly from your own bank account or with credit cards. The intention was that Smartpay should offer a broad range of payment facilities using numerous access networks such as Digital TV, Cable TV, fixed telephone and web. But Smartpay is still offering only mobile pay or what we called Mcommerce.



**The Mcommerce platform offers 4 accounts with different payment limitations:**

1. Pay goods and services through a SMS with *up to 30 NOK* directly on phone bill.
2. Pay goods and services from SmartCash *up to 1000 NOK* handled by Telenor Mobile s a virtual wallet
3. Pay goods and services from customers *own bank account* (supports every Norwegian bank through Dnb)
4. Pay goods and services with *credit cards*.

**5.2.1 Which services are available?**

Here is a list of available Mcommerce services from Telenor Mobile at July 1<sup>st</sup> 2002.

<b>SMS.Jackpot:</b> Buy your own lottery ticket trough your cellular phone	<b>Easy Park</b> You don't have to use coins anymore to pay for parking
<b>Filmweb:</b> You can buy a cinema ticket wherever you are	<b>Mobiquid music recognition</b> You got an offer to buy the right CD, within seconds by letting the phone find the right cd.
<b>CARE</b> Donations to charity trough SMS.	<b>U-wash carwash</b> Wash your car in Østre Aker vei 206 and pay your carwash with the cellular phone
<b>Support Norwegian Red Cross</b> Support Norwegian Red Cross by sending a SMS	<b>Abra automatic</b> From ABRA you can buy sweets by sending sms.
<b>Ringnes soft drinks (automatic)</b> You don't need any coins to buy a soft drink.	<b>EuroFlorist</b> You can with WAP or Internet access order a floral tribute



<b>SAS Flybussen</b> With MobilHandel™ you can pay the ticket for the bus between Oslo and Gardemoen	<b>eXamen.no</b> eXamen is a knowledge based competition where you can win monetary prizes.
<b>Billett-service:</b> You can buy tickets to concerts, festivals and sports arrangements with your cellular phone	<b>VG</b> Now you can within a few seconds buy a CD from VG's- top twenty list.
<b>DVDstrax</b> Buy a DVD with your mobile phone, send a SMS to 2500	

All these services are focusing on selling over the Internet, mobile Internet or through SMS. It seems to be little focus on using Mcommerce over the counter. 3 interview candidates mention the mismatch between the young users of Mcommerce and the old fashion services and goods offered.

### 5.2.2 **Business model - where is the money?**

Telenor Mobile has located several revenue streams in a Mcommerce solution.

1. Common GSM traffic for end users like SMS, WAP or SIM tool kit from terminal.
2. Fixed transaction price for end users, different price for different account; SmartCash (cheapest), bank account and credit card at higher cost.
3. Provision from content provider's end user price (up to 2%)
4. Start up fee for content providers for connecting to Telenor Mobile's Mcommerce system
5. Monthly subscription fee for access to payment platform
6. In the future an annual fee for end users

Telenor Mobile could rationalize and save substantial amounts of money if their 1 million prepaid customers would use Mcommerce for refilling instead of buying physical cards in shops and gas stations. Telenor Mobile could save 10-18% in provisions plus marketing costs.

### 5.3 **Current status based upon interviews**

Telenor Mobile has kept its focus on the Norwegian marketplace. It has been agreed upon between the Mcommerce group and the top management that for a certain time period the focus should be on realizing a success story in the home market. It is strongly believed that one cannot export something, which has not already been proven at home. This is in contrast to how telecommunications equipment is generally sold. An equipment provider will make a solution and then try to sell it worldwide. There will be no success stories to rely on. It is always important to implement the solution in a live network environment, to prove that it works outside the lab. But whether this results in new revenues for the operators is not important early on.

It is our understanding that the agreed upon time restriction for focusing on Norway only is running out this fall. It is not clear to anyone what will happen then. There seems to be numerous options to choose among. We will try to discuss them below.

1. *Keep focus on the Norwegian market*
2. *Try to export technology to anyone who wants to buy*
3. *Sell the technology to one of the biggest players within the industry*
4. *Team up with someone better suited to sell the solution world-wide*

5. *Try to gain acceptance for technical solution within standardization environment to make Telenor Mobile's solution the emerging dominant design.*
6. *Try to export as much as possible to subsidiaries abroad*

Our interviews make it clear that there are no defined path ahead, and that there are many opinions on which options that would be the preferred choice. It appears to be unknown when this decision has to be made. And there is no clear definition of the required success in the Norwegian market place.

## 6 Main elements from interviews

The following analysis of resources and capabilities within Telenor Mobile is entirely based upon the practical framework provided by Robert S. Grant. “Summary based on interviews” consists of citations from the interviews within Telenor Mobile. “Other oral and written sources” is information available on Telenor’s intranet and Internet sites, internal Telenor documents and information provided by Telenor employees. “External sources viewpoints” is founded upon citations from the inter views with employees of firms, which are somehow related to Mcommerce.

### 6.1 Resources

Resource	Main characteristics	Summary based on interviews	Other oral and written sources	External sources viewpoints
<b><i>Tangible resources</i></b>				
<i>Financial resources</i>		<p>“Telenor is not financially strong enough to take this solution world-wide” (Stated by one interview candidate)</p> <p>“Mcommerce is an exiting challenge which Telenor Mobile can afford. But I am uncertain as to whether it is smart to be early. It is an expensive experience.” (The uncertainty related to being first was stated by 2 interview candidates)</p> <p>“The business case for Mcommerce is entirely based upon the Norwegian market.” (Stated by one interview candidate)</p>	<p>During 2001 Telenor completed its first year as a registered company on the stock market. The financial results for 2001 are the best ever. Telenor has a satisfactory financial position. (Source: <a href="http://www.telenor.com">www.telenor.com</a>)</p> <p>Debt to equity ratio for Telenor is 55.3%, and capital expenditures are 270 million NOK in 2001. (Source: Telenor Financial department)</p> <p>Credit ratings of Telenor from June 2002:            * Moody's long-term: A2            * Moody's short-term: P-1            * Outlook: Stable            * S&amp;P long-term: A-</p>	

Resource	Main characteristics	Summary based on interviews	Other oral and written sources	External sources viewpoints
		<p>“Mcommerce has a strong business case.” (Stated by one interview candidate)</p> <p>“Telenor Mobile has gotten a good start within Mcommerce, but reaching critical mass will be expensive.” (Stated by one interview candidate)</p> <p>“The Mcommerce environment is vulnerable to further budget cuts within Telenor Mobile.” (Stated by three interview candidates)</p>	<p>* S&amp;P short-term: A-2</p> <p>* Outlook: Stable</p> <p>(Source: Telenor Financial Services)</p>	
<i>Physical resources</i>	<i>Plant and equipment</i>	Modern office facilities, not considered to be of strategic importance.		
	<i>Telecommunication infrastructure</i>	<p>“Telenor Mobile has a more advanced technical and full scale payment solution than any competitor.” (The fact that Telenor Mobile is early and with an advanced solution was stated by all eight interview candidates)</p> <p>“Telenor Mobile was first in cooperating with a bank, and our mobile bank access will be hard to copy for competitors.” (The importance and uniqueness of bank</p>	<p>The GSM network has better coverage than Telia/Netcom, which has been important when capturing GSM customers.</p> <p>(Source: Telenor Mobile employee)</p>	<p>“If we were to evaluate Mcommerce then we would check out Telenor Mobile’s platform, payment solutions and business concepts.” (Source: Telenor Mobile subsidiary employee)</p> <p>“Telenor Mobile’s solution requires new HW and registration of the customers. Sales are already conducted over SMS, why does one need a separate Mcommerce platform?” (External interview</p>

Resource	Main characteristics	Summary based on interviews	Other oral and written sources	External sources viewpoints
		<p>access was stated by four interview candidates)</p> <p>“Right from the start this solution was never meant to be exported - it is too complex.” (Stated by one interview candidate)</p> <p>“Nothing is done currently to prepare the solution for reuse abroad.” (Stated by one interview candidate)</p>		<p>source)</p> <p>“In the fixed network the solutions are open and standardized, while they are closed and proprietary in the mobile networks. This will disappear eventually.” (External interview source)</p> <p>Two external interview candidates states that access to bank accounts are important in Norway.</p>
	<i>Production and raw materials</i>	No production plants and no raw materials.		
<b>Intangible resources</b>				
<i>Technological resources</i>	<i>Patents, trade secrets and copyrights</i>	<p>“No patents on the Mcommerce solution, but the security part (PKI) related to the SIM card has been patented.” (This was stated by four interview candidates)</p> <p>“Telenor Mobile is not good on patenting.” (Stated by one interview candidate)</p> <p>“Telenor Mobile is not active in international forums for Mcommerce standardization.</p>		<p>”A main challenge of the future is to create open and standardized solutions. Dnb participates in the banks standardisation forum.” (Source: Dnb employee)</p> <p>“Several credit card companies are active in international Standardization forums.” (Source: employee in a credit card company)</p>

Resource	Main characteristics	Summary based on interviews	Other oral and written sources	External sources viewpoints
		<p>(Stated by two interview candidates)</p> <p>“Trade marks have been registered in a number of markets world-wide.” (Stated by one interview candidate)</p>		
	<p><i>Technological know-how</i></p>	<p>“Norway is approximately 3 years ahead of Western Europe with technical solutions, Mcommerce competence and business models.” (Norway and Telenor Mobile are ahead was stated by all eight interview candidates)</p> <p>“Telenor Mobile has substantial market experience. The first product was launched almost three years ago.” (Stated by two interview candidates)</p> <p>“Telenor Mobile lacks in debt know-how on the financial business environment.” (Stated by two interview candidates)</p> <p>“Telenor Mobile could export Mcommerce know-how, the security solution (PKI), business models and 3<sup>rd</sup> party network</p>		<p>3 external interview candidates states that they think Telenor Mobile has excellent technical know-how.</p> <p>“Telenor Mobile is a very technology oriented company.” (External interview candidate)</p> <p>“Telenor Mobile has excellent competence within something which will never be a success in the marketplace. They are 3 years ahead of the market – how smart is that?” (External interview candidate)</p> <p>“Telenor Mobile is very pleased with their technical know-how, and usually consider it to be world-class. But we have never seen anything</p>

Resource	Main characteristics	Summary based on interviews	Other oral and written sources	External sources viewpoints
		handling experience.” (Stated by 3 interview candidates)		exceptionally outstanding.” (External interview candidate)
	<i>Research Facilities and scientific employees</i>	<p>“The Mcommerce staff is primarily technically educated, but a few have experience from bank/finance. A few have economic degrees.” (Stated by two interview candidates)</p> <p>“M-commerce has 28 employees and PKI has 30 employees.” (Stated by one interview candidate)</p> <p>“Both Telenor Mobile and Telenor FOU could have benefited from a closer working relationship.” (Stated by one interview candidate)</p>	<p>240 engineers employed - 145 men and 95 women within Telenor Mobile in Norway. (Source: Telenor Mobile HR employee)</p> <p>350 employees within Telenor FOU, of which 300 conducts research. (Source: Telenor FOU management)</p>	
<i>Reputation</i>	<i>Brand</i>	<p>”Telenor Mobile is a strong player in the Norwegian market, but a small player internationally.” (Stated by one interview candidate)</p> <p>“Mcommerce can be considered Telenor’s secret service.” (Stated by one interview candidate)</p> <p>”In addition to making money on transactions, Telenor Mobile wants to increase customers switching</p>	<p>“Telenor’s brand is rated as number two in Norway. Telenor has been rated as number one for several years, but was this year beaten by Nokia.” (Source: article in Aftenposten)</p>	<p>”Telenor has a strong brand in the Norwegian market.” (External interview candidate)</p> <p>“The customers trust the bank more than they trust Telenor.” (External interview candidate)</p> <p>“If we introduced Mcommerce one goal would be to increase customers switching costs and reduce churn.” Telenor subsidiary</p>

Resource	Main characteristics	Summary based on interviews	Other oral and written sources	External sources viewpoints
		<p>costs and reduce churn through Mcommerce.” (Stated by two interview candidates)</p> <p>“Our target groups are young people and our marketing efforts is directed towards them.” (Stated by three interview candidates)</p> <p>“Our early adapters are young males.” (Stated by one interview candidate)</p> <p>“Mcommerce has enough customers now to claim that it is passed the early adoption stage.” (Stated by two interview candidates)</p> <p>”Repeat buying is high for Mcommerce customers.” (Stated by one interview candidate</p> <p>”So far the customers have favoured the SmartCash solution. This is due to the lengthy registration needed to get direct bank access. But one has seen that bank access users are better Mcommerce customers.” (Stated by</p>		<p>employee)</p>



Resource	Main characteristics	Summary based on interviews	Other oral and written sources	External sources viewpoints
		<p>one interview candidate)</p> <p>“The users of Mcommerce are young people. They don’t have a bank account or a credit card.” (Stated by one interview candidate)</p> <p>“When Mcommerce was launched in 1999 Telenor Mobile got a lot of positive press coverage on its innovative efforts, but Telenor Mobile has not been good at marketing innovative efforts” (Stated by one interview candidate)</p>		
	<p><i>Quality and reliability towards customers</i></p>	<p>”The Mcommerce efforts involve the IT department, and we have trained customer service to handle Mcommerce. We are now focusing on training the internal sales force.” (Stated by one interview candidate)</p> <p>”There have been some technical stability problems with the Mcommerce platform.” (Stated by one interview candidate)</p> <p>“An operator is well suited to handle security aspects, customer relationships, credit risks and 3<sup>rd</sup> party networks.” (Stated by one</p>	<p>Telenor Mobile’s GSM network has a network availability of 99,8 % (Source: Telenor Mobile employee)</p>	<p>“We would be willing to accept a solution with less security than the one Telenor Mobile has implemented. (Credit Card company employee)</p> <p>“The security issue is not important to the customers. As long as the bank takes the credit risk for them – then they trust their bank.” (External interview candidate)</p>

Resource	Main characteristics	Summary based on interviews	Other oral and written sources	External sources viewpoints
		<p>interview candidate)</p> <p>“Security issues are critical.” (Stated by 3 interview candidates)</p>		
	<p><i>Relationship with business partners, employees and the government</i></p>	<p>“Dnb is Telenor’s main partner in the Norwegian market.” (Stated by all eight interview candidates)</p> <p>“The cooperation with Dnb moves slower than Telenor appreciates.” (Stated by one interview candidate)</p> <p>“Telenor needs an international player as a partner, when taking this solution abroad.” (Stated by two interview candidates)</p> <p>“Many 3<sup>rd</sup> parties are reluctant due to their past experiences with WAP.” (Stated by one interview candidate)</p> <p>“Telenor Mobile is not ready to handle 3<sup>rd</sup> party networks – 3<sup>rd</sup> parties need to make money too – and Telenor Mobile is not really accepting this.” (Stated by one interview candidate)</p> <p>“The 3<sup>rd</sup> party network is a classical</p>	<p>We care about our employees and provide a relaxed and enriching working environment that is second to none. (Source: ww.telenor.com)</p> <p>The Norwegian State is the majority shareholder in Telenor, holding 77.7% of the shares. (Source: www.telenor.com)</p>	<p>“We have a good working relationship with Telenor Mobile.” (Stated by 2 external interview candidates)</p> <p>“The company culture is very different in bank and telecom. Telenor thinks that Dnb is slow, while Dnb thinks that Telenor is short-sighted and under estimates the challenges ahead. It took the banks 20 years to introduce bank cards, and it may not go any faster this time.....(External interview candidate)</p> <p>“There is no need for a mobile operator in Mcommerce. New mobile phones will be open, and anyone can make SW for them, just like a PC. The mobile operator will loose control.” (External interview candidate)</p> <p>“One does not pay transaction fees</p>

Resource	Main characteristics	Summary based on interviews	Other oral and written sources	External sources viewpoints
		<p>hen and egg problem, 3<sup>rd</sup> parties want to see registered Mcommerce customers, while the customers demand content to sign up for the service.” (Stated by 3 interview candidates)</p> <p>“Key success factors are content, alliances and business models.” (Stated by one interview candidate)</p> <p>“Gaming will be a killer application, and we lack a gaming partner.” (Stated by three interview candidates)</p> <p>”The Mcommerce group is at a make-or-brake point. They cannot be a project forever. Sooner or later they will have to be incorporated into the ordinary line organization within Telenor Mobile.” (Stated by one interview candidate)</p> <p>”Our focus is on the Norwegian market. We cannot export something which has not been a success at home.” (Stated by four interview candidates)</p>		<p>to Telenor Nett when using a Smart card, why should it be different just because the carrying network is mobile?” (External interview candidate)</p> <p>“Customers frequently ask us to assist in exporting their solutions. We cannot see anything but costs in it for us. It is highly unlikely that we would be willing to sell technical solutions abroad on behalf of Telenor Mobile.” (External interview candidate)</p> <p>“Dnb has an ambition to be international. We already have a payment solution in Denmark together with Danish content providers.” (External interview candidate)</p>

Resource	Main characteristics	Summary based on interviews	Other oral and written sources	External sources viewpoints
		“The pure Norwegian market focus of product development will not be accepted in the future.” (Stated by one interview candidate)		
<b>Human resources</b>				
	<i>Training and expertise</i>	<p>“The Mcommerce staff has primarily been recruited from within Telenor, but not from Telenor Mobile.” (Stated by one interview candidate)</p> <p>“The Mcommerce group is divided into 3 parts: technical, bank/finance and 3. party content handling.” (Stated by 2 interview candidates)</p> <p>”Focus on knowledge sharing within the group.” (Stated by one interview candidate)</p>	<p>Telenor aims to help you enhance your career development with formal education and training programmes. Employees are encouraged to expand their qualifications and horizons with internal and external courses, on and off the job training, e-learning, seminars and conferences. Our ongoing programmes for training and further education ensure a high professional standard among our management and employees. (Source: <a href="http://www.telenor.com">www.telenor.com</a>)</p>	
	<i>Adaptability of employees and strategic flexibility</i>	<p>“We get things done quickly. We have a lot of freedom to do as we see fit. We are allowed to make mistakes, but not to make the same mistake twice.” (Stated by three interview candidates that they are responsive and with lots of freedom internally)</p> <p>”The Mcommerce efforts are</p>	<p>Telenor offers exciting and challenging careers with competitive pay, excellent benefits and exceptional advancement opportunities. (Source: <a href="http://www.telenor.com">www.telenor.com</a>)</p> <p>The average age of a Telenor Mobile employee is 37.1 year. (Source: Telenor HR department)</p>	<p>“A dominant design will be introduced by Microsoft.” (External interview candidate)</p> <p>“Telenor Mobile’s proprietary solution will disappear.” (External interview candidate)</p> <p>“Capital transactions are very local.</p>

Resource	Main characteristics	Summary based on interviews	Other oral and written sources	External sources viewpoints
		<p>technology driven.” (Stated by one interview candidate)</p> <p>”We continue to work on our proprietary solution, but if a dominant design appears, then we will switch to that solution.” (Stated by two interview candidates)</p> <p>“I don’t believe in an international standard for bank access. The solutions will have to be custom made in each country.” (Stated by one interview candidate)</p> <p>“International efforts should focus on the companies where Telenor Mobile is an owner.” (Stated by three interview candidates)</p>		<p>Each country has its own solutions.” (External interview source)</p> <p>Credit cards are a franchising system with local owners and implementers. Each country will have to be handled separately. This will be expensive and time-consuming.” (External interview source)</p> <p>“Currently no one is working on Mcommerce. Our focus is on penetration, gaining new customers and pre-paid.” (Employee Telenor Mobile subsidiary)</p>
	<i>Commitment and loyalty</i>	<p>”There is a lack of resources and the workload is heavy.” (Stated by three interview candidates)</p> <p>“The working environment is good, and the employee attrition rate was zero last year.” (Stated by two interview candidates)</p>	<p>“5-6 employees in Mcommerce have been working there since the beginning in 1996” (Source: Telenor Mobile employee)</p> <p>Due to technical problems the Mcommerce group alternates on surveying the system on their spare time without being paid for overtime, to provide the users with the best possible service.</p>	

Resource	Main characteristics	Summary based on interviews	Other oral and written sources	External sources viewpoints
			<p>(Source: Telenor internal Web site)</p> <p>The attrition rate for Telenor Mobile for the first 6 months of 2002 where 2.1%. (Source: Telenor HR department)</p>	

**6.1.1 Summary of Resources**

<b>Strengths</b>	<b>Weakness</b>
<ul style="list-style-type: none"> <li>• M-commerce has a strong business case.</li> <li>• Telenor Mobile has an advanced full scale payment solution.</li> <li>• Telenor Mobile cooperates with a bank to provide bank account access.</li> <li>• Trademarks have been registered in a number of countries.</li> <li>• Telenor Mobile has 4 years of market experience with Mcommerce services.</li> <li>• Telenor Mobile is the dominant player in the Norwegian market.</li> <li>• Recent marketing efforts have lead to new customers.</li> <li>• Repeat buy is high for Mcommerce customers.</li> <li>• Strong focus on security aspects.</li> <li>• Good understanding of Mcommerce business models.</li> <li>• Willing to switch to dominant design if it should emerge.</li> <li>• Good working environment, and focus on knowledge sharing within the Mcommerce group.</li> <li>• Adaptable, speedy and motivated Mcommerce group.</li> </ul>	<ul style="list-style-type: none"> <li>• Telenor Mobile is a small player internationally, and with limited financial resources.</li> <li>• Export has been neglected from the start.</li> <li>• Telenor Mobile is not good at patenting.</li> <li>• Telenor Mobile is not active in international forums for Mcommerce standardization.</li> <li>• Lacks knowledge in finance.</li> <li>• Loose connection between business unit and research environment.</li> <li>• Mcommerce is classified as Telenor Mobile's secret service.</li> <li>• Telenor Mobile favours bank account access, but the customers choose SmartCash.</li> <li>• Technical instabilities.</li> <li>• Lack of international partner to assist during export phase.</li> <li>• Lack of content, and handling of 3<sup>rd</sup> party networks.</li> <li>• Lack of gaming partner.</li> <li>• The Mcommerce group is not fully integrated in line organization.</li> </ul>

## 6.2 Capabilities

Functional area	Capability	Summary based on interviews	Other oral and written sources	External sources viewpoints
<i>Corporate head office</i>	<i>Financial management</i>	“Telenor has very ambitious strategies within Mcommerce, but we have the money and the resources to realize them.” (Stated by one interview candidate)		
	<i>Multibusiness corporation</i>	“It is easier to cooperate with 3 <sup>rd</sup> parties than with other Telenor companies.” (Stated by one interview candidate)		
	<i>Effectiveness towards divisional and business unit management</i>	<p>“Top management has been very supportive, especially Baksaas.” (Stated by 3 interview candidates)</p> <p>“Telenor Mobile is no longer growing. The main focus is now on cost and budget cuts. The quick decisions have disappeared.” (Stated by one interview candidate)</p>		
	<i>Management of acquisitions</i>		At the end of 2001, Telenor Mobile was positioned in mobile companies in 13 countries; it was the world’s third largest supplier of satellite services through the Inmarsat system, and one of the two leading TV distributors in the Nordic region. The group was present in more than 30 countries	<p>”Telenor Mobile is too small to take their Mcommerce solution world-wide.” (External interview candidate)</p> <p>“Telenor Mobile is too focused on synergies with the subsidiaries abroad. The market demands are completely different in a mature</p>



Functional area	Capability	Summary based on interviews	Other oral and written sources	External sources viewpoints
			<p>at the end of 2001. (Source: www.telenor.com)</p> <p>Telenor has an ongoing project to achieving cost synergies togetherwith its subsidiaries abroad. During 2001 the companies saved a total of 1.1 billion NOK through this project. (Source: Telenor internal Web site)</p>	<p>market, like Norway, and in high growth, pre-paid only and cash economies, where the subsidiaries are.” (Stated by 2 external interview candidates)</p> <p>“We have only looked at a Mcommerce solution from a similar cash-market as the one we are operating in. In further investigations we would focus on solutions already implemented in markets similar to ours.” (Employee Telenor Mobile subsidiary)</p> <p>“Center of Excellence is OK, but we need contacts – faces and names.” (Employee Telenor Mobile subsidiary)</p>
<b>Management information</b>	<i>Comprehensive MIS network</i>		<p>“Sufficient MIS network for Telenor Mobile in Norway, but none existent infrastructure towards subsidiaries abroad.” (Source: Telenor Mobile employee)</p>	
<b>Research and development</b>	<i>Capability in basic research</i>		<p>Telenor FOU has 300 million NOK in yearly revenues, of which 100 million is allocated for free</p>	

Functional area	Capability	Summary based on interviews	Other oral and written sources	External sources viewpoints
			<p>research and 50 million is EC funding.</p> <p>Telenor FOU conducts basic research with a 5-10 year perspective in co-operation with academic environments. This is about 5% of yearly revenues and 50 employees.</p> <p>The main focus of the research is on the 2-4 year perspective.</p> <p>Telenor FOU has a total of 350 employees, and 300 of them are researchers.</p> <p>10-15 employees work on Mcommerce related research in a 2-4 year perspective.</p> <p>(Source: Telenor FOU management)</p>	
	<p><i>Fast cycle development of innovative new products</i></p>	<p>“Mcommerce started as cooperation with Ericsson in 1998, and the first product was launched in 1999.” (Stated by one interview candidate)</p> <p>“Mcommerce is a necessity to be able to offer content on a mobile phone. In 3G content, bandwidth, billing and service offerings will be the essential ingredients of success.” (Stated by one interview candidate)</p>		<p>“Mcommerce is considered to be an innovative product by the market.” (External interview candidate)</p>

Functional area	Capability	Summary based on interviews	Other oral and written sources	External sources viewpoints
	<i>Speed of new product development</i>	“Telenor Mobile launched Mcommerce in the market place in 1999, while Telia/Netcom has not launched a service yet.” (Stated by 2 interview candidates)		“We are uncertain as to whether this will be a success in the market. But at the same time we are afraid of falling behind.” (External interview candidate)
<b>Manufacturing</b>		Not relevant since telecommunication operators usually don’t manufacture anything.		
<b>Product design</b>	<i>Design capability</i>	“We need to make registration procedures easier to use for the customers.” (Stated by five interview candidates)  “There is a conflict between high security and ease of use.” (Stated by two interview candidates)		
<b>Marketing</b>	<i>Brand management and brand promotion</i>	“Telenor Mobile will not introduce any new brands for Mcommerce. The services will be marketed as a part of Telenor Mobile’s service portfolio.” (“Stated by one interview candidate)		“We worry about what Mcommerce will do to our brand in the long term.” (External interview candidate)
	<i>Promoting and exploiting reputation for quality</i>		Customers are generally satisfied with Telenor Mobile as a company. (Source: internal Telenor Mobile document summarizing findings from a customer satisfaction survey)	“It is all about selling trust, and Telenor Mobile is trust worthy from a customer viewpoint.” (External interview candidate)

Functional area	Capability	Summary based on interviews	Other oral and written sources	External sources viewpoints
	<i>Understanding and responsiveness to market trends</i>		<p>Telenor Mobile employees view their innovative abilities as the key strength of the company. (Source: Internal Telenor Mobile survey)</p> <p>56% of Norwegian IT managers rate Telenor Mobile as the best company in Norway on innovation and technical development. (Source: Dun &amp; Bradstreet report)</p>	
	<i>Effectiveness in promoting and executing sales</i>	<p>“We have had great response to our marketing efforts lately, and gained many new Mcommerce customers.” (Stated by one interview candidate)</p>	<p>92% of Telenor Mobile’s business customers state that they are satisfied with their sales representative. (Source: internal Telenor Mobile document summarizing findings from a customer satisfaction survey)</p>	<p>“The number of Mcommerce customers are fewer than expected, due to a neglect of market efforts.” (External interview candidate)</p>
	<i>Efficiency and speed of distribution</i>	<p>“Registration can be done with SMS for SmartCash – it takes 20 minutes. For bank access one needs to fill out a form. This form can be found on Telenor Mobile’s Web site and on Dnb’s Internet bank site.” (Stated by one interview candidate)</p> <p>Telenor Mobile is majority owner in 5 mobile equipment retail chains. This includes 1600 retail outlets. (Source: internal Telenor</p>		<p>“Young people do not have bank accounts or credit cards. No wonder they prefer SmartCash.” (External interview candidate)</p>

Functional area	Capability	Summary based on interviews	Other oral and written sources	External sources viewpoints
		<p>Mobile document)</p> <p>Telenor Mobile controls all campaigns towards the market place. All purchases of mobile end user equipment are directly controlled through an internal logistics department. (Source: internal Telenor Mobile document)</p>		
	<p><i>Quality and effectiveness of customer service</i></p>		<p>The majority of Telenor Mobile's customers are satisfied with the customer service organization. (Source: internal Telenor Mobile document summarizing findings from a customer satisfaction survey)</p>	

**6.2.1 Capability summary**

Strength	Weakness
<ul style="list-style-type: none"> <li>• Strong financial situation in Norway.</li> <li>• Supportive management on all levels.</li> <li>• Research environment and basic research capability.</li> <li>• Reputation for being first in the marketplace with new services.</li> <li>• Focus on customer ease of use, and simplifying registration procedures.</li> <li>• Clear branding strategy.</li> <li>• Conducts customer surveys on satisfaction. Customers are reasonably satisfied with sales representative and customer service.</li> <li>• Reputation for being innovative.</li> <li>• Hard vertical integration of mobile retail outlet chains.</li> <li>• Control of logistics and marketing campaigns.</li> </ul>	<ul style="list-style-type: none"> <li>• Cooperative challenges between Telenor business units.</li> <li>• Rationalization process within Telenor Mobile.</li> <li>• Lack of tools to support cooperation between subsidiaries across national borders.</li> </ul>

## 7 Appraisal of the rent-generating potential of resources and capabilities

### 7.1 Potential for sustainable competitive advantage

In this section we apply a test to see which resources and capabilities create value. The test applied is a combination of Robert Grant's questions and David J. Collis and Cynthia Al. Montgomery's". We have chosen the best of both to ensure that we get a good mapping of Telenor Mobile's strengths.

In the table below all resources and capabilities from the Telenor Mobile analysis, which have been listed as strengths, will be valued according to three questions. The questions are:

1. **Scarcity:** *Is the resource/capability hard to copy?*
2. **Substitutability:** *Can a unique resource/capability be substituted?*
3. **Competitive superiority:** *Whose resource/capability is really better?*

The question of competitive superiority will be answered with a benchmarking towards Telia/Netcom, which is Telenor Mobile's main competitor in the Norwegian market.

Resource/ Capability	Scarcity	Substitutability	Competitive superiority
<b>Strong business case</b>	Hard to copy to due Telenor Mobile's installed customer base.  Not likely that churn will increase dramatically.	Customer adoption rate is slower than expected, and the service might never gain mass-market acceptance.	Telia/Netcom has a smaller installed customer base and therefore one could assume a less favourable business case. (Source: Customer figures are frequently released to the press)
<b>Technical solution</b>	Can be copied by anyone with enough technical know-how within the next 3 years. (Assumption: If Telenor Mobile can do this in 3 years, so can the competition)	Can be replaced by a dominant design.	Telia/Netcom has not yet launched a service. (Source: Telenor Mobile employee)
<b>Bank cooperation</b>	No, when someone has opened the gate to this kind of cooperation, others will likely follow. Maximum 3 years to establish cooperation and finalize technical solution.	Customers might favour credit card solutions.	Rumours state that a cooperation with Nordea is established. (Source: Telenor Mobile employee)

<b>Resource/ Capability</b>	<b>Scarcity</b>	<b>Substitutability</b>	<b>Competitive superiority</b>
	(Assumption: If Telenor Mobile can do this in 3 years, so can the competition)		
<b>Bank account access</b>	No, but it requires cooperation with a bank. It would take a maximum of 3 years. (Assumption: If Telenor Mobile can do this in 3 years, so can the competition)	So far customers prefer SmartCash.	Telia/Netcom has focused on credit cards. (Source: Telenor Mobile employee)
<b>Registration of trademarks</b>	Yes, cannot be copied in registered markets.	Can cause confusion towards other Telenor brands.	Will have to register their own brands.
<b>Market experience</b>	No, Telenor Mobile has a 3 year lead in the Norwegian market. Will decrease when Telia/Netcom has launched their service, and vanish completely eventually as the competition gains the same experiences.	Service might fail, and market experience will be of less value.	No market experience currently. (Source: Telenor Mobile employee)
<b>Dominant player</b>	Yes Telenor Mobile dominates; it is not likely to decrease dramatically.	Government regulations to increase competition.	Telenor Mobile will continue to dominate in the foreseeable future. (Assumption made by the authors)
<b>Customer acquisition</b>	Yes, Telenor Mobile has already gained a number of Mcommerce customers. Customer churn is low.	No	Telenor Mobile has first mover advantages. (Source: Telenor Mobile employee)
<b>High repeat buy</b>	No, not as long as the service offering is attractive. Depreciates when Telia/Netcom has launched, gained customers and increased their ARPU too.	No	Telenor Mobile is the only one with a service. (Source: Telenor Mobile employee)
<b>Security aspects</b>	Yes, it has been patented. But other solutions might be acceptable to the customers. Lasts until the patent expires.	Yes, a dominant design might appear.	Hard to estimate, but believed to be of high importance by Telenor Mobile employees. (Source: Interview results from Telenor Mobile)



<b>Resource/ Capability</b>	<b>Scarcity</b>	<b>Substitutability</b>	<b>Competitive superiority</b>
<b>Business models</b>	Yes, due to Telenor Mobile's strong position in the market place. Might change when contracts with 3 <sup>rd</sup> parties are renegotiated.	Offerings can be made free of charge, just like on the Internet.	Not familiar with upcoming business models of Telia/Netcom. (Authors comment)
<b>Adaptability towards dominant design</b>	Telenor Mobile employees indicate high degree of willingness to switch solution if required. It all depends on the difference between what they say, and what they are actually willing to do.	They might keep their proprietary solution, due to their market dominance.	Might be more or less willing to switch to dominant design. (Authors comment)
<b>Good working environment</b>	Not hard to copy.	Yes	No
<b>Adaptable Mcommerce group</b>	Not hard to copy	Yes	Not familiar with Mcommerce group within Telia/Netcom. (Authors comment)
<b>Financial situation</b>	Yes, Telenor is financially strong in Norway, but much weaker abroad. Not likely to depreciate in the foreseeable future.	Management can choose to spend the money on other things than Mcommerce.	Telia/Netcom is smaller and financially weaker. But on a Nordic level Telia is much stronger financially than Telenor. (Source: Telia/Netcom yearly report and authors comment)
<b>Supportive management</b>	This is not hard to copy. It has lasted for 5 years, but if revenues are non satisfactory, then it will disappear eventually.	Management might loose interest or focus on another service with more favourable returns.	Not familiar with Telia/Netcom's management support. (Authors comment)
<b>Research</b>	Yes, research is expensive. Not expected to depreciate, but one could stop research activities on Mcommerce.	Research can be outsourced or abandoned.	Telia/Netcom has no research unit. Telia does research, but it is not known to what extent that benefits Netcom. (Source: Telenor employee and

<b>Resource/ Capability</b>	<b>Scarcity</b>	<b>Substitutability</b>	<b>Competitive superiority</b>
			authors comment)
<b>First mover advantages</b>	3 year lead in the market place. This will depreciate quickly after the Telia/Netcom launch.	The failure of Mcommerce or appearance of a dominant design.	Still not in the market place. (Source: Telenor Mobile employee)
<b>Customer focus</b>	This is not hard to copy. The value will depreciate as soon as the competition gains market experience.	Too technical orientation might cause a loss of customer focus.	Not known, but Telia/Netcom does not have Mcommerce customer experience. (Source: Telenor Mobile employee)
<b>Customer surveys</b>	Not hard to copy. Short lasting, one has to continue to conduct surveys.	Customers might get their expectations up, and feel that Telenor Mobile is not fulfilling them.	Netcom/Telia does their own customer surveys. (Source: Telenor Mobile employee and authors comment)
<b>Innovative abilities</b>	Yes this is hard to copy. Not likely to depreciate, but might be tested since Telenor Mobile is no longer growing.	Increased employee turn-over, less motivation as a result of smaller budgets.	Telenor Mobile is considered more innovative than Telia/Netcom. (Source: Dun & Bradstreet report)
<b>Distribution</b>	Yes, this is hard to copy due to ownership structure. Not likely to depreciate.	The only threat is government regulations.	Telia/Netcom is struggling with their distribution. (Source: Telenor Mobile employee and various press coverage on the subject)
<b>Logistics</b>	Not hard to copy. Logistics handling can be outsourced.	Outsourcing of logistics.	Logistics is outsourced. (Source: Ericsson employee)
<b>Market campaigns</b>	Yes, hard to copy due to dominant position and marketing budgets. Not likely to depreciate in the foreseeable future.	Failed campaigns, weaker brand, bad reputation in the market place (which could be caused by technical problems)	Smaller marketing budgets, but Telia could choose to run Nordic campaigns. (Source: Telia/Netcom yearly reports)

### 7.1.1 Appropriability of their returns

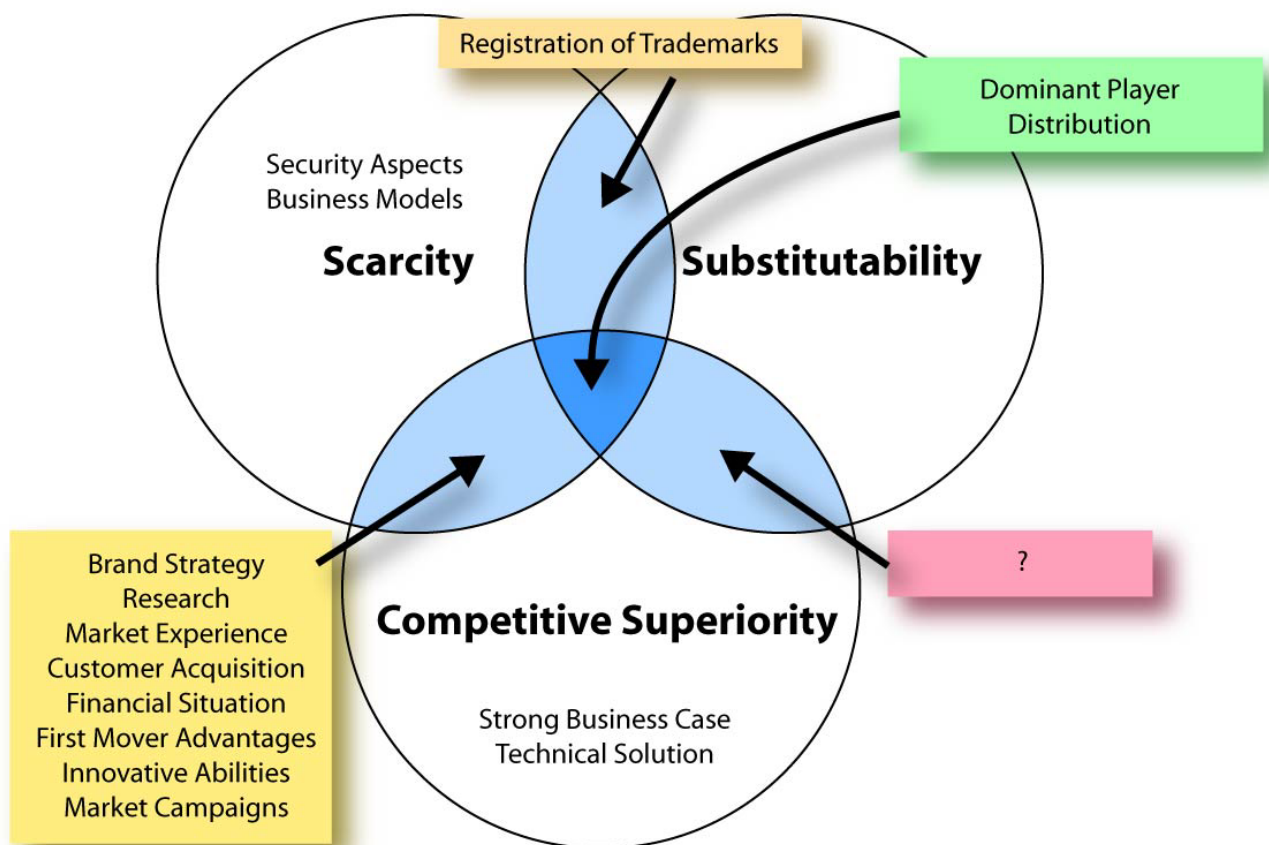
This is a summary of the table above, where all three aspects (scarcity, substitutability, competitive superiority) are indicated as a + if the analysis above indicated a strength for Telenor Mobile. We assume that a resource or capability will sustain competitive advantage and generate returns if it satisfies all three aspects. The results below will therefore be mapped into a model to depict the appropriability of their returns.

Resource/Capability	Scarcity	Substitutability	Competitive superiority
Strong business case			+
Technical solution			+
Bank cooperation			
Bank account access			
Registration of trademarks	+	+	
Market experience	+		+
Dominant player	+	+	+
Customer acquisition	+		+
High repeat buy			
Security aspects	+		
Business models	+		
Adaptability towards dominant design			
Good working environment			
Adaptable Mcommerce group			
Financial situation	+		+
Supportive management			
Research	+		+
First mover advantages	+		+
Customer focus			
Brand strategy	+		+
Customer surveys			
Innovative abilities	+		+
Distribution	+	+	+
Logistics			
Market campaigns	+		+

The model below is similar to the one used by David J. Collis and Cynthia Al. Montgomery, but we have adjusted the headlines to match our mapping above and our questions asked. The mapping divides Telenor Mobile’s strengths into 4 categories:

1. It does not satisfy any of the questions, and are therefore not mapped.
2. It satisfies one question only and is mapped into the according circle.
3. It satisfies 2 questions, and is mapped into the shaded area between the two circles.
4. It satisfies all 3 questions, and is mapped into the very middle – where all 3 circles meet.

## Telenor Value Creation Zone (Shaded)



We then define that value creation takes place where any 2 circles interface (the shaded area), but that sustainable competitive advantage is indicated only in the middle section. This section has therefore a darker shade than the rest of the value creation zone. In Telenor Mobile’s case the only two aspects which our analysis indicates provides sustainable competitive advantage is dominant player and distribution. Neither of the two is specifically related to Mcommerce. These are competitive advantages that Telenor Mobile holds regardless of Mcommerce. The Mcommerce aspects are all mapped into the cross-section between scarcity and competitive superiority. This is due to the fact that most of these aspects

provide competitive advantages, but only for a brief period of time. Their competitive advantages within Mcommerce will quickly depreciate after the Telia/Netcom product launch.

One can of course argue that absolutely nothing will provide sustainable competitive advantage. All advantages are temporary, and will deteriorate with time. But we feel that there is a clear difference between some of Telenor Mobile’s competitive advantages in relation to their ability to withstand time. Mcommerce related resources and capabilities are providing Telenor Mobile with competitive advantage for the time being. But these advantages will depreciate faster than other advantages that Telenor Mobile also holds.

We therefore conclude that Mcommerce activities do not provide sustainable competitive advantage for Telenor Mobile in the Norwegian market. But as one interview candidate indicated, Mcommerce might be very important when applying UMTS technology. But that cannot be firmly concluded at this early stage. But if we assume that this is the case, then the Mcommerce experience will be valuable to Telenor Mobile regardless of its market success this time around.

Network externalities are common phenomena within the high-tech industries (Carl Shapiro and Hal R. Varian, 1999), and mobile phone services and SMS are no exceptions. A few years back Telenor Mobile seriously considered abandoning SMS all together due to lack of customer acceptance. Then suddenly the market exploded, very much as described by Geoffrey A. Moore in his book “Inside the tornado”. It might be possible that this will eventually happen with Mcommerce also, and then Telenor Mobile should be well position to handle this rapid customer growth.

### 7.1.2 VRIO analysis

To double-check our findings from our application of Robert Grant’s Resource analysis framework we use Jay Barneys VRIO model. The whole model is based upon 4 questions:

Valuable?	Rare?	Costly to imitate?	Exploited by organization?	Competitive implications	Economic performance	Strength or weakness
No	-	-	No	Competitive disadvantage	Below normal	Weakness
Yes	No	-	↕	Competitive parity	Normal	Strength
		No	↕	Temporary competitive advantage	Above normal	Strength and distinctive competence
Yes	Yes	Yes	Yes	Sustained competitive advantage	Above normal	Strength and sustainable distinctive competence

- **Valuable-** Yes, enough resources to act on environment and probably benefit from increased profit

**Rare-** Yes, there are no other operators offering Mcommerce services in Norway

telenor mobil (after 4 years of service)

- **Costly to imitate-** No, Telenor Mobile Mcommerce platform is “homebuilt” from the bottom. Indicated in 2 interviews, probably a lot cheaper to buy a standardized platform today.
- **Exploited by organization-** No and Yes. They have not used established relations with business customers to build the Mcommerce products for their customers (customers- customers). As one of Norway’s largest companies it should have been possible for the purchasing department to force their supplier to accept Mcommerce as a payment concept. But we can see out of Telenor Mobile Intranet, that every employee is stimulated and motivated to sell Mcommerce as a service.

The VRIO analysis reveals that Mcommerce in Telenor Mobile could give above normal in economic performance. The indications are strength and distinctive competence. Conclusion is indicated with a red colour. But the analysis also shows that the competitive advantages are temporarily – in other words there is a window of opportunity.

## 8 Trans-national opportunities for Telenor Mobile

Telenor Mobile is establishing a new concept called “Center of Excellence”.

A local subsidiary is responsible for all information, handling and training personnel, service, and competence towards other subsidiaries within Telenor Mobile. It’s defined as a center of excellence since the subsidiary probably has enjoyed substantial success on its local market within this area. In a trans-national model everything has to be linked together with internationally integrated and coordinated activities throughout the Telenor family.

There are some similarities between Center of excellence and the trans-national strategy, but most of Telenor Mobile’s subsidiaries are owned by several companies, so Telenor Mobile is not a majority shareholder. These subsidiaries are strategically and operationally independent of Telenor Mobile. It’s a problem in many ways. First of all they are not mentioned in the annual reports, and therefore not influencing the market value of the company. And secondly the subsidiaries are totally independent companies without day-to-day intervention from their owner.

Until recently Telenor Mobile functioned more like an investor towards the subsidiaries. But this is now changing for the 3 companies where Telenor Mobile has the majority of the shares in. Telenor Mobile reorganized the product and business manager division in the beginning of 2002. The intention of this division was to manage, develop best practice and support subsidiaries on a daily basis. The original organization resembled the trans-national model with a delegated structure and a constant search for best practice.

With the new, smaller and slimmer organization Telenor Mobile have to concentrate on longer-term questions and more operational projects within each subsidiary. And the project will have to be initiated by the subsidiary. It’s a combination of Decentralized and Coordinated federation, since most of the strategic and operational decisions are delegated to the local subsidiaries.

Telenor Mobile has also established a project called Procurement Synergies. This project measures potential savings from coordinated procurement amongst the subsidiaries. For the last 18 months (010101-070102) Telenor Mobile saved 186 million Euro on procurements, by coordinating across national borders amongst the subsidiaries (ref. Telenor Mobile Intranet).

In reference to interviews with different candidates Telenor Mobile misses the essential part of trans-national structure. This is due to factors such as the Mcommerce product development neglecting to “maximize responsiveness to local conditions and international integration” (Jay Barney, 2001). Mcommerce is only focusing on the Norwegian market, and then if they succeed they launch in international subsidiaries.

Telenor Mobile has to be responsive, internationally integrated and with a strong organizational structure (Jay Barney, 2001)

It’s reasonably to believe that Telenor Mobile would have gained economies of scope by introducing a new structural option like trans-national structure for these firms. Especially when we know that Telenor Mobile wants to export several services and platforms like:

- Mcommerce
- Multimedia Services (MMS)
- Content Provider Access for SMS, WAP, WEB and Positioning.
- Extranet for dealers
- Account management concepts for business markets

It’s possible that it would be easier for the local subsidiary to cooperate, if Telenor Mobile as an owner could be both local and global at the same time with focus on “experiments”. Both parts could gain new experience and competence that could increase their resources and capabilities compared to the local competition.

The subsidiary can gain economies of scope pursuing international strategies (Jay Barney, 2001) within these five areas:

- 1. Access to new customers for current product or services**
  - a. By Mcommerce
  - b. By CPA (SMS platform and business concept)
  - c. Account Management
- 2. Access to low-cost factors of production**
  - a. Cheaper platform like Mcommerce, CPA and MMS
  - b. Cheaper GSM infrastructure
- 3. To develop new core competencies**
  - a. By Sharing concept and best practice within Telenor Mobile as a whole.
- 4. To leverage current core competencies in new ways**
  - a. By Sharing concept and best practice within Telenor Mobile as a whole.
  - b. CPA business concept, since they already got SMS.
- 5. To manage corporate risk**
  - a. By establishing Best Practise and minimize Threats. Focus on important elements which could lead to sustainable competitive advantages

To achieve sustained competitive advantages for a multinational firm Jay. B Barney states that they should pursue an international strategy based upon a VRIO framework. The VRIO analysis will reveal valuable, rare, and costly to imitate resources and capabilities, and the right organization with integrated subsidiaries for exploitation and synergy effects.

## 9 Preferred strategy

In our description of Telenor Mobile's current Mcommerce status we listed a number of alternative ways forwards. We will now discuss each one briefly.

### 1. Keep focus on the Norwegian market

Telenor Mobile has a strong and dominant position in the Norwegian mobile market. It is highly likely that if a Mcommerce market appears then Telenor Mobile will be able to play an important role in this market too. But our analysis shows that Telenor Mobile does not hold any sustainable competitive advantages related to Mcommerce alone. It might therefore be wise to search for such advantages. This would protect Telenor Mobile's position in the market place for a longer time period, and hopefully also raise the barriers to entry for competitors. Currently the barriers to entry are low, and many small new-comers are trying to enter. The most obvious way of doing this is by exploiting the opportunities offered through the 3<sup>rd</sup> party network one is building. Telenor Mobile is better positioned to build such a network than any of its competitors.

It is likely that sooner or later a dominant design will appear. It seems reasonably to expect this to come from a company such as Microsoft. Despite this none of the interviewed candidates within Telenor Mobile feared Microsoft. Microsoft activities within Mcommerce should be watched carefully. If the future is one of open and network transparent services, then the mobile operators position within Mcommerce is dramatically weakened. Telenor Mobile is currently raising customer-switching costs as much as possible through its proprietary solution, and this could backlash upon them sometime in the future.

In the absence of a dominant design, and with Telenor Mobile's position in the market place then Telenor Mobile should continue its Mcommerce activities. The company will then gain valuable experience, which might be useful in the next generation of networks.

### 2. Try to export technology to anyone who wants to buy

No, we think that this is an expensive undertaking, and one that Telenor Mobile is too small to do on its own. Telenor Mobile could search for a partner, but it might be difficult to find such a partner at this stage of Mcommerce. The partnership should then have been established from the beginning of the implementation project. Other operators may be reluctant to buy network platforms from a competing operator. One would also have difficulties gaining economies of scale in competition with equipment vendors like Ericsson and Siemens. There is also a chance that the large vendors give away network nodes free of charge during large contract negotiations, and then the financial returns of a Mcommerce platform would be neglectable.

### 3. Sell the technology to one of the biggest players within the industry

If a potential buyer approaches Telenor Mobile, it should serious considered. This might be the best way to go internationally on a broad basis with such a product.



**4. Team up with someone better suited to sell the solution world-wide**

It is most likely too late to find such a partner. The expenses and risks involved will be very high for both Telenor Mobile and the partner.

**5. Try to gain acceptance for technical solution within standardization environment to make Telenor Mobile's solution the emerging dominant design.**

Since Telenor Mobile is not currently active in the standardization forum, it is probably a little late for this option. It is also an expensive and risky undertaking. Telenor Mobile would have to do a lot of lobbying towards the other actors, and the chances of losing out would be high. Telenor Mobile is too small player internationally to select this route.

**6. Try to export as much as possible to subsidiaries abroad**

Telenor Mobile should definitely try to export Mcommerce on a broad range to its subsidiaries abroad. This could generate synergy effects for the company as a whole, and it can support the projects already started. The subsidiaries operate in very different economic systems than the one in Norway. But currently it is the Smartcash solution which is being preferred by Mcommerce customers. And the youngsters within our economy also live in a "cash economy", so there might be some similarities to be reused abroad. Unfortunately the exportability of Mcommerce has not been considered when designing the system. This is unfortunate, and will have to change for development projects in the future.

## 10 Resource gaps

We will now try to indicate which resource and capability gaps the analysis above reveals. Gaps are most likely found on our lists of resource and capability weaknesses. The weaknesses should prevent Telenor Mobile from fulfilling its selected Mcommerce strategies.

In the theory of Jay Barney resource GAPS are defined as a calculating exercise, as indicated below:

Key success factors for the industry  
- Firms Strength and Weaknesses  
+ Influenced by the firm's strategy  
= Firms resource GAPS

But if we were to apply this theory, then we would need to know the key success factors of the Mcommerce industry. But this is an emerging industry, and success factors are therefore not well defined. We will try to guess what might be some key success factors for the Norwegian Mcommerce market.

### **Potential Mcommerce key success factors:**

- Dominant design accepted across the industry
- Established customer base
- Financial strength
- Financial knowledge
- Brand
- Current position within the mobile market
- Payment methods (bank account access)

- Distribution
- 3<sup>rd</sup> party network

If we then compare this list with Telenor Mobile's strength and weaknesses we find the following deviations, which we choose to classify as Telenor Mobile's resource and capability gaps:

**1. Proprietary technical solution**

Since there is no dominant design, proprietary solutions will have to be made. But the adaptability towards an emerging dominant design will be critical. There is also a distinct difference between how Telenor Mobile builds a proprietary network and positions itself in the middle, and the way Orange are offering open solutions in Denmark to anyone who wants to join in. History has shown several times that the design which is shared might have a better chance of gaining critical mass (ref. VHS towards Betamax).

**2. Financial knowledge**

Several interview candidates have emphasized that Telenor Mobile would have benefited from increased knowledge on finance.

**3. Limited 3<sup>rd</sup> party network**

The potential partners have WAP fresh in mind, and are reluctant to join in. At the same time if Telenor Mobile cannot build such a network in Norway, than it will be even more difficult for the competition to do so. The risk here is that if Mcommerce is another flop, then 3<sup>rd</sup> parties will be even more reluctant the next time around, which is UMTS.

**4. Inter-business unit cooperation**

Loose connection between Telenor Mobile and other Telenor business units, subsidiaries abroad and Telenor FOU (research department). Telenor Mobile could probably realize economies of scale and scope by strengthening the cooperative efforts.

**5. Rationalization process throughout the company**

The rationalization process might affect employee motivation, and attrition rates.

In addition we find some discrepancies related to Telenor Mobile's ambitions to go internationally:

- **Lack of trans-national structure**

There are no support systems for holding the subsidiaries together as a whole. They operate as many independent companies.

- **Available financial resources**

Telenor Mobile is a small player internationally.

- **Focus on exportability**

Product development needs to focus on reuse and exportability when designing systems.

## 11 Future challenges

During the work with this thesis many questions have been raised within the heads of the authors. It is our opinion that they need to be discussed further within Telenor Mobile. We will not try to discuss them here, but we would like to raise them.

- Need to clarify strategy and relationship with subsidiaries abroad.
- What can be exported and how? Where are the money and the cost?
- Is it financially justifiable to implement superb technical solutions?
- Is Telenor Mobile too technically oriented rather than customer oriented?
- What happens when a dominant design emerges?
- The higher up in the competence value chain, the weaker Telenor Mobile's position becomes especially abroad?
- Is it financially smart to be first in the market place? If yes, how far ahead of the market should one be (currently 4 years for Mcommerce)?
- Why is it necessary with a success story in the home market before one can export a solution?
- Are the experience from the Norwegian "debit focused market" important in credit and cash focused markets like Russia, Bangladesh and Asia?
- What is the defined point of success for Mcommerce within the Norwegian market?

## 12 Concluding discussion

At the beginning of this thesis we raised 3 specific questions to be answered. We will now briefly summarize the questions and the answers.

1. **Which are the key sources of sustainable competitive advantage within Mcommerce?**
  - We have generated a list of resources and capabilities listed as strengths for Telenor Mobile. We have then put every single item on the list to a test of scarcity, substitutability and competitive superiority. We have shown that none of the Mcommerce aspects on the list provides sustainable competitive advantages. But they do provide competitive advantages for the time being. We have then double checked our findings by using Jay Barneys VRIO model, and found similar results.
2. **Which strategy should Telenor Mobile select to position itself within the Mcommerce market worldwide?**
  - We have discussed every point from the list of possible ways forward. We have clearly distinguished between strategies within the Norwegian market and abroad. We have indicated which strategies we think should be taken further, and which should be considered too expensive or too risky.
3. **Are there any resource gaps within Telenor Mobile related to Mcommerce, which will prevent them from achieving the strategy as defined above?**
  - We have suggested a list of key success factors for Mcommerce in the Norwegian market. We have then compared this list with Telenor Mobile's list of resources and capabilities strengths and weaknesses. A number of gaps have been identified.

**Towards the end of this thesis we introduced a brief discussion on the exportability of resources and capabilities in a theoretical context according to the theories of Jay Barney.**

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## 14 Appendices

<b>The international Company portfolio for Telenor Mobile pr. 31 December, 2001 and percentage owner share from 1 July 2002</b>					
Market	Population (millions)	Company	Owner ship in % (pr. 1 July 2002)	Subscriptions 2001	Subscriptions 2000
Norway AS	4.5	Telenor Mobil (Norway)	100.00	2,307	2,199
Hungary	10.2	Pannon GSM	100	1,953	1,217
The Ukraine	49.8	Kyivstar	61,9	1,095	302
Denmark 2)	5.4	Sonofon	53.50	940	875
Kaliningrad	1	Extel GSM	49.00	56	12
Stavropol	2.7	StavTeleSot	49.00	70	28
Montenegro	0.7	ProMonte	44.10	159	109
Moscow-area	15.3	VimpelCom	28.98	1,923	834
Portugal	10.1	OniWay	20.00	-	-
Greece	10.9	Cosmote	18.00	2,944	2,061
Austria	8.1	Connect Austria	17.45	1,350	1,133
<b>Total:</b>		<b>Europe</b>		<b>12,797</b>	<b>8,770</b>
Malaysia	23.8	DiGi.com	61.00	1,039	824
Bangladesh	131	Grameen Phone	46.41	464	191
Thailand	61.2	Total Access Public Co. Ltd (DTAC)	40.30	42,738	1,403
<b>Total</b>		<b>Asia</b>		<b>4,241</b>	<b>2,418</b>