NTT DoCoMo’s competition strategy (before and) after the introduction of the flat rate

by

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Signature of Author

MIT Sloan School of Management

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MASAAKI YAJIMA

Submitted to the MIT Sloan School of Management
on May 9, 2008 in partial fulfillment of the requirements for
the Degree of Master of Business Administration

ABSTRACT

NTT DoCoMo, which was spun off from NTT in 1992, grew rapidly by increasing the number of subscribers and successfully implementing a new data communication, i-mode. However, when a competitor introduced a flat rate for data communication, the situation changed dramatically for NTT DoCoMo, as its operating profits and enterprise value began to decrease. Today the company is struggling to develop a new growth driver that will be effective in this new age of flat rates.

In this thesis, I analyze the early successes of NTT DoCoMo, including both its voice and communication services, as well as i-mode. My analysis utilizes several frameworks: (1) Michael Cusumano’s eight-point analysis for start-ups; (2) Michael Porter’s five forces analysis and four factors analysis; and (3) an analysis from the perspective of four important competitive factors in the mobile phone industry.

Next I consider the impacts of the introduction of flat rate on data communication. I analyze the industry’s background at the time of the flat-rate introduction, and present some quantitative analysis.

Finally, I analyze NTT DoCoMo’s strategy for dealing with the flat rate. NTT DoCoMo is trying to establish new business models within, as well as outside, the mobile telecommunications industry, and I evaluate these new business models. In particular, the credit card business appears to hold considerable promise for the mobile telecom industry, and my analysis pays special attention to that industry sector.

Thesis Supervisor: Michael A. Cusumano
Title: Sloan Management Review Professor of Management
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Finally, I thank my wife, Kumiko, and my sons Shunta and Yohsuke, for their cooperation and assistance — with my great gratitude.

Masaaki Yajima
Brookline, Massachusetts
May 2008
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<td></td>
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</tr>
</tbody>
</table>
Chapter 1

Introduction

The mobile telecommunications industry has developed rapidly over the past 20 years. In Japan, mobile telecommunications began in 1979 as in-car mobile phones provided by Nippon Telegraph and Telephone (NTT), Japan’s state-owned telecommunications company. In 1988, just prior to the introduction of competition, there were only 239,000 users—and it took almost 10 years to acquire that many customers. Since then, however, the number of users has increased to more than 100 million by the end of 2007—more than 400 times the number of users in 1988!

NTT DoCoMo (my employer) is a mobile telecom operating company that was spun off from NTT in 1992, and it too has witnessed rapid growth during the same time period. For example, when NTT DoCoMo started, there were less than one million users, but that number had increased to more than 50 million by the end of 2007. Its annual revenue increased from ¥328 billion in FY 1992 to ¥4,788 billion in FY 2006. More dramatically, its enterprise value reached ¥40 trillion in 2000 (if $1 equals ¥110, it is more than $360 billion), and NTT DoCoMo was rated third in the world by size of enterprise value by the Financial Times. The effects of the IT bubble burst are included in this enterprise value, but NTT DoCoMo had a clear growth strategy that enabled it to weather that difficult time.

In contrast, the pace of growth has been decreasing, owing to the high penetration rate of mobile phones and ongoing strong competition. However, I believe the most important reason for this stagnation was the introduction of the flat rate for data communication in 2003. In the mobile telecom industry, operators sought to increase revenue by through increased data communications by offering attractive content, such as music downloads and games. But the introduction of the flat rate for data communications put a virtual ceiling on the operators’ revenue. In fact, NTT DoCoMo’s revenue has
remained stagnant since 2003 (i.e., FY 2003: ¥4,809 billion; FY 2006: ¥4,788 billion). Therefore, it is urgent that new strategies for growth are developed for mobile telecom operators in Japan.

In view of these difficult circumstances, in this thesis I will analyze NTT DoCoMo’s strategy before the introduction of the flat rate for data communication, because during that period NTT DoCoMo achieved rapid growth with effective strategies, and analysis of those strategies can help the firm to develop viable strategies for the future.

In chapters 2 and 3, I will analyze the company’s situation and current strategies by applying several frameworks: (1) Michael Cusumano’s eight-point analysis for start-ups; (2) Michael Porter’s five forces analysis and four factors analysis; and (3) an analysis from the perspective of four important competitive factors in the mobile phone industry.

In chapter 4, I will consider the various impacts of the introduction of flat rate for data communication. I will analyze the industry background at the time of the flat-rate introduction, and conduct some quantitative analysis.

Finally, in chapter 5, I will analyze NTT DoCoMo’s strategy for dealing with the flat rate for data communication. NTT DoCoMo is trying to establish new business models within as well as outside the mobile telecom industry, and I will evaluate these new business models. In particular, the credit card business appears to hold considerable promise for the mobile telecom industry, and I pay special attention to that analysis.
Chapter 2

Competitive Factors in the Japanese Mobile Telecommunication Industry

2.1 Industry Overview

A brief historical overview of the Japanese mobile telecom industry will be helpful to the reader’s understanding of the strategies that have been developed and implemented by NTT DoCoMo.

From the perspective of the network system, the evolution of mobile telecom can be divided into three generations: first generation (analog), second generation (digital), and third generation (IMT-2000 or 3G). From the perspective of service, the evolution can be divided into three time periods: the voice communication age, the data communication age, and the flat-rate age. The network system perspective and the service perspective are integrally tied to each other, but for purposes of this thesis, I will deal primarily with the latter, i.e., a focus on service and strategies. Figure 2-1 indicates the relationships between the service and network system perspectives.

2.1.1 Voice Communication Age

![Fig. 2-1 Evolution of the mobile telecom industry from two perspectives](image)
Beginning in 1979, and until 1998, Japanese mobile telecom service offered only voice communication, so this period is referred to as the voice communication age. In the beginning, mobile phone penetration was limited because area coverage was not well developed. In 1988, competition was introduced, and in 1992 NTT DoCoMo became a separate entity from NTT, the dominant telecom company. These changes gradually improved the situation, and penetration reached 33% by the end of 1998.

The network system technology evolved from first generation to second generation during the voice communication age, resulting in improved voice communication quality. Some companies, including NTT DoCoMo, adopted the PDC system, originally developed in Japan, while other companies adopted CDMA One, which was developed in U.S. As globalization evolved in the telecom industry, the adoption of standardized technology became more and more important, and the technologies utilized in the second-generation network system had a major impact on later competition. This was especially true because the transition to the third-generation network system depended on the second-generation network system that had been adopted by each mobile telecom operator. I will discuss this issue in chapter 4.

2.1.2 Data Communication Age

In February 1999, NTT DoCoMo began its i-mode service, which enables users to use the Internet to access websites and e-mail. NTT DoCoMo's competitors, KDDI and J-phone (now Softbank) started similar services in April and December 1999. Data communication service enables mobile telecom operators to sustain growth not only by the increased number of users but also by boosting data communication, even if a high penetration rate already existed. While mobile phones are used primarily for voice communications, the addition of data communication brought telecom service into the data communication age. This period lasted until the introduction of the flat rate for data communication in 2003.
Technologically, the third-generation network system was introduced in 2001 by NTT DoCoMo. KDDI and J-Phone began their own third-generation network systems in 2002.

2.1.3 Flat Rate Age

In November 2003, KDDI introduced a flat rate for data communication. As mentioned earlier, the growth driver for mobile telecom operators had been the increased use of data communication. Although the penetration rate had reached 64% by the end of 2003, mobile telecom operators expected additional growth through data communication.

However, the introduction of the flat rate for data communication stalled this growth because it required mobile telecom operators to change their business model. Instead, each mobile telecom operator introduced what is called the “3.5-generation” network system, which enhanced somewhat further the speed of data communication.

2.2 Key Industry Indexes

To understand the telecom company, there are several key indexes that are fundamental to the mobile telecom industry in Japan:

- Number of users
- Growth rate
- Penetration rate
- Market share
- Net additions
- Internet access users
- Average revenue per unit (ARPU)
- Revenue from mobile phones

Each is discussed in greater detail below.
Number of users and penetration rate

The number of users and growth rate of users are indicated in Figure 2-2a. The mobile telecom industry had been growing rapidly because of high penetration rate (76% as of end of FY 2006) (see Figure 2-2b), but the growth rate was decreasing sharply. This means that an increase in the number of users cannot be expected as a growth driver of the mobile telecom industry in the future.

Fig. 2-2a. Number of users and growth rate
Source: Telecommunications Carriers Association

Fig. 2-2b. Penetration rate
Source: Telecommunications Carriers Association
Market share

In Japan, the total number of users reached 100 million in December 2007. NTT DoCoMo holds over half of the market, but this number has been declining since December 2001 from a high of 59.2% (see Figure 2-3).

<table>
<thead>
<tr>
<th>Company</th>
<th>No. of Users (thousand)</th>
<th>Market Share</th>
</tr>
</thead>
<tbody>
<tr>
<td>NTT DoCoMo</td>
<td>53,151</td>
<td>52.9%</td>
</tr>
<tr>
<td>KDDI</td>
<td>29,555</td>
<td>29.4%</td>
</tr>
<tr>
<td>Softbank</td>
<td>17,614</td>
<td>17.5%</td>
</tr>
<tr>
<td>EMOBILE</td>
<td>206</td>
<td>0.2%</td>
</tr>
</tbody>
</table>

Total: 100,526

Note: As of Dec. 2007
Source: Telecommunications Carriers Association

Fig. 2-3 Japanese mobile phone market share
Net Additions Share

Although the impact of net additions is becoming less because there are fewer net additions, Figure 2-4 shows the short-term moment of several telecomm operators. For example, around 2000, NTT DoCoMo’s net additions number was quite high because of the introduction of i-mode. On the other hand, KDDI’s momentum increased following the introduction of its new services, which are popular with the young generation.

Fig. 2-4 Change in net additions
Internet access users

In Japan, the overall percentage of users who can access the Internet by mobile phone is high (87% as of end of 2007) (see Figure 2-5); for NTT DoCoMo in particular, the percentage is 90%. Mobile telecom operators in Japan have tried to gain revenue by boosting data communications in their maturing market.

![Percentage of users who can access the Internet](image)

<table>
<thead>
<tr>
<th></th>
<th>NTT DoCoMo</th>
<th>KDDI</th>
<th>Softbank</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total users</td>
<td>53,151</td>
<td>29,555</td>
<td>17,614</td>
<td>100,320</td>
</tr>
<tr>
<td>Internet access</td>
<td>47,831</td>
<td>24,891</td>
<td>14,562</td>
<td>87,284</td>
</tr>
<tr>
<td>% of Internet</td>
<td>90%</td>
<td>84%</td>
<td>83%</td>
<td>87%</td>
</tr>
</tbody>
</table>

Note: As of Dec. 2007
Source: Telecommunications Carriers Association

Fig. 2-5. Percentage of users who can access the Internet
Average Revenue Per Unit (ARPU)

<table>
<thead>
<tr>
<th></th>
<th>NTT DoCoMo</th>
<th>KDDI</th>
<th>Softbank</th>
</tr>
</thead>
<tbody>
<tr>
<td>Voice</td>
<td>¥4,450</td>
<td>¥4,320</td>
<td>¥3,830</td>
</tr>
<tr>
<td>Data</td>
<td>¥2,080</td>
<td>¥2,060</td>
<td>¥1,380</td>
</tr>
<tr>
<td>Total</td>
<td>¥6,530</td>
<td>¥6,380</td>
<td>¥5,210</td>
</tr>
</tbody>
</table>

Note: As of FY 2007 Jan.–Mar.

Source: each company’s financial report

Each company’s ARPU is shown in Figure 2-6. Data ARPU accounts for about 30% of each company’s ARPU. In the long term, Voice ARPU is decreasing and Data ARPU is increasing.

Fig. 2-6 Each company’s ARPU
Revenue from mobile phones

Each mobile telecom operator’s operating revenue from mobile phone service division in FY 2006 is shown in Figure 2-7. The total size of Japanese mobile telecom industry is ¥8,887 billion.

<table>
<thead>
<tr>
<th></th>
<th>NTT DoCoMo</th>
<th>KDDI</th>
<th>Softbank</th>
</tr>
</thead>
<tbody>
<tr>
<td>(billion)</td>
<td>¥4,788</td>
<td>¥2,677</td>
<td>¥1,442</td>
</tr>
</tbody>
</table>

Note: As of FY 2006 (Year ended Mar. 2007)
Source: each company’s financial report

Fig. 2-7 The comparison of each company’s revenue of mobile phone

2.3 Brief Overview of Three Competitors

2.3.1 NTT DoCoMo

NTT DoCoMo was spun off from NTT in 1992 in order to promote fair competition in the Japanese mobile telecom market. Its main service is mobile phone service, which accounts for 97% of its revenue. It is listed on the Tokyo Stock Exchange, New York Stock Exchange, and London Stock Exchange. NTT holds 60.2% of its shares.

Since its founding, NTT DoCoMo has strived to create a forward-looking culture, which is different from its parent company. NTT DoCoMo has led the Japanese mobile telecom industry by introducing innovative strategies and services, including i-mode. However, because of troubles with the introduction of its third-generation system, as well as an increasingly conservative culture as a result of its growth, market share has decreased recently. As previously indicated in Figure 2-4, the net additions share, which shows a company’s momentum, has been decreasing.
Another feature of the company is its strong R&D and technology. It invests almost ¥100 billion every year. For its second-generation system, NTT DoCoMo developed its own original mobile digital system, PDC; the company was the world’s first mobile telecom operator to start a third-generation service.

2.3.2 KDDI

KDDI emerged as the result of a merger in 2000 between KDD (a Japanese international fixed-line communications operator), DDI (a Japanese domestic long-distance call operator), and IDO (a Japanese mobile telecom operator).

Although its performance was slumping at the time of the merger, KDDI’s performance has rebounded as a result of its easy transition from second generation to third generation because it adopted CDMA One and it offered new attractive services, such as ring tones. In particular, its introduction of a flat rate for data communication, which was quickly emulated by its competitors, helped give the company an innovative image and had a major impact on the mobile telecom industry.

2.3.3 Softbank Mobile

In 2005, Softbank acquired Vodafone Japan from Vodafone U.K. and the combined company was named Softbank Mobile.

Softbank is led by its charismatic leader, Masayoshi Son, who has always focused on the future of the Internet business from its early stages. For example, he was an early investor in Yahoo in 1995.

Before it acquired Vodafone Japan, Softbank went into the ADSL business, fixed line Internet access, offering extremely low prices which enabled it to acquire market share from existing telecom companies, such as NTT. A major characteristic of Softbank is its adoption of new strategies that often go well beyond the bounds of common sense or traditional industry practices.
When it entered the mobile telecom industry, its performance was not good because of the negative legacy left over from Vodafone Japan, such as its old network system and lack of popular handsets for users. To change this situation, the company invested in a new network system, developed new handsets, and introduced its aggressive price policy. As a result of these strategies, performance indicators, such as net additions, began to improve. However, as Figure 2-6 showed, the company’s ARPU remains at a low level.

2.4 Analysis of the Japanese Telecom Industry Environment

Now I am ready to analyze the environment of the Japanese telecom industry by applying Porter’s Five Forces analysis. The basic structure of the Five Forces model is shown in Figure 2-8.

![Porter's Five Forces Analysis](image)

Fig. 2-8 Porter’s Five Forces analysis, applied to the mobile telecom industry
2.4.1 Suppliers

Japanese mobile telecom operators have led the development of handsets, largely because they sought to boost revenue by introducing new service, such as i-mode, cameras, and ring tones. And to offer these new services, the new functions had to be embedded in new handsets. This fact strengthens the mobile telecom operators’ position.

In addition, high sales incentives also bolster mobile telecom operators. In Japan, mobile telecom operators pay more than ¥30,000 in incentives to sell new handsets, which increases the market for handsets.

Thus, in the Japanese mobile telecom industry, the power of suppliers is not strong.

2.4.2 Substitutes

Mobile telecom technology is the mainstream not only Japan, but throughout the world. However, Ministry of Internal and Communication (MIC) announced that it would allow a 2.5GHz frequency band for two companies.

One company, WILLCOM, which provides the Personal Handy-phone System (PHS), will begin to offer its next-generation PHS in April 2009. As a result, WILLCOM should raise its population coverage ratio to 92% by 2012.

The other company, Wireless Broadband Planning, which is supported by KDDI, will start WiMAX in February 2009. This should raise its population coverage ratio to 93% by 2012. It is expected that the data communication speed will be around 20 Mbps.

There is some possibility that these new emerging technologies could be substitutes for the cellphone system. However, considering that raising the population coverage ratio from 90% to 100% would require a huge investment, it would not be easy for new companies to displace existing mobile telecom operators because Japanese users are keenly aware of area coverage. In addition, although the speed of data communications offered by existing mobile telecom operators is less than 10 Mbps, they are planning to start 3.9G service, which will enable them to offer 100 Mbps service. The
development of handsets for this system could be another problem. Thus, it is not easy for new companies to displace existing companies.

Needless to say, the speed of technology innovation in this industry is rapid, and new innovative technology could emerge suddenly; however, I would say that over the short term, the threat of substitute is medium.
2.4.3 **New Entrants**

In the mobile telecom industry, each company must have a specific frequency in order to provide service, and this frequency is a finite resource. In Japan, frequencies are strictly managed by MIC and there are not enough frequencies even for existing mobile telecom operators.

Additionally, to start a new business as a mobile telecom operator, a network system that covers the entire country is needed, and that requires a huge investment.

Therefore, it is not easy to enter the industry as a new entrant, and the only way to enter is by acquiring an existing company, for example, as Softbank did by acquiring Vodafone Japan.

2.4.4 **Customers**

From the viewpoint of users, the biggest switching cost is the handset cost, because when users switch mobile telecom operators, they have to buy a new handset. However, in Japan, handsets are not expensive because mobile telecom operators offer a variety of sales incentives.

A former switching cost—changing the telephone number—disappeared as an issue when Mobile Number Portability (MNP) was introduced in October 2006.

In this situation, the position of users is becoming stronger.

2.4.5 **Conclusion**

Based on this analysis, the bargaining power of suppliers, the threat of substitutes, and the threat of new entrants are relatively weak and low, but the bargaining power of users is extremely strong. Although the three weaker forces (suppliers, substitutes, and new entrants) cannot be ignored, I believe NTT DoCoMo should focus primarily on users as it develops competitive strategy.
2.5 Basic Business Model for NTT DoCoMo

Various NTT DoCoMo income statements are shown in Table 2-1. Although the left-hand table is the official income statement, I use the right-hand table in which the sales commission is adjusted. (Because of accounting regulations, part of the sales commission is deducted from both "Sales of handsets" in operation revenue item and "Sales Commission" in operating expense in official income statement.)

Table 2-1
NTT DoCoMo' Income Statement (FY 2006)

<table>
<thead>
<tr>
<th>NTT DoCoMo’s Income Statement 1</th>
<th>NTT DoCoMo’s Income Statement 2</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>(billion)</td>
</tr>
<tr>
<td>Operating Revenue</td>
<td>4,788</td>
</tr>
<tr>
<td>Mobile Telecom</td>
<td>4,182</td>
</tr>
<tr>
<td>Voice</td>
<td>2,940</td>
</tr>
<tr>
<td>Data</td>
<td>1,242</td>
</tr>
<tr>
<td>Other Revenue</td>
<td>132</td>
</tr>
<tr>
<td>Sales of handsets</td>
<td>474</td>
</tr>
<tr>
<td>Operating Expense</td>
<td>4,015</td>
</tr>
<tr>
<td>Sales Commission</td>
<td>512</td>
</tr>
<tr>
<td>Cost of handsets</td>
<td>1,219</td>
</tr>
<tr>
<td>Other Expense</td>
<td>2,284</td>
</tr>
<tr>
<td>Operating Profit</td>
<td>773</td>
</tr>
</tbody>
</table>

NTT DoCoMo’s Income Statement 3
(Transition from 2001 to 2007 After adjustment of sales commission)

<table>
<thead>
<tr>
<th></th>
<th>(billion)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Operating Revenue</td>
<td>2,001</td>
</tr>
<tr>
<td>Mobile Telecom</td>
<td>5,167</td>
</tr>
<tr>
<td>Other Revenue</td>
<td>3,978</td>
</tr>
<tr>
<td>Sales of handsets</td>
<td>1,014</td>
</tr>
<tr>
<td>Operating Expense</td>
<td>4,166</td>
</tr>
<tr>
<td>Sales Commission</td>
<td>1,095</td>
</tr>
<tr>
<td>Cost of handsets</td>
<td>928</td>
</tr>
<tr>
<td>Other Expense</td>
<td>2,143</td>
</tr>
<tr>
<td>Operating Profit</td>
<td>1,001</td>
</tr>
</tbody>
</table>

Source NTT DoCoMo
Based on the income statement, it is apparent that “Sales of handsets” and “Cost of handsets” are almost even, and these items do not have large impact on the company’s profit.

As for revenue, “Mobile Telecom” accounts for 96% of Operating Revenue excluding “Sales of handsets.” Within “Mobile Telecom”, “Voice” accounts for 70.3% and “Data” accounts for 29.7%.

Regarding expenses, “Sales Commission” reached ¥1,302 billion, or 27% of total operating expenses. Mobile telecom operators generally sell handsets at low prices but are able to recover this cost through monthly voice and data communication fees. This scheme was effective when the number of new users was large. However, it is less effective now because the number of new users is decreasing, and mobile telecom operators are paying sales commissions for current users who are replacing handsets, which does not increase revenues.

NTT DoCoMo became listed on the New York Stock Exchange in March 2002, and as a result its accounting base changed from Japan to the U.S., which prevents me from going further back for comparative purposes. However, data after 2001 shows that NTT DoCoMo’s revenue decreased (which I will discuss more extensively in Chapter 4). Regarding expenses, the data indicates that sales commission continues to increase. This was an effective model when the number of new users was large. However, it is less effective today because the number of new users is decreasing and mobile telecom operators are paying sales commission for replacement users that do not increase revenue. Although the sales commission system is changing, it indicates the fierce competition to acquire new users and retain existing users.

2.6 Competitive Factors

As I reviewed the outcome of the Five Forces analysis and the basic business model, the most important point for developing a strategy in the Japanese mobile telecom industry is understanding the users, that is, what factors the users regard as important when they select a mobile telecom operator.
There are many factors that attract users. J.D. Power Asia Pacific (a 100% subsidiary of J.D. Power and Associates in the U.S.) conducted a customer satisfaction survey for nine years, one of the most comprehensive surveys in Japan. Based on the newest survey in August 2007, there are six factors that are important to customer satisfaction:

1) handsets
2) corporate image
3) range of cost
4) non-voice function/services
5) ability of response to customers
6) network quality

Among these factors, four are most important: Handset, Price, Service, and Network (see Figure 9). I will use these factors as the basis on which to analyze NTT DoCoMo’s basic strategy.

Fig. 2-9. Factors that influence customer satisfaction
1) **Handsets**

The key characteristics of handsets that are important to customers are size, weight, design, and embedded functions (e.g., fineness of the screen, pixel count of the camera, and television tuner). Japanese users are very demanding and have high expectations for handset quality, as demonstrated in the fact that handsets made by established manufacturers such as Nokia, which have been accepted worldwide, are still not accepted by customers in the Japanese market.

2) **Price**

There are two aspects to price: the cost of the handset, and the monthly fee including call charges.

3) **Service**

Regarding voice communication service, there is little difference between mobile telecom operators, and all focus primarily on data communication service.

4) **Network**

The key factor here is area coverage, gauged by the population coverage ratio. It also includes availability—whether in urban underground locations or high-rise buildings where radio waves do not easily reach. Connectivity is also important.

Each factor is summarized as Figure 2-10

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**Fig. 2-10. Four strategic factors affecting mobile telecom customer service**
2.7 Summary

From a service perspective, Japan’s mobile telecom industry evolved during three definable ages: voice communication age, data communication age, and flat rate age. The voice communication age was the period prior to the introduction of i-mode by NTT DoCoMo in 1999. During this age, users could use their mobile phones only as tools for voice communication.

The data communication age began in 1999 with the introduction of i-mode, which enabled users to access the Internet, websites, and e-mail. With data communication service, mobile telecom operators were able to sustain their growth not only by increasing the number of users (to a predictable ceiling) but also by boosting data communication despite a high penetration rate.

The flat rate age began after 2003 when KDDI introduced a flat rate for data communication. The introduction of flat rate hampered growth by boosting data communication, and it required mobile telecom operators to change their business models.

The three major mobile telecom operators—NTT DoCoMo, KDDI and Softbank Mobile—competed by leveraging their unique, strong competency during the three ages stated above. Although NTT DoCoMo did well in the voice communication age and data communication age, KDDI has become a strong competitor in the flat-rate age.

Porter’s Five Forces analysis makes it clear that what is crucial in the strategies of the mobile telecom operators is the user factor, because the bargaining power of users is extremely strong in the Japanese mobile telecom industry. Although three other forces (suppliers, substitutes, and new entrants) cannot be ignored, NTT DoCoMo should focus primarily on users when developing its competitive strategy.

To analyze NTT DoCoMo’s strategy from the viewpoint of users, I defined four important factors: “Handsets”, “Price”, “Service,” and “Network.” based on the J.D. Powers Asia Pacific customer satisfaction survey. It is these factors that I will use when conducting an analysis of the basic strategy of NTT DoCoMo.
In this chapter, I will discuss NTT DoCoMo’s strategy for both voice communication (from 1992 to 1999) and data communication (from 1999 to 2003) — all prior to the introduction of the flat rate for data communication, when everything changed.

3.1 Growth Strategy for the Voice Communication Age

3.1.1 Market Share

Although mobile telecom service started in 1979, the market struggled for more than ten years, and even by 1991, the number of users had not yet reach one million. However, in the voice communication age (defined as 1992 to 1999), the market suddenly took off (see Figure 3-1).
On the other hand, from perspective of market share, NTT began to lose market share rapidly after the introduction of competition in 1988. Even after NTT DoCoMo was established in 1992, NTT’s market share continued to decrease, eventually falling below 50% by 1995. Thereafter, however, the market share recovered rapidly, finally resting just below 60%.

In this kind of market situation, it is valuable to learn about NTT DoCoMo’s strategy, how it expanded the market (although not market share) as a market leader, despite losing market share in at the beginning of the voice communication age (see Figure 3-2). The company did recover its market share in the latter part of the voice communication age, and this success suggests that there is something to be learned about NTT DoCoMo’s strategy.

Figure 3-2 NTT DoCoMo’s market share in the voice communication age

Source: Ministry of Internal Affairs and Communication
http://www.johotsusintokei.soumu.go.jp/field/data/gt01020101.xls
NTT DoCoMo
3.1.2 Eight-Point Analysis of NTT DoCoMo at Startup

When NTT DoCoMo was spun off from NTT in 1992, it had ¥301 billion in assets, ¥15 billion in shareholder equity, and 1,800 employees, with a 1992 estimated operating revenues of ¥362 billion. Unlike most startups, NTT DoCoMo also enjoyed immediate credibility because it was a 100% subsidiary of NTT.

There are several valuable features that can be understood by analyzing the company as a startup. When it began, it was expected to be successful even though the market situation for mobile telecoms was quite uncertain. In fact, the net income that first year, FY 1992, was negative ¥3 billion.

I will analyze NTT DoCoMo as a startup company by applying the eight-point analysis developed by Prof. Michael Cusumano at M.I.T.

Point #1: Strong management team

The biggest factor in the success of NTT DoCoMo was strong top management, especially the company’s first CEO, Koji Oboshi, who had two strong characteristics. The first was his spirit of challenge, which he explained by saying “management is an intellectual challenge.” This outlook enabled him to identify problems in the company by taking an analytical approach. More specifically, he identified problems in the company’s network system, its pricing policy, and its attitude toward service—each of which I will discuss in Section 3.1.4.

His second strong characteristic is his management philosophy, “Top management has noblesse oblige.” By this he meant that top management has to make difficult decisions and assume responsibility for the outcome of those decisions as the organization’s leader. This philosophy helped Oboshi to develop and implement solutions for the problems he identified, even though some of his solutions were opposed by other members of management.
Point #2: Attractive Market

When NTT DoCoMo began, the mobile telecom industry was quite uncertain, and the penetration rate at the time was only 1.3%. By comparison, the penetration rate of some other countries was much higher, as indicated in Figure 3-3. This suggests that if the underlying reasons for the stunted growth were removed, the market could grow.

![Figure 3-3 Penetration rate of mobile telephone as of 1993](image)

Note: As of 1. Jan.1993
Source: Mobile Communication 1993.3.25

Point #3: Compelling product/service

Point #4: Early evidence of customer interest

Point #5: Profit-oriented business model

Point #6: Potential for Investor Payoff

In the beginning, the products being offered by NTT DoCoMo, such as handsets, did not have sufficient quality to capture users' attention. As a result, the penetration rate had remained low since
1979. Although it appeared to be an attractive market, I believe the company did not have a compelling product or service, and there was little early evidence of customer interest. In addition, the company’s net income in 1992 was in the red, which gave the perception that the company did not develop a profitable business model at the time it was established.

However, the company did have financial, human resources, and temporal capacity to improve itself, and this point is what differentiates NTT DoCoMo from what the typical new startup company.

**Point #7: Plan for the credibility gap**

It was fortunate that NTT DoCoMo began as a subsidiary of NTT, a brand name that every Japanese person recognizes. As a result, there was little or no credibility gap, which gave NTT DoCoMo time to reorganize itself after an initial struggle.

**Point #8: Strategic/technical flexibility**

Although NTT DoCoMo was a subsidiary of NTT, which has the typical large-corporation culture, NTT DoCoMo had cultivated a culture that encourages challenging new ideas. I believe this encouragement came directly from the strong top management, which I mentioned before.

3.1.3 **Conclusions Drawn from the Eight Point Analysis**

Although NTT DoCoMo was not a typical startup company, the analysis provides valuable information. The fact that it had strong management and an attractive market were key factors. In particular, I think the existence of a strong management team was critical, as it enabled the company to develop and adopt a flexible strategy and to change its market from one with potential to one that was real and attractive.
3.1.4 Analysis of Competition Factors

In this section, I will analyze NTT DoCoMo's growth strategy from the perspective of the four factors defined in Chapter 2: handsets, price, service, and network.

**Handsets**

One point on which NTT DoCoMo focused was downsizing the handset. If the handset was too big, a person could not easily carry it away from the home. In fact, when NTT started its mobile telecom service in 1979, the handset weight was 7 kg and the volume was 6,600 cc, which means that an individual could not carry it easily, and it was mainly used as an in-vehicle phone.

With the establishment of NTT DoCoMo in 1992, handsets were becoming smaller, and this trend continued (see Figure 3-4). One effective method for enabling the downsizing of handsets was

![Graph showing improvement of weight and volume and improvement of stand-by time over years 1991 to 1999.](image)

*Source: NTT DoCoMo Annual Report 1999*

*Fig. 3-4 Handset improvements*
the introduction of free designs for each handset manufacturer, such as NEC, Panasonic, Fujitsu, and Mitsubishi. In the 1980s, each handset manufacturer made identical handsets as ordered by NTT. However, the new system allowed manufacturers to design their own handsets (although the basic functions were decided by NTT DoCoMo). This system worked well because if handsets that were developed by a manufacturer sold well, that led to direct profits. This was an incentive to develop better handsets.

**Price**

The main issues regarding pricing are the monthly fee (including call charges), and cost of the handset. In addition, at the beginning of the voice communication period, the requirements for a deposit and a registration fee were big issues.

When NTT DoCoMo was founded, a deposit of ¥100,000 and registration fee of ¥45,800 were required. To expand the market, both of these fees were discussed, but as they were important financial revenue for NTT DoCoMo and the effect of abolition was uncertain, most management members opposed abolition. In the end, however, both were demolished as the result of a decision made by Oboshi, the CEO. The deposit requirement was demolished in October 1993, and the registration fee was gradually reduced starting in April 1994 until it was demolished in 1996. In particular, the effects of abolishing the deposit were quite large, as indicated in Figure 3-5. It also shows the importance of strong leadership.
In addition, the monthly fee (including call charges) was also reduced, as indicated in Figure 3-6. More importantly, NTT DoCoMo retained its position as an industry leader, even though its price was not the lowest among the competitors. This indicates the importance of other factors, such as handset, service, and network.

It is also important to pay attention to the balance between pricing and other factors in order to avoid meaningless price competition and to sustain industry growth.
Service

In the voice communication age, the only service offered was voice communication, and there were no big differences among competitors. However, to support sales, NTT DoCoMo focused on setting up agencies, DoCoMo Shop (as of 1994: 200; as of 1996: 700), which enabled the company to offer after-sales service.

Network

Before NTT DoCoMo was established, the mobile telecom network existed mainly for in-vehicle service because the handset was too large and heavy to be carried by individuals. The main reason for developing the network was to provide coverage of major roads and highways.

As handsets improved, however, mobile telecom services offered more personalized services, and the network changed from line to surface in order to satisfy portable users.
However it required a big amount of investment and this strategy was opposed by most of top management. What was needed was a decision by the CEO, Mr. Oboshi. The network improved rapidly after receiving a large investment, and this led to the expansion of the mobile telecom market.

![Figure 3-7 The improvement of population coverage ratio](image)

Source: NTT DoCoMo

3.1.5 Conclusion

During the voice communication age, NTT DoCoMo’s actions resulted in a relatively simple strategy. What NTT DoCoMo did was to change the perception of mobile telecom service from something that was viewed as not useful, to a key service that is useful to most individual users. The introduction of competition had a huge impact on NTT DoCoMo’s strategy. But when NTT DoCoMo first began to operate, no one expected that the mobile telecom market would become what it is today.

Difficult decisions were required at many stages, but the existence of strong and highly qualified top management enabled NTT DoCoMo to adopt the best strategy and to maintain its
position as a market leader, even in difficult times. Especially during a company startup, or rapid
to screws in the market, I believe the existence of strong management is the most important factor for a
corporation.

3.2 Growth Strategy for the Data Communication Age

3.2.1 Market Share

The data communication age began in February 1999 with the launch of i-mode, the Internet
access service developed by NTT DoCoMo. Based on number of users (as indicated in Figure 3-8),
the features of data communication are not as clear compared to the voice communication age.

![Figure 3-8 Growth of number of users](http://www.johotsusintokei.soumu.go.jp/field/data/gt01020101.xls)

Source: Ministry of Internal Affairs and Communication

NTT DoCoMo
However, from a standpoint of revenue, the impact of data communication is obvious, as indicated in Figure 3-9. Although the growth of voice communication remained at a low level because of competition, the launch of data communication supported NTT DoCoMo’s growth. The revenue from data communications, which began in FY 1998, reached more than ¥1 trillion by 2003, and grew more than 300% every year during this period.

I will research NTT DoCoMo’s success during the data communication age by applying some analytical methodologies.
3.2.2 i-mode Service

In simple terms, i-mode is a service available on mobile handsets that enables users to view Internet websites and to send and receive e-mail via the mobile handset. The basic monthly charge for i-mode is ¥300.

Objectives

NTT DoCoMo started its i-mode service in February 1999. The i-mode project team began working in January 1997 (FY1996), two years before the launch. At this time, NTT DoCoMo was in good fiscal condition, as indicated below:

- Number of net additions of users: 10.6 million
- Growth rate of number of users: 104.6 %
- Growth rate of operating revenue: 53.3 %
- Growth rate of operating profit: 80.3 %

NTT DoCoMo decided to begin the i-mode business because its CEO, Mr. Oboshi thought the penetration rate would hit a ceiling within a few years; therefore, new business was needed in order to sustain growth. He encouraged company staff to accept the challenge of identifying and implementing the new data communication business, and often expressed it as “From volume to value.” That meant generating a mobile Internet market to sustain NTT DoCoMo’s growth after the voice communication age began to diminish. This illustrated once again the importance of leadership in a changing market.
i-mode Features

i-mode has a portal site (i.e., a menu, see Figure 3-10), and users can visit more than 10,000 official i-mode sites, such as weather forecasts, news, banking services, as well as download music and games. Visitors to the websites pay a data communication fee to NTT DoCoMo and an information fee to the content providers. (NTT DoCoMo collects the information fee, along with its monthly fee, from users rather than make users pay to separate bills.) In addition, there are almost 100,000 voluntary sites, which are not controlled by NTT DoCoMo. If a handset has full browser function, users can visit even websites typically used by PCs. Users can send and receive e-mail using their PC-based e-mail, and the cost is less than ¥5, up to 250 e-mails. i-mode runs on a packet network, which costs less and offers easy network access.

i-mode Basic Data

As indicated in Figure 3-11, the number of i-mode users increased rapidly, topping 40 million by FY2003, with a user ratio of almost 90%.

![i-mode screen page. Source: NTT DoCoMo web page](image)
Usage is indicated in Figure 3-12. This kind of index usually decreases as the number of users increase, because early users utilize a new service more than users who subscribe later. However, in this case, all indexes remained at virtually the same level, for reasons I will discuss later.

![Figure 3-12 Usage situation of i-mode data](image)

Note: I cite data only through FY 2003, because NTT DoCoMo introduced the flat rate in FY 2004 which had a dramatic impact on the situation.

### 3.2.3 Eight-Point Analysis of i-mode’s Success

The success of i-mode is noteworthy from two perspectives. First is the success of i-mode as an internal venture business in a large company. Since its establishment in 1992, NTT DoCoMo had grown rapidly, and by 1999 it had more than 15,000 employees and operating revenues of ¥3,719 billion. Second, it was equally successful as an Internet business.

I will analyze the i-mode business as an internal venture business by applying the eight-point analysis.
Point #1: Strong Management Team

From the perspective of a successful internal venture business, the existence of a strong leader, in the person of Keiichi Enoki, Managing Director of i-mode Business Division, was critical. In addition to his leadership, several other points characterized his leadership style:

- **Freewheeling thinking**: This enabled him to develop a new business and to accept new concepts proposed by his team members. It also enabled him to generate new ways of doing business, which is quite different from the traditional NTT group way, and it resulted in flexibility in the team.

- **Gathering talented people to support him**: He gathered together people with the specific talents and abilities, both from inside the company and outside. In the case of the i-mode project, he acquired two key members—one skilled in the contents business and another with skills and experience in the Internet business backed by marketing skills. Both members created a strong management team. I would point out that taking key people from outside the NTT Group was very different from the customary “NTT way,” which can be attributed to his freewheeling thinking.

- **Knowledge about NTT DoCoMo**: Enoki had worked for NTT and NTT Group for more than 20 years, so he had considerable experience in the company. This helped his team to perform effectively in the large organization, as well as protect it from traditional opposition to new things.

One other factor that was important to the success of the i-mode project was that the CEO made it one of his top-priority projects. The commitment of the CEO as a champion provided major support for this new internal venture business.

Point #2: Attractive Market

Another important factor was existence of an attractive market. In the mobile telecom industry, what had occurred in the fixed telecom industry had also begun to occur in the mobile
telecom industry in many aspects, such as government policy, competition, and services. For example, the introduction of competition followed by fierce price competition—both of which had occurred in the fixed-line industry—also happened in the mobile telecom industry. The expansion of the Internet in the 1990s in Japan took a major toll on the fixed-line business, so it was not difficult to predict that something similar would happen in the mobile telecom industry.

**Point #3: Compelling Product or Service**

**Point #4: Early Evidence of Customer Interest**

Both of these points were enabled by the existence of a strong management team and an attractive market. I will discuss these later when I analyze the success of I-mode as an Internet business.

**Point #5: Plan for the Credibility Gap**

**Point #6: Profit-Oriented Business Model**

**Point #7: Potential for Investor Payoff**

Although these points were important for the i-mode project team, they were not as critical for NTT DoCoMo as they are for pure start-up companies, because NTT DoCoMo had sufficient credibility and financial capacity. Even so, financial projections were developed to ascertain the profitability of the project.

**Point #8: Strategic/Technical Flexibility**

As mentioned earlier, the project leader’s freewheeling thinking created a flexible atmosphere that supported the project team.
3.2.4 Conclusions from the Eight Point Analysis of i-mode’s Success

From the perspective of an internal venture business, the strong management team and an attractive market enabled the new business to develop compelling service and to attract the interest of consumers. The relationships between these factors are illustrated in Figure 3-13.

![Diagram showing relationships between factors: Strong management team, Attractive market, Strategic/technical flexibility, and "Compelling" product/service.]

Source: Author

Fig. 3-13. Relationship between i-mode success factors

3.2.5 Analysis of the Success of i-mode as an Internet Business

The most important key to the success of i-mode was increasing the number of users. From the users’ perspective, however, the decision to use it depended on the content provided.

For NTT DoCoMo, which had no experience in the content business, determining how to provide attractive content was critical. One way was to create their own. This would enable the company to receive not only network revenue, but also content fees. However, the company decided instead use content providers. Although this meant the company would not receive any fees for its content, it did mean a wider range of content could be offered which would greatly increase the
attractiveness of i-mode. Having made this decision, the next important factor for NTT DoCoMo was identifying and increasing the number of content providers.

Thus, I will analyze the success of NTT DoCoMo’s Internet business from two perspectives: (1) how to increase the number of users, and (2) how to increase the number of content providers. Although NTT DoCoMo’s motto for the i-mode business model is “Win-win relation between NTT DoCoMo and content providers,” I think a better expression would be “Win-win relation between users and content providers on a platform created by NTT DoCoMo.”

3.2.5.1 Strategy to Attract Users

In addition to a wide range of contents, several factors are key to attracting users: user interface, pricing, handset development, and technology.

User interface

Users can access the Internet (both the i-mode portal site and e-mail) within a few seconds by pushing one button. Although Internet access through PCs is common, there were still entry barriers. i-mode proved to be so easy to use that it eliminated this barrier completely. This was convenient for those accustomed to using PC-based Internet. This ease of use blended well with mobile phones. Users always carry their mobile phone, so i-mode enabled them to enjoy the Internet during otherwise unused time, such as on the train. i-mode targeted the mass market, which showed the importance of the user interface in the Internet market.

Pricing

i-mode service has three kinds of fees: a usage fee, monthly fee, and monthly content fee. In comparison with existing services, NTT DoCoMo priced its i-mode relatively low. For example, users can send a short e-mail for less than one yen (about one US cent) and the maximum monthly content

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1 One reason why the Internet expanded so quickly was because many participants could provide content easily. Therefore, NTT DoCoMo’s choice was quite reasonable from a standpoint of an Internet business.
fee was ¥300 (about $3). According to NTT DoCoMo, “It was decided [to price] by comparing with [the] Japanese weekly magazine, which people buy without deep thinking.” A similar strategy is used for pricing in Internet businesses, which target the mass market and aim for low margins and high volumes. This kind of service competes not only with competitors but also many services offered by other industries.

**Handset development led by NTT DoCoMo**

In developing its handset, NTT DoCoMo decided on the basic functions of the handset. Therefore, NTT DoCoMo could simultaneously develop enhanced specifications for its network and handset, which enabled users to quickly and easily enjoy the new functions.

**Technology**

Technologically, NTT DoCoMo made a wise choice by adopting the packet network system. This enabled packet-based billing and led to low pricing. It also enabled easy access to the Internet network. Such technology decisions should be decided not just from the technological viewpoint, but also considering the users’ viewpoints.

3.2.5.2 **Strategy to attract content providers**

To increase the number of content providers, it was first necessary to ensure many i-mode users. Beyond that, however, NTT DoCoMo implemented the following strategies.

**Allowing content providers to make a profit**

To attract content providers, NTT DoCoMo allowed content providers to make profit. More specifically, “DoCoMo offered an attractive pricing model for its partners. i-mode customers could subscribe to the service for a monthly cost of about $2.5 and a per-packet charge of less than one-quarter of 1 cent” (Gawer and Cusumano, 2002). This scheme enabled content providers to profit through i-mode, which increased their incentive to develop content.
Develop a scheme to collect content fees

In the Internet content business, many small companies have excellent content but have no way to collect the fee. NTT DoCoMo offered them a scheme for collecting the fee. Specifically, NTT DoCoMo collected the fee, along with its monthly fee, and charged 9% for doing the collection. This scheme gave many opportunities for small content providers that had considerable attractive content but did not have a way to collect the fee. NTT DoCoMo’s solution demonstrated the importance of thinking about the situation of small companies that have good ideas for the Internet. Of course, this scheme is easy to use for large companies as well.

Technology

Technologically, i-mode adopted c-HTML instead of WAP, which many worldwide mobile operators tried to develop as the technology standard. NTT DoCoMo adopted c-HTML because it was similar to HTML, which had already been adopted by content providers for PC-based websites. They could easily offer similar content to mobile phones by altering their existing website content. This was possible because NTT DoCoMo chose the right technology.

3.2.5.3 Enhancing i-mode’s Success

NTT DoCoMo also created a scheme to enhance the success of i-mode. Specifically, NTT DoCoMo releases new handsets every six months, and with every new release it adds function that encourage users to utilize more data communication. For example, in 2001 the company embedded the Java-based “i-appli” function, which enables users to enjoy games, which led to additional consumption of data communications. Also, the introduction of functions such as color screens and advanced browsers contributed to greater i-mode revenue.
3.2.6 Conclusion

NTT DoCoMo developed schemes to increase the number of users and contents providers. At the same time more users encouraged the company to identify and utilize new content providers, which in turn led to more users. In addition, i-mode had a device to expand its success. The relationships, which I expressed as a “Win-win relation between users and contents providers on a platform created by NTT DoCoMo” is indicated in Figure 3-14.

![Diagram](image)

**Fig. 3-14. NTT DoCoMo’s i-mode scheme**

Source: author

It is important to note that i-mode did not succeed because of some new and difficult technology. Of course, technologies sometimes play an important role in a new business, but the success of i-mode demonstrates that even in the technology industry, a successful business can be developed without a new technology if the company can develop an attractive and understandable scheme for users.
Finally, I want to point out the timing for developing new strategy. As stated, NTT DoCoMo began to develop i-mode when the company itself was strong. This strength supported the company in many ways, such as gathering human resources from outside the company, financial support, and even resolving arguments with the parent company.

3.3 Summary

In the voice communication age (1992-1999), NTT DoCoMo maintained its strong position in the Japanese mobile telecom industry even though competitors entered the industry. Based on the four-factor analysis, NTT DoCoMo dramatically and rapidly improved each factor, especially handsets, price, and network. (Regarding service, as NTT DoCoMo and competitors offered only voice communication, the difference was much less significant.)

The key to success is the existence of a strong management team, which is one of the factors of the eight-point analysis. In the case of NTT DoCoMo, the company CEO decided to improve price and network. This may seem obvious, however, considering the environment of NTT DoCoMo (which was far different than expected at the time), it was not an easy decision. If Oboshi’s decision had not been correct, the company might have gone bankrupt. This highlights the importance of a strong management team, especially in difficult times or during startup.

The data communication age began in 1999 with the introduction of i-mode by NTT DoCoMo. Within a year, competitors had also started a similar service. NTT DoCoMo started i-mode to sustain the company’s growth after revenues from voice communication became saturated. Actually, i-mode service enabled NTT DoCoMo to expand its revenue, which was explained as “from volume to value” by the company.

The success of i-mode can be explained from two viewpoints: an internal venture business, and an Internet business. From the perspective of an internal venture business, the strong management
team and an attractive market enabled the company to develop compelling service and attract consumers’ interest.

From perspective of an Internet business, NTT DoCoMo developed a scheme to increase both users and content providers. Increasing the number of users encouraged the entrance of new content providers, and the increase of content providers led to an increase in the number of users. The i-mode scheme enlarged the company’s success, which was expressed as “Win-Win relation between users and contents providers on platform created by NTT DoCoMo.”

i-mode did not succeed because of a new or difficult technology. Of course, technologies sometimes play an important role in a new business, but the success of i-mode shows that even in the technology industry, a successful business can be developed without a new technology, if a company can develop an attractive and understandable scheme for users.
4.1 Competition Before the Introduction of the Flat Rate

As discussed in Chapter 3, i-mode became accepted among mobile telecom users, and NTT DoCoMo enjoyed sustained growth. The number of i-mode users reached 41 million, with a user ratio of 89% as of the end of FY2003. Although voice ARPU decreased, data ARPU made up for the loss, and NTT DoCoMo enjoyed increased revenue and profits until FY 2003 (see Figure 4-1).

![Figure 4-1 NTT DoCoMo's Operating revenue and ARPU](source: NTT DoCoMo)
These were precisely the results NTT DoCoMo had hoped for, and the company expected it to last several years. To add to their success, in 2001 the company introduced its third-generation (3G) mobile telecom system, which allowed users to exchange larger amounts of data. However, NTT DoCoMo's introduction of the 3G system did not run smoothly, which enabled KDDI to introduce a new strategy—the flat rate.

4.1.1 What is 3G

The 3G mobile telecom system is an industry standard, recognized by the International Telecommunication Union (ITU). In October 2001, NTT DoCoMo introduced the world's first 3G service. Technologically, 3G has elements of other systems, such as W-CDMA, CDMA 2000 1X, and TD-CDMA. The system adopted by each Japanese mobile telecom operator is shown in Table 4-1.

<table>
<thead>
<tr>
<th>Table 4-1 3G system in Japan</th>
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<tbody>
<tr>
<td>System</td>
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<tr>
<td>--------</td>
</tr>
<tr>
<td>W-CDMA</td>
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<tr>
<td>CDMA2000 1X</td>
</tr>
<tr>
<td>Note: As of end of Dec 2007</td>
</tr>
<tr>
<td>Source: TCA</td>
</tr>
</tbody>
</table>

The main feature of 3G is high-speed data communication. The speed of data communication in NTT DoCoMo's 2G system was 28.8kbps, which was enhanced to 384 kbps following the introduction of 3G. Most Japanese telecom operators implemented their original PDC system in 2G. So when 3G became the world standard, it enabled telecom operators to offer world roaming service to its users.
4.1.2 Comparing the 3G Strategies of NTT DoCoMo and KDDI

As mentioned earlier, NTT DoCoMo struggled with its introduction of 3G. On the other hand, its strongest competitor, KDDI, smoothly and successfully introduced 3G. When 3G was first introduced, the differences were significant. In FY2003, although NTT DoCoMo’s 3G penetration rate remained less than 10%, KDDI had expanded to almost 70%. The differences in the two companies’ situations is shown in Figure 4-2.

![Figure 4-2 Comparison of 3G system penetration rates](image)

Source: TCA

I will analyze the strategies of both companies by applying the four-factor analysis.

**Network**

This may be the most important point. To create a 3G network, NTT DoCoMo developed a completely new network, largely because it had adopted the PDC system. Although its 3G network
grew more quickly than the earlier 2G network in the 1990s, it was not until FY2006 that the coverage area of the 3G network was declared superior to the 2G network coverage.

In contrast, KDDI applied CDMA One as its 2G network, which enabled KDDI to transfer to CDMA2000 1X easily because it already had backward compatibility. This meant that users of CDMA2000 1X could use that function in the CDMA 2000 1X area and the CDMA One function in CDMA One area. The coverage area of CDMA2000 1X has enjoyed almost 100% coverage from the beginning. Additionally, CDMA One base stations can be easily changed to CDMA2000 1X base stations because the systems are similar.

KDDI changed its 2G network from PDC to CDMA One in the late 1990s so it would be ready to move forward with its 3G strategy as a competitive advantage. Of course this change involved some difficulties for KDDI, but as it had fewer users in 1990s, and it was able to overcome the difficulties relatively easily.

This fact illustrates the importance of the network itself. More important, it shows the value of thinking about adopting a technology not only because of the technology itself, but also from the long-term and users’ viewpoints. Although W-CDMA has some technological advantage, such as video phone and data communication speed, convenience for the users (in this case, wide area coverage) overcomes this advantage.

**Handsets**

NTT DoCoMo had some problems with the quality of its handsets. When 3G service began in 1991, the handset weighed 150g and standby time was only 55 hours. In contrast, when KDDI introduced its 3G system in April 2002 (six months after NTT DoCoMo’s introduction), the handsets weighed 100 g and standby time was more than 200 hours.
**Service**

On the issue of service, KDDI advanced ahead of NTT DoCoMo. For example, in December 2002, eight months after it introduced 3G, KDDI started its *Tyaku-Uta* service, whereby users can download a real song (melody only) and use it as a ring tone. This meant KDDI used not only a new technology (3G) but also a service that allowed users to recognize the convenience of the new technology. This fact helped KDDI create a progressive corporate image and quickly improved KDDI’s brand.

On the other hand, NTT DoCoMo did not offer a service from which users could migrate to their 3G service. Although the company started *Tyaku-Uta* service in February 2004 (more than a year after KDDI), it did not lead to a progressive image, because it was an imitation of KDDI’s service.

Technologically, NTT DoCoMo provided faster download service than KDDI (NTT DoCoMo: 384 kbps; KDDI: 144 kbps), but it was not the important factor in this case.

**Price**

Regarding data communication service, which is a key feature of 3G mobile telecommunication, NTT DoCoMo is cheaper than KDDI. NTT DoCoMo’s price per packet was ¥0.2 while that of KDDI was ¥ 0.27 as of April 2002.

**4.1.3 Conclusion**

The preceding analysis highlights the importance of developing superior characteristics that users recognize and use easily. In this case, coverage ratio, handset weight, standby time, and service are felt directly by users, while data download speed and pricing per packet is not felt directly. Thus, even in a technology-oriented industry like mobile telecom, the technology itself does not make a
killer application; attention must be paid to the viewpoints of the users. The differences in various 3G services are summarized in Table 4-2.

<table>
<thead>
<tr>
<th></th>
<th>DoCoMo W-CDMA</th>
<th>KDDI CDMA2000 1X</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Network</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Coverage ratio</td>
<td>60%</td>
<td>Whole of country</td>
</tr>
<tr>
<td><strong>Handsets</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Weight</td>
<td>100 g</td>
<td>150 g</td>
</tr>
<tr>
<td>Standby time</td>
<td>55 hours</td>
<td>200–230 hours</td>
</tr>
<tr>
<td><strong>Service</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Original service</td>
<td>“Tyaku–Uta”*</td>
<td>–</td>
</tr>
<tr>
<td>Data download speed</td>
<td>384kbps</td>
<td>144kbps</td>
</tr>
<tr>
<td><strong>Pricing</strong></td>
<td>¥0.27</td>
<td>¥0.2</td>
</tr>
</tbody>
</table>

Source: KDDI "Financial Result Presentation Material of FY 200"  
Source: NTT DoCoMo

Although NTT DoCoMo had created a progressive image with the success of its i-mode service, the struggle to move to 3G allowed the competitive edge to shift to KDDI. And because it migrated slowly from 2G to 3G, NTT DoCoMo had to share its resources with both technologies—i.e., continuing to invest in its 2G network while developing handsets for 3G. The struggle to move to 3G led to a vicious cycle that hampered NTT DoCoMo’s ability to focus on 3G strategies.

### 4.2 Introduction of the Flat Rate

KDDI introduced the flat rate for data communication at the same time it introduced the high-speed data download network system, EV-DO—in November 2003. This move was intended to strengthen KDDI’s competitiveness and progressive image.

The features of flat rate are:

- **Price:** ¥4,200 per month, not metered for data communication services such as e-mail and web browsing through a mobile handset.
• **Data speed:** 2.4Mbps (prior to flat rate, speed was 144kbps)

As mentioned earlier, mobile telecom operators grew by boosting the use of data communications in maturing, high-penetration markets. An important reason for migrating from 2G to 3G was to acquire increased data communications revenue, especially as data download times became faster. However, KDDI's strategy of a flat rate for data communication put a ceiling on revenue from data communications and required mobile telecom operators to change their business model dramatically. I believe it was the largest paradigm shift in the mobile telecom industry.

KDDI's strategy was quite effective from the company's perspective. However, the introduction of the flat rate had a potential negative impact, one that applied to both NTT DoCoMo and KDDI. For KDDI, it could acquire new users from NTT DoCoMo (whose market is approximately three times larger than KDDI) by introducing this aggressive plan prior to NTT DoCoMo's introduction of its plan. KDDI could offset the negative impact of the flat rate and keep on growing by acquiring new customers from NTT DoCoMo.

On the other hand, if NTT DoCoMo introduced this strategy before KDDI, it would not be easy to offset the negative impact of the strategy because it already held more than half of the market, and there were not enough new customers whom NTT DoCoMo could acquire from competitors. In addition, NTT DoCoMo had more customers who use data communication because of the success of i-mode.

These facts meant NTT DoCoMo could not introduce this strategy easily—either before or even after its competitors. Additionally, KDDI could tout its progressive image because it was easy to guess that NTT DoCoMo could not catch up easily.

I think the strategy is beneficial and applicable for a second-place (or smaller) company in an industry that has a leader company with huge market share.

The other point to notice was that KDDI introduced some new services, such as motion picture distribution, at the time of its introduction of the flat rate. While the motion picture service did not take off in the market, the company did start a full-song download service, *Tyaku-Uta Full,*
mainly for users who later registered for the flat rate for data communication. As indicated in Figure 4-3, the number of Tyaku-Uta Full downloads reached 100 million in March 2007, and it took only ten months to download 50 million. Considering that the sales of single CDs was 66 million in 2006 in Japan, the popularity of Tyaku-Uta Full is clear.

Figure 4-3 The number of "Tyaku-Uta Full" downloads in KDDI

<table>
<thead>
<tr>
<th>Number of downloads (thousand)</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
</tr>
<tr>
<td>500</td>
</tr>
<tr>
<td>1000</td>
</tr>
<tr>
<td>1500</td>
</tr>
<tr>
<td>2000</td>
</tr>
<tr>
<td>2500</td>
</tr>
<tr>
<td>3000</td>
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<tr>
<td>3500</td>
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<tr>
<td>4000</td>
</tr>
<tr>
<td>4500</td>
</tr>
<tr>
<td>5000</td>
</tr>
<tr>
<td>5500</td>
</tr>
<tr>
<td>6000</td>
</tr>
</tbody>
</table>


Because the file size of one full song is very large, it is recommended to users who want to enjoy Tyaku-Uta Full that they subscribe to the flat rate; even users who do not use a lot of data communication subscribe to it. Tyaku-Uta Full helped KDDI acquire new customers from its competitor, including NTT DoCoMo.

As in the case of i-mode, the most important factor in a new technology strategy is not the technology itself but the fact that it is an easily understandable and attractive to users. KDDI realized and acted on this policy when it started both 3G and the flat rate plan.

I should point out that a similar thing happened in the fixed-line telecom industry at the time ADSL was introduced. Consequently, I think the introduction of a flat rate for data communication in the mobile telecom industry was inevitable. KDDI, which had been in second place, built a strong
momentum with the success of its 3G introduction, so the decision to introduce the flat rate for data communication occurred at the perfect time.

4.3 NTT DoCoMo’s Reaction

For NTT DoCoMo, introduction of the flat rate was difficult because it resulted in a large revenue decrease. In addition, compared to KDDI, NTT DoCoMo could not offset the negative impact because the number of users among its competitors was small compared to NTT DoCoMo’s much larger user base.

To avoid a loss of current users, NTT DoCoMo introduced its own flat rate for data communication in June 2004. The outline of the flat rate plan is as follows:

- **Price:** ¥3,900 per month, unmetered for data communication service such as e-mail and web browsing through a mobile handset
- **Data speed:** 384 kbps

However, it became apparent that NTT DoCoMo was not yet ready to introduce a flat rate for data communication, because when it was offered, the data speed (an important factor when introducing a new service) was not improved. Although the company began its service, it was not popular in the market. Also, NTT DoCoMo could not offer Tyaku-Uta Full until the introduction of High Speed Downlink Packet Access (HSDPA), which enhanced the download speed from 384kbps to 3.6 Mbps. The struggles encountered by each company is clear when comparing each company’s net added market share, shown in Figure 4-4.
Each company's income statement also indicates their respective situations. Although KDDI continued to increase its operating revenue and profit, NTT DoCoMo's operating revenue and profit decreased sharply, almost 30%, in FY 2004—the year it introduced the flat rate for data communication (see Table 4-3).
Table 4-3 NTT DoCoMo and KDDI’s Income Statement and Operational Data

**NTT DoCoMo**

*Income statement (After adjustment of sales commission)*

<table>
<thead>
<tr>
<th></th>
<th>2002 Before flat rate</th>
<th>2003 Before flat rate</th>
<th>2004 After flat rate</th>
</tr>
</thead>
<tbody>
<tr>
<td>Operating revenue</td>
<td>5,368</td>
<td>5,653</td>
<td>5,471</td>
</tr>
<tr>
<td>Mobile telecom</td>
<td>4,186</td>
<td>4,340</td>
<td>4,153</td>
</tr>
<tr>
<td>Others</td>
<td>165</td>
<td>148</td>
<td>144</td>
</tr>
<tr>
<td>Others (mainly handset sales)</td>
<td>1,017</td>
<td>1,165</td>
<td>1,174</td>
</tr>
<tr>
<td>Operating expense</td>
<td>4,323</td>
<td>4,539</td>
<td>4,682</td>
</tr>
<tr>
<td>Sales Commission</td>
<td>1,096</td>
<td>1,166</td>
<td>1,217</td>
</tr>
<tr>
<td>Cost of handset sales</td>
<td>951</td>
<td>1,094</td>
<td>1,122</td>
</tr>
<tr>
<td>Other Expense</td>
<td>2,276</td>
<td>2,279</td>
<td>2,343</td>
</tr>
<tr>
<td>Operating profit</td>
<td>1,045</td>
<td>1,114</td>
<td>789</td>
</tr>
</tbody>
</table>

**Operational data**

<table>
<thead>
<tr>
<th></th>
<th>2002</th>
<th>2003</th>
<th>2004</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of users*</td>
<td>43.1</td>
<td>45.7</td>
<td>47.9</td>
</tr>
<tr>
<td>Number of net adds*</td>
<td>3.3</td>
<td>2.6</td>
<td>2.2</td>
</tr>
<tr>
<td>ARPU</td>
<td>8,130</td>
<td>7,890</td>
<td>7,200</td>
</tr>
<tr>
<td>Voice</td>
<td>6,380</td>
<td>5,920</td>
<td>5,330</td>
</tr>
<tr>
<td>Data</td>
<td>1,750</td>
<td>1,970</td>
<td>1,870</td>
</tr>
<tr>
<td>Sales commission per handset</td>
<td>30,000</td>
<td>31,000</td>
<td>34,000</td>
</tr>
</tbody>
</table>

Source: NTT DoCoMo
* Calendar year

**KDDI**

*Income statement*

<table>
<thead>
<tr>
<th></th>
<th>2002 Before flat rate</th>
<th>2003 Before flat rate</th>
<th>2004 After flat rate</th>
</tr>
</thead>
<tbody>
<tr>
<td>Operating revenue</td>
<td>1,626</td>
<td>1,831</td>
<td>2,092</td>
</tr>
<tr>
<td>Mobile telecom</td>
<td>1,197</td>
<td>1,374</td>
<td>1,583</td>
</tr>
<tr>
<td>Others (mainly handset sales)</td>
<td>429</td>
<td>457</td>
<td>509</td>
</tr>
<tr>
<td>Operating expense</td>
<td>1,572</td>
<td>1,592</td>
<td>1,819</td>
</tr>
<tr>
<td>Sales Commission</td>
<td>396</td>
<td>423</td>
<td>475</td>
</tr>
<tr>
<td>Cost of handset sales</td>
<td>472</td>
<td>483</td>
<td>567</td>
</tr>
<tr>
<td>Other Expense</td>
<td>704</td>
<td>686</td>
<td>777</td>
</tr>
<tr>
<td>Operating profit</td>
<td>54</td>
<td>239</td>
<td>273</td>
</tr>
</tbody>
</table>

**Operational data**

<table>
<thead>
<tr>
<th></th>
<th>2002</th>
<th>2003</th>
<th>2004</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of users*</td>
<td>17.3</td>
<td>19.6</td>
<td>22.4</td>
</tr>
<tr>
<td>Number of net adds*</td>
<td>1.5</td>
<td>2.3</td>
<td>2.7</td>
</tr>
<tr>
<td>ARPU</td>
<td>7,570</td>
<td>7,440</td>
<td>7,168</td>
</tr>
<tr>
<td>Voice</td>
<td>6,280</td>
<td>5,800</td>
<td>5,426</td>
</tr>
<tr>
<td>Data</td>
<td>1,290</td>
<td>1,640</td>
<td>1,742</td>
</tr>
<tr>
<td>Sales commission per handset</td>
<td>40,098</td>
<td>36,583</td>
<td>37,920</td>
</tr>
</tbody>
</table>

Source: UBS
* Calendar year
4.3.1 Analysis of KDDI’s success

In this section, I will analyze the success of KDDI from revenue and expense side by using the financial statements and operational data from Table 4-3 above.

Analysis of Revenue

From 2002 to 2004, the number of net additions of KDDI exceeded that of NTT DoCoMo, which had a large positive impact on KDDI, because the number of accumulated users was smaller than NTT DoCoMo. In fact, the accumulated number of users of KDDI increased almost 29%, while that of NTT DoCoMo was 11%. In addition, although NTT DoCoMo’s ARPU decreased 11% from 2002 to 2004, KDDI’s decreased only 5%. NTT DoCoMo’s data ARPU begun to decrease in 2004, while that of KDDI’s continued to increase. As a result, the ARPU difference between NTT DoCoMo and KDDI decreased from 7.4% and ¥560 in 2002 to 0.4% and ¥30 in 2004.

This fact indicates that KDDI successfully acquired a high number of ARPU users by making the most of the first mover’s advantage and its attractive service, Tyaku-Uta Full. Obviously, high-end users already had mobile phones, so the high ARPU users that KDDI acquired were mainly from among NTT DoCoMo’s high-end users, which NTT DoCoMo had acquired through the success of i-mode.

Analysis of Expense

The main focus of expense is sales commission. KDDI was able to decrease its sales commission per handset from ¥40,000 in 2002 to ¥38,000 in 2004, which enabled KDDI to use that extra revenue to more rapidly increase the number of users, and to increase its profits effectively and efficiently.

In contrast, NTT DoCoMo’s sales commission per handset increased from ¥30,000 in 2002 to ¥34,000 in 2004. Although NTT DoCoMo’s net additions decreased, its sales commission continued to increase, which of course had a negative impact on its profit.
It is also obvious that KDDI was able to decrease its sales commission because of the advantage of flat rate (first mover’s advantage and introduction of an attractive service). Eventually, NTT DoCoMo’s operating profit margin decreased from 19% in 2002 to 14% in 2004, while KDDI’s increased from 3% to 13% in the same period.

### 4.4 Financial Impact of the Flat Rate for NTT DoCoMo

To understand the importance of the introduction of the flat rate for data communication, I will analyze its impact from a financial perspective.

#### 4.4.1 Provisional Calculation of the Negative Impact

NTT DoCoMo does not disclose detailed data about the introduction of the flat rate. However, an influential securities analysts, Makio Inui of UBS, estimated the distribution ratio of NTT DoCoMo’s data communication users before the flat rate (see Table 4-4).

<table>
<thead>
<tr>
<th>Distribution ratio</th>
<th>Average ARPU</th>
</tr>
</thead>
<tbody>
<tr>
<td>¥ 4,000 –</td>
<td>¥9,467</td>
</tr>
<tr>
<td>¥ 2,000 – ¥ 4,000</td>
<td>¥2,649</td>
</tr>
<tr>
<td>¥ 1,500 – ¥ 2,000</td>
<td>¥1,699</td>
</tr>
<tr>
<td>¥ 1,000 – ¥ 1,500</td>
<td>¥1,178</td>
</tr>
<tr>
<td>¥ 500 – ¥ 1,000</td>
<td>¥598</td>
</tr>
<tr>
<td>– ¥ 500</td>
<td>¥377</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>¥2,240</strong></td>
</tr>
</tbody>
</table>

Note: As of FY 2003  
Source: UBS Investment research 29 Jun. 2004

If the data in Table 4-4 are correct, we can deduce the negative impact of the flat rate relatively easily.
**Assumption:** All users who use more than ¥4,000 per month migrate to flat rate

- Total number who migrate to flat rate: 41 million (total users) x 14.8% = 6.06 million
- Decrease of ARPU per user per year: (¥9,467 - ¥4,000) x 12 months = ¥65,604
- Total impact per year: ¥65,604 x 6.06 million = ¥397 billion

The operating profit for FY2003 (the last year before introduction of the flat rate) was ¥1,103 billion. I calculated that the impact of the flat rate was equivalent to about 35% of the operating profit, which is a large impact for NTT DoCoMo. This is based on the assumption that all users who use more than ¥4,000 of data communication eventually migrate to the flat rate. In reality, users on the edge of ¥4,000 may not migrate to flat rate. However, at mid-term, we have to think that this size of impact would happen gradually at a higher rate.

### 4.4.2 Provisional Calculation of the Positive Impact

There was also a positive impact as a result of the flat rate. For example, customers who pay less than ¥4,000 for data communication might jump to the flat rate plan to feel more secure. And if NTT DoCoMo provided attractive content, then even customers who hardly use i-mode would start to use the data communication service.

This potential positive impact can be calculated easily, in the same way I calculated the negative impact.

**In case of 2,000 - 4,000 users**

- Total number who migrate to flat rate: 41 million (number of total users) x 12.5% = 5.13 million
- Decrease of ARPU per user per year: (¥4,000 - ¥2,649) x 12 months = ¥16,212
- Total impact per a year: ¥16,212 x 5.13 million = ¥83.1 billion
Making similar calculations for each category of user produces the following results:

users who pay ¥2,000 - ¥4,000 = ¥83.1 billion
users who pay ¥1,500 - ¥2,000 = ¥64.5 billion
users who pay ¥1,000 - ¥1,500 = ¥95.8 billion
users who pay ¥500 - ¥1,000 = ¥788.3 billion
users who pay ¥0 - ¥500 = ¥233.5 billion
Total ¥1,265.3 billion

Of course, these results are more “possible profit” than real profit. Upgrading users in the lower categories of “¥500 - ¥1,000” or “¥1,000 - ¥1,500” to a flat rate that costs almost ¥4,000 would be difficult and probably unlikely. It might be more likely to happen with users in the “¥2,000 - ¥4,000” category, who would consider migrating to a flat rate, although even this would not be easy.

4.3.3 Outcome of the Provisional Calculation

Based on the provisional calculations, the negative impact of a flat rate reaches ¥397 billion, and it seems likely to become a reality in the middle term.

On the other hand, the maximum potential positive impact is ¥1,265. To recover profits only by this positive impact, NTT DoCoMo must realize more than 30% of the potential positive impact. But this is not easy because users in the low-use categories have little interest in using the mobile Internet. Moving users who are in a high-use category is relatively easy, because this type of user likes something new and is interested in the mobile Internet. If NTT DoCoMo introduces a new mobile Internet service, I think these users will try it. However, there is less likelihood that it will lead to expanded profit because of introduction of the flat rate for data communication.

Not only for sustainable growth in future, but even for recovering its profit level, NTT DoCoMo needs to develop a new business model. This topic will be discussed in Chapter 6.
4.4 Sustainable Growth

For NTT DoCoMo to survive in the flat-rate age, the most important requirement is changing the existing business, so the company can make profits in the new environment. The provisional calculations I conducted show that data communications could be a strong growth driver because the negative impact of the flat rate is less than the maximum potential positive impact. Of course, realizing the potential, which the company has not been able to do so far, is not easy. However, for NTT DoCoMo, which has revenues of more than ¥4.5 trillion, improving its existing business is absolutely necessary in order to sustain growth.

4.4.1 Limitations of the i-mode Model

The i-mode model has achieved good success, with 2003 revenues topping ¥1 trillion in five years. However, careful observation shows a weak point in the i-mode model. We can guess the relation between users in each category segmented by monthly data ARPU (i.e., “¥4,000-”, “¥2,000 - ¥4,000”, “¥1,500 - ¥2,000”, “¥1,000 - ¥1,500”, “¥500 - ¥1,000”, “non i-mode users”) and revenues generated by each category from data in Table 4-4, with the results of my estimations indicated in Figure 4-5.

What can be learned from Figure 4-5 is that users in the category of “¥4,000 -”, who account for only 13% of total users, generate more than 60% of revenue. On the other hand, users whose ARPU is less than ¥1,000 account for more than 60% of total users but generate less than 20% revenues.

This implies that the i-mode model was quite effective for boosting revenues from high-end users, which is meaningless in the flat-rate world; however, it is not so effective for stimulating usage by low-end users. This is the weakness of i-mode, but at the same time it also shows that there is room for i-mode to grow in the future.
i-mode has grown by giving importance to official i-mode content providers and developing a “win-win relation between users and content providers on a platform created by NTT DoCoMo.”

NTT DoCoMo’s i-mode portal site has the only link to the i-mode official site, and users must enter a specific URL address to access the voluntary site or the PC site (bookmarked is possible).

One of the innate characteristics of the Internet is its accessibility to any website around the world. However, access to websites other than the i-mode official site would have a negative impact on the “win-win relation between users and content providers on a platform created by NTT DoCoMo,” because official i-mode content providers lose the opportunity to gain income, although it is very beneficial to users. This is a big dilemma for NTT DoCoMo’s i-mode scheme. To boost
revenue from data communications in the flat-rate age, NTT DoCoMo needs to make changes and move away from the existing i-mode model. I will discuss specific approaches the company could consider.

4.4.2 Links to Other Websites

NTT DoCoMo developed links with search engine companies like Google to increase data communication usage. Specifically, NTT DoCoMo put a search engine window on its i-mode portal site. The results of searches are indicated in two steps.

- As a first step, users enter a key word in the window on the i-mode portal site. This step links to content found only in the official i-mode site area.

- Simultaneous with the search results, the name of search engines are indicated. If the user wants to find results beyond the official i-mode site, the user can click on the name of any search engine he/she chooses. The results are displayed after the clicking, and the user does not have to reenter the key word.

On January 24, 2008, NTT DoCoMo and Google announced a partnership in the mobile telecom industry. As a result, NTT DoCoMo will put a Google search window on NTT DoCoMo’s portal site that will indicate search results for voluntary and PC sites immediately in the first step. Also, Google will provide a You-Tube website link that will allow NTT DoCoMo users to enjoy it via their mobile handset.

This is a very different scheme from i-channel, which encourages use of i-mode’s official website. In this scheme, although the first step provides results only in the official i-mode site, it allows users to see many websites other than the i-mode official site. I believe this will significantly boost revenue because it will stimulate users in the low to middle categories who use less than ¥4,000, and encourage them to use more. (It would be expected that high-end users who spent more than ¥4,000 on their usage before the introduction of the flat rate are already enjoying the voluntary sites.
and PC sites, because their ARPU is extremely high (¥9,467)). At the same time, NTT DoCoMo needs to think about how to manage its existing business model, “Win-win relation between users and contents providers on platform created by NTT DoCoMo.”

In addition, we have to pay attention to the change of relations between mobile telecom operators and players in other industries. Based on Porter’s Five Forces analysis, the main supplier has been handset manufacturers and content providers. However, partnering with Google means a powerful new supplier to the mobile telecom industry. Until now, the power of suppliers was not so strong, but it will now be much stronger. When developing its strategy, NTT DoCoMo must consider this factor carefully.

4.4.3 New Pricing under the Flat Rate

Another possible way to enlarge revenue under the flat rate is to introduce different price plans based on network speed. In the mobile telecom industry, no company (including NTT DoCoMo) has yet introduced such a policy. However, companies in the fixed-line telecom industry developed such a policy, and it is now quite common. Table 4-5 is the example of NTT East’s monthly fee for the Internet access, and the same system is introduced in main companies, such as NTT West, KDDI, Softbank Telecom. Additionally, what Table 4-5 indicates is that in ADSL category, the difference of price is large, but the difference between optical fiber and ADSL is very different.

<table>
<thead>
<tr>
<th>Download speed</th>
<th>Monthly fee</th>
</tr>
</thead>
<tbody>
<tr>
<td>Optical fiber</td>
<td>¥4,100</td>
</tr>
<tr>
<td>ADSL 47Mbps</td>
<td>¥2,800</td>
</tr>
<tr>
<td>ADSL 40Mbps</td>
<td>¥2,750</td>
</tr>
<tr>
<td>ADSL 12Mbps</td>
<td>¥2,700</td>
</tr>
<tr>
<td>ADSL 8Mbps</td>
<td>¥2,650</td>
</tr>
<tr>
<td>ADSL 1.5Mbps</td>
<td>¥2,600</td>
</tr>
</tbody>
</table>

Source: NTT East
In the mobile telecom industry, the evolution of the network is planned like Figure 4-5. As the figure shows, introduction of each new network system enhances network download and upload speed gradually. A new price policy should be considered with the introduction of new technologies such as Super 3G and 4G.

**Figure 5-5 Planned Network Evolution**

<table>
<thead>
<tr>
<th>Year</th>
<th>Transmission speed</th>
</tr>
</thead>
<tbody>
<tr>
<td>~2006</td>
<td>1G</td>
</tr>
<tr>
<td>2007</td>
<td>100M</td>
</tr>
<tr>
<td>2008</td>
<td>1M</td>
</tr>
<tr>
<td>2009</td>
<td>100k</td>
</tr>
<tr>
<td>2010~</td>
<td></td>
</tr>
</tbody>
</table>

- **1G**: First in the world to succeed in 5Gbps outdoor transmission
- **4G**: Preparations for the future
- **Super 3G**: DL:7.2~14.4M UL:5.7M
- **W-CDMA**: Source: NTT DoCoMo

**4.4.5 Conclusion**

In this section I discussed two schemes: one being executed by NTT DoCoMo, the other a possible strategy that was not implemented.

The first scheme (providing links to voluntary and PC sites) is especially important for the short term because NTT DoCoMo began to challenge the need to develop a scheme other than “Win-win relation between users and contents providers on platform created by NTT DoCoMo.” However,
if another viewpoint is adopted, this scheme could be a great opportunity for existing i-mode official content providers because it could increase the number of data communication users for NTT DoCoMo. If good content is created or existing content improved, they can realize a boost in revenue.

Figure 4-6 NTT DoCoMo’s new i-mode scheme

For many large, successful companies, it is difficult to change their business model because past successes depend on it; as a result, they sometimes fail. For example, Matsushita Electric Industrial has its own retail shops and was the company’s strong sales force. However, as the Japanese distribution channel changed, retail shops were less effective. Change was urgently needed, but it was difficult because of its past success. Eventually, Matsushita changed its relationship with the retail shops which before had been treated equally. It selected 7,000 shops from the total of
20,000 shops and gave those 7,000 special support. The key was a strong will to break away from models that were successful in the past but now needed to be reconsidered.

This case is similar to NTT DoCoMo’s i-mode case, that is, the relations between NTT DoCoMo and its official i-mode content providers. Although the result of this scheme is not yet clear because it was only recently implemented, the same mindset—breaking away from past successful experience—is very important. NTT DoCoMo “Needs to Manage Platform Evolution” for future success.

4.5 Summary

i-mode became accepted by users in the mobile telecom market, and NTT DoCoMo enjoyed sustained growth. And while voice ARPU had decreased, data ARPU made up for the shortfall, and NTT DoCoMo had increased revenue and profit until FY2003. To make the success even larger, in 2001 the company introduced its 3G mobile telecom system with which users could exchange larger data files. However, NTT DoCoMo’s introduction of the 3G system did not go smoothly. Data download speed and pricing per packet—factors not felt directly by the users—were well developed; coverage ratio, handset weight, standby time, and service—directly felt by users—were not good enough to be accepted by users. Thus, even in a technology-oriented industry like mobile telecom, the technology itself cannot be a killer factor; user viewpoints are also needed.

Although NTT DoCoMo had created a progressive image for itself through the success of i-mode, the progressive or innovative image shifted to KDDI because of NTT DoCoMo’s struggle with the introduction of 3G. Because of the slow migration from 2G to 3G, NTT DoCoMo had to spread its resources between both technologies. These missteps enabled KDDI to step in and introduce a new strategy: the flat rate. KDDI’s strategy created a revenue ceiling for data communication and required mobile telecom operators to change their business model dramatically.
However, KDDI took advantage of this opportunity. The first point to notice was that the strategy was quite effective from the company's perspective. KDDI could acquire new users from NTT DoCoMo by introducing this aggressive plan ahead of NTT DoCoMo. KDDI could offset the negative impact of the flat rate and keep on growing by acquiring new customers from NTT DoCoMo. In addition, KDDI introduced some new services, such as motion picture distribution, at the time of its introduction of the flat rate. The company also offered a full-song download service, Tyaku-Uta Full, mainly for users who register flat rate for data communication later.

Based on my provisional calculations, the negative impact of flat rate for NTT DoCoMo reaches ¥397 billion and it will probably become a reality in the middle term. On the other hand, the maximum potential positive impact is ¥1,265. To recover the profit only by this positive impact, NTT DoCoMo has to realize more than 30% of the potential positive impact, which, of course, is not easy. Not only for sustainable growth in the future, but even for recovering its profit level, NTT DoCoMo has to develop a new business model.

I believe the introduction of the flat rate for data communication is a paradigm shift for mobile telecom operators. It has required all of them, but especially NTT DoCoMo, to change their ways of doing core business in order to sustain growth. One possibility is changing the existing business so the company can make a profit from it in new flat-rate world. To execute this, NTT DoCoMo began to guide users to voluntary sites and PC sites and by putting a search engine window on the i-mode portal site.

These options will have a negative impact on the i-mode scheme because it makes i-mode's official content provider lose opportunities to gain income although it is very beneficial to users. NTT DoCoMo faces a big dilemma in i-mode scheme. However, changing our point of view, this scheme could be a great opportunity for existing i-mode official content providers because this scheme could increase data communication users. If they can create good content or improve existing content, they can boost their revenue from increased data communication users. Although the result of this scheme is not clear because of the short time since introduction, breaking away from the past experience is
very important. The other way, which is not executed by the company, is introducing multiple flat rate plans. Its effectiveness is shown in the Internet access service among fixed-line telecom operators, and the company should think about it when it offers a new network system.
Chapter 5

Business Model Under the Flat Rate

The introduction of flat rate for data communication is a paradigm shift for mobile telecom operators. As a result, there are two likely ways for the company to succeed. One way is to change the existing business so that the company makes a profit from the new flat rate. The other way is to stage a new business or expand the company’s business area. Although NTT DoCoMo’s capital expenditure increased through FY 2006 because of expansion of its 3G network, it is expected to decrease in the middle term, as indicated in Figure 5-1. This means the company should return to a strong financial condition, which will enable it to invest in new business areas.

![Figure 5-1 NTT DoCoMo's capital expenditure](image)
5.1 Choosing a New Business Area for Expansion

In thinking about new business areas that NTT DoCoMo could enter, I believe consideration should first be given to the company’s strengths and weaknesses.

**Strong Points**

- **Strong user base**: NTT DoCoMo has more than 50 million users, all connected to the Internet. This is its strongest point, and a feature that should be leveraged.

- **Technology ability**: The company’s technology, backed by strong R&D, is another strength. This is demonstrated by the fact that the company developed its own new technology in 2G and started the world’s first 3G system. Although businesses driven only by technology often fail, the company should leverage this point as well.

- **Strong financial base**: As indicated in Figure 5-1, NTT DoCoMo’s capital expenditure is expected to decrease, which will give the company extra cash flow.

- **Credibility**: NTT DoCoMo’s credibility is quite high because of its status as an industry leader for more than ten years. In addition, the fact that it is a subsidiary of NTT (which was once the state-owned company) and it has a high bond rating also support its credibility. Its strong reputation helps NTT DoCoMo find alliance partners and new customers in new business areas relatively easily.

Among these strengths, NTT DoCoMo should leverage its strong user base and technology ability to start new businesses, and its strong financial base and credibility will be good support.

**Weak Point**

- **Assets focused only on mobile telecom industry**: When the mobile telecom business was enjoying rapid growth, this was not a weak point. However, to sustain growth in areas other than the mobile telecom business, I have to say NTT DoCoMo does not have enough assets, such as human resources and business know-how in areas other than
mobile telecom. However, I think this point can be resolved by entering into an appropriate alliance. This is a point to watch rather than a weak point.

NTT DoCoMo should leverage its strong user base and technology ability, which will enable it to stand out not only in the mobile telecom industry but also in other industries where NTT DoCoMo’s new business might compete.

The Familiarity Matrix (Roberts & Berry, 1985) might be a useful framework for identifying the type of business alliance, such as joint venture and acquisitions. I also think this matrix would be helpful for identifying the business area the company should select. In Figure 5-2, I indicate the area in which NTT DoCoMo’s strong points (number of users and technology) exist in the Familiarity Matrix (in the shaded portion of the matrix). Of course, NTT DoCoMo should not limit its new business areas only to the types in the shaded area, but I think it could be helpful to NTT DoCoMo.
Another factor to consider is NTT DoCoMo’s size. Its operating revenue was ¥4,788 billion and operating profit ¥773 billion for FY 2006. Even recovering to FY 2003 levels, which had an operating profit of ¥1.1 trillion, is not easy because ¥300 billion of operating profit corresponds to the operating profit of KDDI, which ranks 18th in operating profit.

One other factor for NTT DoCoMo to consider when starting a new business is the synergy effects for its core business.

Based on this assessment, NTT DoCoMo entered the credit card business in 2006 as its new business area. I will analyze this decision based on the viewpoints discussed above.

5.2 A Credit Card Business for NTT DoCoMo

5.2.1 Structure of the Japanese Credit Card Industry

In the credit card business, there are three main players: brand holders, issuers, and acquirers—in addition to the obvious, the card users and member stores. The relation of each player is indicated in Figure 5-3.

Figure 5-3. Structure of the credit card business

Source: Hiroaki Mizukami "Knowledge of credit card" (Nikkei) added by author
Credit card players have one or multiple roles, as the figure indicates:

- **Issuer**: Issuers issue credit cards for card users. In Japan, there are 26 issuers.
- **Acquirer**: Acquirers develop new member shops. Most issuers are also acquirers.
- **Brand holder**: Brand holders own a brand, such as Visa and MasterCard, and license issuers to use their brand. In the Japanese credit card market, there are five brands: Visa, MasterCard, JCB, Diners Club, and American Express.

### 5.2.2 Current situation of the Japanese Credit Card Industry

Consumption expenditures in Japan are indicated in Figure 5-4. The growth rate from FY2001 to FY2005 remained stable at 1.2%. Credit card expenses are growing steadily, as indicated in Figure 5-5. Although Japanese consumption expenditures are stagnant, the data show that the credit card business is a promising industry.

**Figure 5-4 Private final consumption expenditure**

![Bar chart showing private final consumption expenditure from FY2001 to FY2005](source)

*Source: Cabinet Office "national accounting"*
One thing NTT DoCoMo must watch carefully is the number of credit cards issued. In Japan, issued credit cards reached 290 million as of the end of FY2006. This means the average Japanese person has about three cards. Because there are 26 companies in the industry, and because most people have three cards, it is clear that competition is already tough. To be successful in this industry, a credit card company has to have attractive features, which will not be easy because the credit card business is difficult to differentiate.

5.2.2 Outline of NTT DoCoMo’s Credit Card Business

NTT DoCoMo started its credit card business in 2006, and it had the following features.
Credit card functions can be loaded onto mobile handsets

The most significant feature of NTT DoCoMo’s credit card business model is that the credit card function can be loaded onto its mobile handsets. To do this, NTT DoCoMo embedded mobile Felica, a contact-less IC chip, which was already used in many functions, including electronic money.

An established presence in the credit card business

NTT DoCoMo’s original card brand was “iD”, the sixth-largest in Japan, which works only through mobile handsets. As the brand holder, NTT DoCoMo allows other credit card issuers to provide mobile credit service. NTT DoCoMo is also an issuer. So NTT DoCoMo acts as both a brand holder and an issuer.

As the original developer and brand holder of “iD”, this means NTT DoCoMo had to develop its own network of member shops from zero. In contrast, if a company starts a credit card business using existing brand like Visa or MasterCard, it can immediately use existing member shops.

Alliance with Sumitomo Mitsui Card Company

To make up for its lack of experience in the credit card business, NTT DoCoMo partnered with Sumitomo Mitsui Card Company (SMCC), one of the largest credit card companies in Japan. NTT DoCoMo invested ¥98 billion, acquiring a 33.4% share of SMCC. In return, SMCC handles operations such as credit administration, and acts as an acquirer to develop member shops for the new mobile credit brand, “iD”. SMCC also issues mobile credit for its users as issuer. (As a brand holder (not as an issuer), NTT DoCoMo allowed the existing credit company to issue mobile credit to expand the mobile credit market.)

Primary focus on small amounts

NTT DoCoMo focuses mainly on the small-amount market because Japan is still a cash-based society. As a result of NTT DoCoMo’s research, the small-amount market (less than ¥3,000)
amounts to about ¥57 trillion. Considering that the credit card market amounts to about ¥30 trillion, the market is attractive. In addition, the ease of loading it to a mobile handset, which is in a pocket or a bag, enables customers to use the mobile credit service to buy relatively less expensive items.

5.2.3 Analysis of NTT DoCoMo’s Credit Card Business Environment

Strong points

- *User base and business model similarity.* The most important point is the similarity between the mobile telecom business and the mobile credit business. In the mobile telecom business, customers use the mobile phone before paying a fee. This means NTT DoCoMo had 50 million credit-worthy users who would be reliable customers for the credit card business. In addition, NTT DoCoMo already has a scheme for collecting monthly fees after usage, which could be used to collect fees for the credit card business.

  Based on the Familiarity Matrix, because DoCoMo was embarking on the mobile credit card business for its base customers in a new unfamiliar area, DoCoMo is positioned in the lower-right quadrant of the matrix—a strategic alliance scheme. This is a new unfamiliar area for NTT DoCoMo, which I mentioned above would help the company to conduct the business.

- *Differentiation (connectivity with the Internet):* Mobile handsets have a screen and are connected to the Internet, which enables users to confirm the amount they have used. Although existing physical card users can do the same thing through their PC, the convenience of mobile credit is much greater. In addition, users can apply for mobile credit using their mobile phone in a simple procedure that takes only a few minutes, and then the user can access the credit immediately (in this case, the monthly limit is ¥10,000). The mobile credit card function itself is perceived as giving its user a “cool” image, especially among the young generation.
Differentiation is an important factor in this highly competitive industry, so these features could help the mobile credit card to become differentiated and perhaps become the primary card for each user.

**Eight Point Analysis**

1. *Strong management team:* The credit card business has the commitment of the CEO as a top priority business. The project team leader is one who led i-mode to considerable success, so he has the skills needed to start a new business. To succeed in the mobile credit business, it is important to increase the numbers of card users and member shops, which is similar to the earlier strategy of “Win-Win relation between users and contents providers on platform created by NTT DoCoMo.” I will discuss this later.

2. *Attractive market.* As mentioned earlier, the growth rate of the Japanese credit market is high, although private consumption expenditures remain at the same level. Also, the capacity of credit cards in Japan is much lower because Japan has always been a cash-based society. This means the market is attractive.

3. *“Compelling” product/service*

4. *Early evidence of customer interest:* According to NTT DoCoMo research about the mobile credit service (as of Feb. 2006; research was conducted before the launch of the service), the ratio of people who want to use the mobile credit service is 57.5%. In addition, among the young population in their twenties and thirties, desire to use the service is 60.7%. Moreover, expected frequency of use was higher than actual frequency of use of plastic cards in general, as indicated in Figure 5-6, which shows the expectations for a mobile credit service.
5. *Plan for the credibility gap:* As discussed in Chapter 3, NTT DoCoMo enjoys considerable credibility. It will help the company acquire users and member shops that adopt NTT DoCoMo’s credit brand “iD.”

6. *Profit-oriented business model*

7. *Potential for $\$\$ investor payoff:* I will discuss profitability later. What is important is not only revenue and profit from the credit card business, but also synergy with NTT DoCOMo’s core business, mobile telecom service.

8. *Strategic/technical flexibility:* As NTT DoCoMo gets larger, the organization could become rigid. This point will need to be monitored, because NTT DoCoMo is conducting business in a new and unfamiliar area.
Based on analysis of NTT DoCoMo’s strong points and the eight-point analysis, I conclude that although the credit card business is unfamiliar to NTT DoCoMo, it seems to be a promising area, especially because of the similarities between the two businesses, as well as the attractiveness of the market.

5.2.4 Analysis of NTT DoCoMo’s Credit Card Business Strategy

In terms of strategy, I think the company can apply the i-mode scheme—“Win-Win relation between users and contents providers on platform created by NTT DoCoMo”—to its mobile credit service. In this case, we can say: “Win-Win relation between mobile credit users and member shops on a platform created by NTT DoCoMo.” As brand holder and issuer, NTT DoCoMo needs to increase the numbers of mobile credit users and member shops. In addition the success of i-mode is another advantage.

The strategy to attract users

The factors below are the important considerations in the effort to attract users.

- **Easy registration via a simple operation**

  NTT DoCoMo created an easy method of registration by making use of customer information already in the company’s records for its mobile phone service. Registration is done through the Internet, and users can get a credit line of ¥10,000 per month and begin to use the mobile credit service a few minutes after completing registration.

- **Attractiveness of member shops**

  According to NTT DoCoMo, as of September 2007, there were 210,000 shops where mobile credit service was available, and the company is planning even more. (Note: it is difficult to validate this figure because the member shops of other brands are not disclosed.) Regarding the quality of member shops, NTT DoCoMo’s is focusing on
convenience stores where demand for credit service was strong (see Figure 5-7) but users were unable access any credit service.
As Figure 5-8 indicates, mobile credit card service is becoming available at many convenience stores. Total sales at convenience stores are about ¥7.7 trillion, so total credit card expenditures would run about ¥30 trillion. This means DoCoMo’s strategy is right on target and meets its desire to focus on the small-amount market.

- **Ease of use**

To use the mobile credit service, a user only has to put his/her mobile phone on the reader/writer of the mobile credit service. Security is not an issue, since users can easily stop the credit function with an on-line lock function, or by using the IC lock function. As a result, security is actually higher than with a plastic card.
• Others

From a marketing perspective, the company is focused on creating an image that buying something by mobile credit service is “cool.” Also, some features of mobile credit, such as confirming mobile Internet use will appeal to many users.

The strategy to attract member shops

Increasing the number of member shops is a crucial factor. There is great potential for many more shops since NTT DoCoMo has more than 50 million users. In addition, NTT DoCoMo will implement the following strategies.

• Emphasize the merits of mobile credit service to member shops

In the small-amount money market, dealing with cash becomes a cost. By introducing the mobile credit function, member shops can reduce customer waiting time at the cash register. This leads to greater customer satisfaction and reduces costs for equipment and personnel. In Japan, buying drinks at a vending machine is common. For member shops, collecting coins and preparing change is an added cost. To reduce this cost, for example, Coca Cola Japan is planning to introduce “iD” for its 200,000 vending machines.

• Expand mobile credit services

Like i-mode, the mobile credit service has room for expansion. While NTT DoCoMo focuses on the small-amount money market, each user’s credit limit is not large. However, users can request a larger credit limit in a process similar to that for a regular credit card service. Thus, NTT DoCoMo hopes users will become accustomed to using the mobile credit service in small amounts, in the second step, in addition to the use of small amounts, the company expects users to use mobile credit in existing markets.

Masa: Change figure title to “Fig. 5-9”. In third blue block, change “the success” to “success”
5.2.5 Impact of Mobile Credit Service on NTT DoCoMo's Business

*Relationship between number of users and operating profit*

In the credit card business, the relationship between the number of users and operating profit is illustrated in Figure 5-10.
Figure 5-10 shows that the number of users has a direct relation to operating profit. For example, JCB (the largest credit card company in Japan) has 48 million users but its operating profit is only ¥15 billion. In comparison, NTT DoCoMo’s total mobile telecom service user base is about 50 million—similar to JCB. So, JCB’s operating revenue and profits may provide a clue as to the potential of the card business for NTT DoCoMo. NTT DoCoMo entered the credit card industry because it growing steadily and the small-amount cash market has the potential to become a large market. However, the profit and revenue from the credit card business is much smaller than NTT DoCoMo’s operating revenue and profit (¥5 trillion and ¥800 billion, respectively. In comparison, JCB’s operating revenue is ¥155 billion and operating profit is ¥15 billion.)
Synergy with mobile telecom business

The monthly churn rate (i.e., the number of users who move in/out of the business) for NTT DoCoMo is about 1%, or about 10% per year. If the mobile credit service is attractive enough to reduce the churn rate, this synergy effect would be much greater than the impact of mobile credit itself. If the company can reduce the churn rate by half, it could increase both operating revenue and operating profit by about ¥250 billion or 5% of operating revenue. As churning out influences cost, reducing the amount of churning would have almost the same effect on both operating revenue and operating profit.

5.3 New Service: Content Channel

5.3.1 i-channel

In addition to the credit card service, NTT DoCoMo has decided to develop its own content and offer a new service, i-channel—a scheme to display content, such as news and weather forecasts, on a standby handset screen with scrolling text. NTT DoCoMo is offering this service as a content provider. (Of course, NTT DoCoMo is not a content provider company, and developing content directly is not effective. NTT DoCoMo entrusts a company to create contents and offer the service to users as a content provider or content channel.)

The main advantage is that the content is sent directly to users’ handset screens by NTT DoCoMo with not action required by users—known as “push-type information distribution” (see Figure 5-11.) This feature is important, because with the existing i-mode content, users have to take action to access the content (“pull-type information distribution”). As users do not have to do anything to get information, it encourages low-end users to enjoy data communication contents.
More important, this feature is a stepping stone that encourages users to start with standard i-mode content and then obtain more information by pressing the i-channel button. This means users are becoming accustomed to using i-mode. Thus, i-channel service has a large synergy effect on NTT DoCoMo’s core business. This is important in relation to “Win-Win relation between users and contents providers on platform created by NTT DoCoMo” because NTT DoCoMo’s entrance into the content business does not mean becoming an official content provider, but this move still enhances
their business opportunities. To stimulate low-end users, who account for more than 60% of NTT DoCoMo’s total users (see Figure 5-12), one service is not enough, but it is a useful beginning.

The structure of the mobile telecom industry is illustrated in Figure 5-12.

Traditionally, mobile telecom companies competed on the basis of the network and handsets layers. With the introduction of i-mode, this changed because both a content & application layer and a platform layer were added. NTT DoCoMo has done well in these new layers, but the introduction of flat rate implies that growth in the old layers is difficult, especially in the network layer. Today the main competition within the new layers. For example, Softbank Mobile, Japan’s third-largest mobile telecom operator, is focusing on the content & application layer through its subsidiary, Yahoo Japan.
I believe offering more attractive services in the upper layers will need to happen in order for companies to survive in the mobile telecom industry, and as discussed earlier, acting as a content channel can be good trigger for developing service in the content & application layer.

5.3.2 Other Ideas for Content Channels

For NTT DoCoMo, another potential alternative to i-Channel is becoming a home movie distributor. The success of YouTube indicates that there is a demand for channels that feature short home movies shot by amateurs. Although an alliance with a partner like YouTube might be important, distributing home movies to a mobile handset would not work because of screen size and upload/download speed limitations. NTT DoCoMo would need to find suppliers who could adjust the home movies for use by mobile handsets. If these obstacles can be resolved, I believe it has potential for NTT DoCoMo, because these kinds of home movies are mainly shot by amateurs—subscribers of a mobile telecom carrier—and with its larger customer base, NTT DoCoMo has a ready-made pool of amateur home movie takers. Therefore, NTT DoCoMo could be a good channel distributor for this type of home movies.
In addition, most handsets already have video capability, so as upload speeds are improved through the evolution of the network (e.g., HSUPA, High Speed Uplink Packet Access), this will be very realistic business model for NTT DoCoMo.

Finally, I think this business model can be an effective way to retain users. NTT DoCoMo has the largest subscriber base, so it has the greatest potential for offering an attractive channel for home movies.

5.4 Summary

Although competition in the credit card business is tough, a mobile credit service appears to be promising because the credit card industry is growing steadily and NTT DoCoMo can leverage its ability as a mobile telecom operator and take advantage of its similarities to credit card companies. Also, the eight-point analysis confirms that NTT DoCoMo is in a good position to undertake this new business.

However, by itself a mobile credit service is too small to support the growth of NTT DoCoMo. As the company considers its full corporate strategy, it also should consider the synergies to be gained with its core business, mobile telecom service, because DoCoMo’s large size is a key factor. Starting a business without sufficient synergy might lead to unfocused use of management resources that are limited, because starting a new business requires a lot of energy. In the case of the mobile credit service, it has synergy with the mobile telecom business because the credit card function is loaded into mobile phones, which increases the attractiveness of NTT DoCoMo’s mobile handset.

The condition of a new business can be summarized as follows. NTT DoCoMo should leverage its strong user base and technological ability, which I believe are outstanding not only in the mobile telecom industry, but also in other industries where NTT DoCoMo’s new business might compete. Also, the company should consider the synergy with its core business, mobile telecom
service, because of its large size. As the purpose of launching a new business is to sustain or recover growth, starting a business that seems promising but is too small would lead to unfocused use of management resources that are limited. Finally, the new business itself should be analyzed using the eight-point analysis to ensure that it is ready to being.

Putting everything together:

- assess implementing condition as a start-up using the eight-point analysis
- leverage NTT DoCoMo’s strong points, such as number of users and technological strengths
- identify synergy with NTT DoCoMo’s core business, mobile telecom
6.1 NTT DoCoMo Strategies

Throughout this thesis, I have analyzed the following NTT DoCoMo strategies by applying various frameworks:

- voice communication
- data communication (i-mode)
- third-generation (3G) mobile telecom system
- changing core business (self-developed content, alliance with outside search engine, introduction of new pricing system)
- new business (e.g., mobile credit service)

The outcomes of the first three strategies can be evaluated as follows.

**Voice Communication Strategy**

There are two reasons for the success of voice communications. One is that NTT DoCoMo satisfied important factors in the eight-point analysis as a startup company. The other is that it improved the four factors of the mobile telecom industry (i.e., handset, price, service, and network). The key to success was a strong management team that made decisions to strengthen the four factors of the mobile telecom industry.
**Data Communication (i-mode) Strategy**

The success of i-mode can be analyzed from two perspectives: its success as a startup business and as an Internet business. The former was analyzed using the eight-point analysis, which showed that a strong management team and an attractive market were key elements. NTT DoCoMo was successful in the Internet business because it developed the “Win-Win relation between users and contents providers on platform created by NTT DoCoMo,” and supported it with the strong management team and attractive market.

However, this model is now struggling with the implementation of the new flat rate for data communication.

**Third-Generation (3G) Mobile Telecom System Strategy**

NTT DoCoMo failed to make a timely introduction of 3G because of a lack of balance among the four factors, while its competitor, KDDI, introduced 3G smoothly. This failure dramatically changed the competitive position between NTT DoCoMo and KDDI.

These analyses indicate that NTT DoCoMo experienced both success and failure in its basic network business (voice communication and 3G). They also indicate that the company experienced both success and struggle in starting a new business (i-mode).

NTT DoCoMo has learned from its past and leveraged these experiences following the paradigm shift that occurred with the implementation of flat rate. While we do not yet know the results, the two new business opportunities (self-developed content and alliance with a search engine, and mobile credit service) make use of the win-win scheme that gave NTT DoCoMo its success when developing its i-mode business model.
6.2 Strategy After the Introduction of Flat Rate

6.2.1 Mobile Telecom Business After the Introduction of Flat Rate

Although I did not discuss in this thesis the network business after the introduction of flat rate, it is a key business for NTT DoCoMo and the company earns most of its revenue from it. Given that the penetration rate is already high, a high growth rate cannot be expected in this area. However, it should not be forgotten that continuing to be strong in this core area supports the other businesses, and NTT DoCoMo should maintain a focus on this core area is crucial.

As Figure 5-5 (is this right?) showed, NTT DoCoMo is planning to expand its network, and the company must be careful not to repeat the failures experienced with the implementation of 3G service. The company should move to a new network system not because the technology has developed, but because the move will satisfy users and maintain a balance among the four key factors of handset, price, service, and network. Although NTT DoCoMo’s R&D ability is strong, the company should remember it is only one factor in overall success. Like KDDI’s simultaneous introduction of network (3G) and service (Tyaku-Uta), not only enhancing technology, but also showing users how to use a new technology with a new service is a key factor in NTT DoCoMo’s future strategy.

6.2.2 New Businesses After Introduction of Flat Rate

The strength of NTT DoCoMo’s mobile telecom business is also its strength in new businesses. The company has more than 50 million users, all connected by the Internet; few Japanese companies have such a large and useful customer base. Starting a new business without any assets requires a lot of work and energy. NTT DoCoMo should leverage its assets well when it starts a new business.

In addition, because NTT DoCoMo’s business domain and capabilities are limited to the mobile telecom industry, partnering will be needed in order to start a new business. An alliance with
Sumitomo Mitsui Card Company in mobile credit service is a good example. It is what NTT DoCoMo learned in developing its i-mode scheme: “Win-Win relation between users and contents providers on platform created by NTT DoCoMo” and this platform enables partners to be good supporters. The attractiveness of NTT DoCoMo’s assets will help the company to attract good partners and negotiate at an advantage.

Third, NTT DoCoMo must consider the synergies of a new business with the company’s core business. Even if the profit from a new business is small, the new business should be accepted if it improves the attractiveness of the mobile telecom business and the company’s competitiveness. Given that NTT DoCoMo’s operating profit is ¥800 billion, it is not easy to achieve growth only from a new business. Also, the positive impact of a new business for mobile telecom business leads to a positive impact of the mobile telecom business for new business, if the new business is based on assets such as the large customer base.

Finally, and most important, the new business should fulfill certain conditions, such as a strong management team and an attractive market, which can be evaluated through the eight-point analysis. These should be basic and fundamental factors in the decision to enter a new business.

The company has these viewpoints when it evaluates any plan for a new business. These relationships to the new business model for NTT DoCoMo are illustrated in Figure 6-1.
I believe NTT DoCoMo’s new business model—the win-win relationship between the mobile telecom business (supported by the four basic factors) and a new business (supported by the win-win relationship between NTT DoCoMo’s mobile telecom assets and partners) has unlimited potential for the future.
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