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## DoCoMo - The Japanese Wireless Telecom Leader

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This case was written by **Neela Radhika**, under the direction of **A. Mukund**, ICFAI Center for Management Research (ICMR). It was compiled from published sources, and is intended to be used as a basis for class discussion rather than to illustrate either effective or ineffective handling of a management situation.



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## **DoCoMo – THE JAPANESE WIRELESS TELECOM LEADER**

*“DoCoMo is like a huge sumo wrestler overpowering the market. There's nowhere left for it to go but overseas.”*

- **Takeo Tsukada, Senior Adviser, IDO Corp., a rival Japanese mobile operator, in 2000.**

### **THE TSUNAMI IN TROUBLE**

In May 2002, NTT DoCoMo (DoCoMo) Inc., Japan's largest mobile phone company, announced a net loss of ¥ 116.19 billion<sup>1</sup> and a goodwill write-off of ¥ 624.6 billion for the fiscal ending March 2002. Though the company registered an increase in operating revenues from ¥ 4,669.37 billion in 2000-01 to ¥ 5167.14 billion, the revenue growth was stated to be well below its company expectations. Company sources attributed this to the general decline in Average Revenue Per User (ARPU) for voice services and slower growth in new cellular subscribers across the country (Refer Exhibit I for DoCoMo's financials and ARPU data).

DoCoMo's announcement did not come as a major surprise to industry observers, as media reports had been forecasting losses for the company since early 2002 itself. What was noteworthy about this development, however, was the fact that the company was largely believed to be performing exceptionally well in the recent past. The fact that DoCoMo had roped in as many subscribers as the leading US-based media company AOL, but much faster, was often cited as a proof of Japan finally waking up to the challenges of the 'new' economy.

Analysts claimed that DoCoMo was paying the price for its aggressive overseas expansion drive during 1999-2002, in the form of these losses. DoCoMo had to take a huge write-off in its books on account of a decline in the value of its foreign investments and the slump in the global telecommunications market in 2001. While some analysts felt that DoCoMo should revamp its global strategy, a few others said that the company should take measures to increase ARPU. In the words of Hironobu Sawake, an analyst at J P Morgan (leading global financial services firm), “The question is whether we can see a rise in profitability.”

DoCoMo announced that its commitment towards globalization was intact. The company also brushed off analysts' view that the focus should be on increasing the ARPU. Instead, it announced that it would focus more on 3G (Refer Exhibit II for a note on 3G) initiatives (developing and launching more innovative and new 3G technology products). While DoCoMo

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<sup>1</sup> May 02, 2003 exchange rate: 118.86 ¥ = 1 US \$.

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was still lauded for its well designed and executed strategic and marketing game plan that had helped it build a huge subscriber base over the years, these developments had raised many doubts about its future prospects and its ability to turn itself around.

**BACKGROUND NOTE**

DoCoMo’s history can be traced back to 1949, when the Ministry of Communication in Japan was split into the Ministry of Telecommunications (MTEL) and Ministry of Posts (MPosts). A few years after its formation, MTEL was renamed as Nippon Telegraph and Telephone (NTT). NTT operated as a legislative monopoly for telecommunication operations in Japan. The Ministry of Posts and Telecommunications acted as a regulatory authority for NTT’s operations. According to reports, NTT took all accolades for rebuilding the Japanese telecom infrastructure after the Second World War.

NTT ran a monopoly regime in Japan till the 1970s. However, in the 1970s, the Ministry of International Trade and Industry (MITI) began pressurizing the Japanese government to break the NTT’s monopoly, claiming that the convergence of communications required the opening up of the regulatory regime in the country. This argument picked up momentum in the 1980s when US politicians also began exerting pressure on Japan to open gates for foreign players. This was largely because Japanese telecommunications players were free to enter the US telecom market right from the 1970s, while the strict regulatory norms of Japan continued preventing foreign players into Japan.

In the late 1980s, Japan finally decided to reform its telecom regulatory framework to allow the entry of foreign players into Japan’s telecom market. To reduce its monopoly in the telecom sector, NTT’s mobile communication network was spun-off in 1992 to form DoCoMo (initially named as NTT Mobile Communications Network, Inc.; the name DoCoMo was adopted in 2000). NTT had a 67% majority stake in DoCoMo, while the remaining was held by the public. Kouji Ohboshi (Ohboshi), associate vice president of NTT’s Chugoku Telecom division, was made the CEO of DoCoMo.

DoCoMo began its operations in July 1992. Having inherited the wireless communication business of NTT, DoCoMo was primarily involved in offering various wireless communication devices and services. The initial product portfolio of DoCoMo included mobile phones, car phones, maritime phones, in-flight phones and pagers. DoCoMo formulated its policies in line with this corporate philosophy of creating a new communications culture (Refer Table I for DoCoMo’s basic management policies).

**TABLE I**  
**DoCoMo – BASIC MANAGEMENT POLICIES**

<p>Basic management policies of DoCoMo, based on its corporate philosophy included –</p> <ul style="list-style-type: none"> <li>• Expanding its businesses while contributing to the realizing of a rich and dynamic society</li> <li>• Emphasizing and strengthening DoCoMo’s existing core business of voice communication services</li> <li>• Assertively promoting mobile multimedia services among the public</li> </ul> <p>While pursuing these goals, DoCoMo intended to maximize its enterprise value and gain confidence from its customers and shareholders.</p>
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Source: www.DoCoMo-usa.com

With the entry of foreign players like Motorola into the Japanese cellular phone market, the number of subscribers increased from 2.13 million in 1993 to 31.4 million in 1997. However, as the competition intensified, DoCoMo registered a drastic decline in sales during 1992-94. To sustain its position in the market, the company in October 1993, decided to stop taking rental security deposits on handsets. Following this, in April 1994, DoCoMo launched its own handsets, and encouraged its customers to purchase these handsets rather than renting them, and reduced the initial subscription fees.

This strategy resulted in a substantial increase in its subscriber base. In December 1996, the company eliminated the initial subscription fees for its service altogether, which further triggered the subscriber base growth. On account of its focused initiatives and the growing demand for mobile telecom services in Japan during the mid 1990s, DoCoMo emerged as the market leader by 1997.

However, during the same period, the company sensed that there was little differentiation between the products offered by various mobile players in Japan. Apart from this, feedback from its customers showed that the growth rate of voice services (1G – first generation technology) was gradually declining. DoCoMo thus realized the need to shift to a higher-level technology, to differentiate its services from those of its competitors KDDI<sup>2</sup> and J-phone<sup>3</sup> to sustain its growth in the market.

Following this, the company began focusing heavily on Research and Development (R&D) to develop advanced second generation (2G) wireless products. These initiatives gave rise to the development of ‘DoPa’ – DoCoMo Packet transmission service, i.e., communication of data through mobile phones. Launched in March 1997, ‘DoPa’ enabled customers to receive or transmit data in packets. The service was charged on the basis of the volume of the packet. The launch was followed by yet another initiative of the company, the ‘10 Yen Mail Service’, which allowed customers to send an email of upto 1000 words, through their mobile phone, for just ¥10.

Though the ‘DoPa’ initiative met with reasonable success, DoCoMo found itself still under threat from its competitors KDDI and J-Phone. To further derive competitive advantages, the company gave free reign to Keiji Enoki (electrical engineer in NTT) to develop a unique, value-adding wireless product. The company also brought in outside talent like Matsunage Mari (a former editor for a classified ad magazine) and Natsuno Takeshi (an Internet expert) to create a new wireless product. In February 1999, on account of the rigorous R&D efforts, DoCoMo launched I-mode, a revolutionary product, which changed the market dynamics overnight.

I-mode was the first instantly accessible mobile Internet service in the world, which made the Internet available on the phone without the need to dial-up (Refer Table II for details regarding the functioning of I-Mode). I-Mode was offered as an optional service to DoCoMo’s customers and provided access to over 15,000 websites, which were specially adapted to be viewed on their handset screens. This enabled subscribers to perform many Internet functions such as exchanging e-mails, checking stock quotes, getting maps, viewing train schedules, buying movie tickets, making online purchases, downloading new ring tones or playing games.

<sup>2</sup> KDDI Teleserve Inc., a division of KDDI Corporation (Japan) was established in 1987. It offered wireless mobile phones and mobile phone services in Japan. KDDI evolved as the second largest wireless telecom carrier in Japan next to DoCoMo.

<sup>3</sup> J-Phone is the wireless telecom subsidiary of Japan Telecom. J-Phone division included Japan Telecom’s mobile communications and nine companies of J-Telecom’s affiliates, Digital Phone and Digital Tu-Ka. Japan Telecom had a capital alliance with British Telecom and AT&T, the leading telecom companies in the UK and the US respectively. In 2000, the J-Phone division also entered into a joint-venture agreement with UK-based Vodafone Group, the largest wireless carrier in the world.

## I-MODE: DoCoMo’S SUCCESS STORY

I-Mode became an instant success, resulting in a phenomenal growth in DoCoMo’s subscriber base. The fact that the usage of the Internet was still in its infancy in Japan till then worked to the company’s advantage. I-Mode resulted in a huge surge in DoCoMo’s profits in the very first year of its launch. According to reports, on an average, I-Mode generated 30% higher revenues per subscriber as compared to DoCoMo’s phones that provided only voice services. In 2000, the company reported a net income of \$ 2.4 billion, a 39% increase from the previous year.

**TABLE II**  
**FUNCTIONING OF I-MODE**

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| <ul style="list-style-type: none"> <li>• Customers desirous of accessing I-mode were required to press the ‘I’ button present on DoCoMo’s cell phones.</li> <li>• The ‘I’ button connected the phone directly to the Internet with help of an I-mode gateway.</li> <li>• When the connection was established, a menu was displayed along with an option to choose between Japanese or English language to proceed further.</li> <li>• The customers could also type in URLs to access various websites, to get the content they required.</li> </ul> |
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Source: www.ebstrategy.com

To leverage the success of I-Mode, DoCoMo announced its plans to develop third generation (3G) services in late 1999. The company also announced its global strategy to establish itself as a global player expanding its operations outside Japan. Under this strategy, DoCoMo planned to take up minority stakes in less evolved cellular companies worldwide to establish itself as the first global cellular telecommunication giant.

By November 2000, DoCoMo had invested up to \$16 billion in overseas cellular companies. This was in the form of minority stakes in Hutchison Telecom (Hong Kong), KPN Mobile (Netherlands) and 3G UK Holdings (Refer Exhibit III for DoCoMo’s partners). Though these minority stakes did not yield much profit to the company, they served DoCoMo’s primary aim in gaining international footage through them. As part of the investment agreement, these companies agreed to roll out DoCoMo’s I-Mode and 3G mobile services.

Meanwhile, I-Mode’s popularity in Japan continued to soar. According to analysts, I-Mode was nothing less than a phenomenon in the Japanese mobile telephony market. Due to its easy-to-use nature and affordability, the subscriber growth was so fast and so high that the company faced capacity problems in early 2000. Reportedly, DoCoMo suffered 16 disruptions in its I-Mode service by April 2000, casting doubts on the ability of the service to accommodate the increasing subscriber base. However, the company solved the problem by improving the technology used. By early 2001, the subscriber base in Japan accounted for more than 60% (18.1 million) of the 30 million mobile Internet customers in the world. Reportedly, this figure was increasing by 50,000 per day during early 2001, with the Japanese youth taking to I-Mode in a major way.

Company sources mainly attributed the success of I-Mode to its simple and efficient network access, its middleware software, its business model and its positioning. The I-Mode network was based on Personal Digital Cellular Technology - a technology that allowed the data to be sent to its destination in parts called packets. Both the network and the middleware software were DoCoMo’s proprietary services. The company’s middleware software was based on compact HTML (cHTML), a subset of HTML, identical to WAP<sup>4</sup>. cHTML was used to create the content of I-

<sup>4</sup> Wireless Application Protocol (WAP) is a specification for a set of communication protocols to standardize the way in which wireless devices (cell-phones, radio receivers etc.) can access the Internet.



Mode sites, as it enabled content providers to easily convert their HTML Internet site content into an I-Mode compatible format with minor programming changes. This flexibility in operation helped DoCoMo to attract more content providers onto the I-Mode platform.

Another reason that triggered I-Mode's growth was the business model DoCoMo adopted from AOL's packet billing model. According to this model, billing was based on the volumes of data received and sent by the subscriber and not on the amount of time spent on the Internet. This meant that unlike the traditional billing model, which billed the subscribers on the basis of time they stayed connected to the Internet, I-Mode users were billed only when they sent or received any data. However, DoCoMo altered AOL's model to include incentives for content providers as well to encourage them to develop innovative applications and services (Refer Exhibit IV for the strengths of DoCoMo's business model).

Growing e-commerce transactions on I-Mode also contributed to its I-Mode's success. DoCoMo realized that most of its customers were not very comfortable making payments through the Internet. To address this issue, the company started adding the value of its customers' online purchases to their monthly bill. This was not only much more convenient, but also gave the customers a sense of security – something they felt was missing in online payments. As a result, there was a substantial increase in e-commerce transactions through I-Mode.

The success of I-Mode was also credited to DoCoMo's clever marketing strategies. Reportedly, the company consciously chose not to refer to the term Internet or Web in its promotional campaign for I-Mode during the first year of its launch. This was because the company wanted to keep its services simple and did not want to create any unrealistic expectations among the customers. The other reason for such a carefully subtle promotional exercise was to differentiate the service from the Web and WAP services available across the world. I-mode was positioned as a simple, usable and fun-to-use service.

The biggest advantage of I-Mode, according to analysts, was that the service acted as a Win-Win-Win platform, benefiting DoCoMo, content providers and customers. While DoCoMo collected information charges from customers (for the content acquired by the customers from various sites) on behalf of the content providers and charged a commission of 9% on the amount, it passed the rest to the content providers. The content providers could thus receive their share without indulging in the hassles of billing and collection, which left them free to concentrate on developing content. The customers also benefited on account of the wide variety of content accessible through the service at economical prices. Being an open platform, I-Mode allowed all and sundry to set up a site on its network, thus increasing the variety of content available.

Analysts remarked that DoCoMo succeeded because it chose not to be a gatekeeper between content companies and their customer base. The company also had made it easy for individual Web developers to make their sites I-Mode friendly. And when DoCoMo realized that it could attract more customers, if it offered more websites on I-Mode, it increased the number of accessible sites to more than 20,000 by early 2001. Also, the customer abandonment rate (number of customers shifting to other mobile service) reduced drastically. On account of such strategies, DoCoMo reached far ahead of other players in the wireless telecom market across the world thus forcing other players to focus on the wireless web services as well.

DoCoMo's constant focus on identifying the changing needs of customers and providing for them well in advance than its competitors helped it in positioning itself as the market leader. Reportedly, its major competitors KDDI and J-Phone were left far behind on account of I-Mode. Chris Parente, senior product manager, VeriSign (a leading security services provider for online companies), said, "NTT DoCoMo concentrated on the consumer. It made sure that there was quality content, good handsets and an entirely new billing process based on packets of data exchanged, not time online. Even more important, it provided billing services to the official content providers, and consumers one central bill."

DoCoMo sources said that two invaluable resources were responsible for its accomplishments through the years – the sophisticated R&D efforts and the close ties with its huge customer base and partner network. While its R&D was engaged in the development of mobile communications and next generation wireless services, the focus on customers enabled it to listen to them. The partner network built with other companies helped DoCoMo improve its own applications and offer good content, besides providing technical and operational expertise.

According to reports, DoCoMo had multiple points of contact with the customers. Customer representatives were present at all its branch offices and shops across Japan to take feedback on products, services, customer assistance, product maintenance, repair and other product related issues. The company also enabled its customers to reach it through a specially set up telephone service center. With such initiatives, DoCoMo succeeded in staying close to its customers and understanding their needs and thereby changing its strategies to provide solutions for them.

Apart from the company's strategies, various external factors also contributed to the success of I-Mode. Though Japan's population density was high, the PC penetration remained low (when compared to other industrialized nations). This created an untapped market for wireless technology. Also, since the Japanese spent more time commuting on trains, I-Mode was a useful 'companion' for many people. In the words of Kirk Boodry, telecommunications analyst, Dresdner Kleinwort Benson Securities (Tokyo), "I-Mode came at the right time, in the right place, with the right content. It just dazzled everybody."

### DoCoMo – BEYOND I-MODE

In early 2001, DoCoMo announced the development of Freedom of Mobile Multimedia Access (FOMA)<sup>5</sup>, a 3G service that was to be launched in May 2001. As a part of this, through the early half of 2001, the company used I-Mode's success to acquire minority stakes in various cellular companies around the world. Commenting on this, Natsuno Takeshi, Executive Director, DoCoMo said, "No one ever expected this to happen a year and a half ago. Only those who witnessed the shift [i.e. DoCoMo] can imagine what to expect with 3G. DoCoMo alone is very sure of the potential of 3G, because we have already experienced the explosive success of the data business. Our overseas business is to offer our know-how. We cannot give it away free, but we can make a minority investment in interested partners. I think it is a perfect strategy."

Analysts pointed out that though DoCoMo had tried earlier to enter the global arena with I-Mode through its deals with few cellular companies, it could not succeed due to I-Mode's incompatibility with the digital transmission standard used worldwide. Hence, I-Mode did not find many takers though it was faster than the WAP services offered by other wireless companies around the world. The digital transmission standard used in Japan was compatible with the GSM system used worldwide. Analysts felt that DoCoMo's only chance of fulfilling its ambition of succeeding in the global markets was through 3G services like FOMA.

During the same period, DoCoMo sources revealed that the company was banking on a transmission protocol – Wideband-Code Division Multiple Access (W-CDMA), which was expected to help the company diversify into 3G services. DoCoMo expected to place Japan on the global wireless telecom map with its 3G services. In words of Mitsuyama Nahoko, an analyst, "3G is offering DoCoMo the first global stage that Japan can enter. The company's international thrust could act as a wedge, forcing open new markets for its parent NTT as well as for Japanese cell phone manufacturers like Sony and Matsushita, which have done well domestically but have struggled to gain ground abroad against Nokia and Ericsson."

<sup>5</sup> FOMA is an advanced 3G service that allowed users to download data-intensive graphics and MP3 music files on their phones. It also allowed the phones to transmit video.

In January 2001, DoCoMo completed the acquisition of a 16% stake in AT&T, the leading wireless company in the US, for \$9.8 billion. This was till then, the biggest investment the company had made overseas. DoCoMo expected the deal to help it establish itself in the world's richest potential market (US). As the penetration of wireless services in the US (39%) was lesser as compared to Japan (above 50%) and European countries (70%), DoCoMo expected to leverage the available potential through I-Mode and its 3G technologies. In line with these plans, the company began taking initiatives to make I-Mode compatible with the wireless standards used in US. In spite of these efforts, the company soon landed in a host of problems.

### **DoCoMo – PROBLEMS APLENTY**

In early 2001, though DoCoMo still remained the largest company in Japan by its market capitalization and the second largest mobile phone company in the world (after Vodafone), it was facing problems on account of its aggressive overseas investment drive. With wireless stocks plummeting across the world during early 2001, DoCoMo was forced to write off \$7.7 billion, due to the decline in the value of its investments in various foreign wireless companies.

Meanwhile, DoCoMo was facing problems in launching FOMA. The launch, originally scheduled in May 2001 had to be postponed by 5 months. The company also announced that it would launch a 'mini trial' service of FOMA in the introductory phase, by providing it to about 4,000 customers in Tokyo. FOMA allowed its users to exchange moving images and CD-quality sound files over the Internet.

Commenting on the decision to postpone the launch, Yuichiro Kuwahata (Kuwahata), the company's spokesman said "Our base stations and networks are ready for commercial launch. However, we did not have enough time to complete further testing to ensure 100% network quality for our customers." He further explained "When we only had a small number of customers for our I-Mode service, we did not have any technical problems. But when the number of users skyrocketed and exceeded our expectation, we had to deal with a lot of technical problems. We do not want that to happen with our 3G services." Company sources said that they wanted to take feedback from the customers to improve the service quality before going ahead with a full-fledged launch of the service.

However, analysts felt that the reason behind postponement of the service was that DoCoMo was experiencing some technical problems with its 3G networks, and that it had bought time to rectify those mistakes. They remarked that the company was planning to strengthen its networks and work out the differences between the W-CDMA standard used by the company and the Universal Mobile Telecommunication Service (UMTS) standard used in the European countries to launch its 3G services globally. However, analysts were quick to comment that such a delay in launch might prove disadvantageous because competitors like J-Phone Communications were also planning to launch 3G services by early 2002. If this happened, DoCoMo would have very little time to establish itself in the market and reap the first-mover advantage.

In early June 2001, media reports indicated that the initial enthusiasm over 3G services created by DoCoMo was slowly dying down across the world. Many wireless companies seemed to doubt the commercial viability of the service in the long run. As investors began losing interest in 3G services, stocks of companies foraying into 3G services fell drastically. In the words of Niq Lai, Director, Telecom Research Center, Hong Kong, "Investors have now practically written off 3G." DoCoMo's share price declined during this period. Analysts said that customers might not be interested in buying costly 3G enabled handsets, just to have faster service and view pictures and video. They felt that mobile phones might not be suitable as multimedia devices as they had small screens and weak batteries. Hideo Okinaka, Manager, KDDI (a DoCoMo rival), opined, "People would not like to stare at video on a tiny screen for a long time."

In mid June 2001, DoCoMo faced severe criticism from its customers who were provided with FOMA services as a part of the trial. According to these customers, DoCoMo phones enabled with FOMA services had a very short battery life, insufficient network coverage and they crashed easily. Apart from this, many customers complained of hackers manipulating FOMA phones. According to reports, when the FOMA service was accessed, the customer got an email attachment, which caused the phone to automatically call another phone number, and then forward the email to other mobile users. On account of such complaints, DoCoMo was forced to recall over FOMA enabled 1,500 handsets in late June 2001.

In July 2001, it was reported that DoCoMo was delaying the launch of I-Mode in Europe on account of the difficulty in adapting it to the European market. According to company sources, the local operators in Europe were facing problems in launching an I-Mode compatible technology, in place of the standard WAP technology. DoCoMo was also facing problems in Europe on account of a scarcity of I-Mode compatible handsets. Meanwhile, DoCoMo was going ahead with the launch of I-Mode services in other countries such as Netherlands and Germany, in collaboration with its partners.

In the same month, DoCoMo announced that it was fast rectifying FOMA's technical problems and the service would be launched as planned, in October 2001. Reportedly, by September 2001, DoCoMo engineers had rectified 448 problems associated with the FOMA network.

In early October 2001, DoCoMo launched its first fully commercial 3G service FOMA in Tokyo. The service was initially offered in Tokyo and Yokohama, and was to be launched across the nation by mid-2002. FOMA allowed users to transmit video download data-intensive graphics, and MP3 music files. According to DoCoMo sources, FOMA was six times faster than its competitors' services. Though the price of the FOMA enabled handset was very high, the company was confident that it would get over 150,000 subscribers by the end of fiscal 2001.

However, analysts were skeptical about FOMA's success. According to them, the high cost of the new service (including subscription amount, costs of data transmission and handset) was a big hurdle. They pointed out that FOMA lacked the two very essential elements – affordability and ease of use – that had made I-Mode the phenomenal success that it was.

FOMA failed to meet the expectations of DoCoMo as customers still complained of its short battery life, lack of coverage across the country and nuisance from hackers. Commenting on the factors, preventing FOMA's success, Hideki Nomura, Executive Vice President (Marketing), DoCoMo, said, "The largest reason is the limited service coverage. We are constructing the 3G network from scratch and the area is still very limited. The second is the development of handsets; the availability of handsets is quite limited — the variety is limited and the prices are also relatively expensive. The third reason is related to technology development. The battery life is too short." On account of such problems, FOMA's subscriber base amounted to only 89,000 by the end of March 2002, much below the expected 150,000 for fiscal 2002.

Apart from this, the saturation of Japan's wireless telecom market was also posing a severe threat to the company's growth. The growth in subscriber base was declining through the early 2000s. According to reports, the net growth in subscriptions went lower by 31.7% by December 2001 than in December 2000. This increased the competition in the market during early 2002. Reportedly, though DoCoMo still dominated the market (59%) it was facing fierce competition from the existing players and the new entrants in the market. Its nearest competitor KDDI's Au and Tu-Ka services had captured 17.7% and 5.7% respectively, of the total cellular market in Japan. Vodafone's J-Phone, which launched the camera-equipped mobile phone Sha-Mail in 2001, had also increased its market share to 17.6% by early 2002.

To meet the competition, DoCoMo had to offer handset subsidies and reduce its profit margins. But despite these measures, the company's ARPU continued declining during early 2002. With the customers shifting to cheaper wireless e-mail services from DoCoMo's expensive voice-mail services, and with I-Mode also losing its initial pull, the ARPU figures were reportedly rather depressing. Apart from this, DoCoMo's ambitious investment drive went awry with the company forced to take a ¥ 664.49 billion write-down on its investment in AT&T.

The company also had to write-off the value of its various other investments during early 2002. All these factors culminated in the DoCoMo posting one of the biggest ever, corporate losses in Japan (Refer Exhibit I).

## LIFE AFTER THE LOSS

DoCoMo's decision to continue with its global strategy met with apprehension in the markets, though the Government of Japan gave it support stating that DoCoMo was Japan's "flag bearer" in the global arena. In the words of Hiroyuki Arai, Director, Parliament Telecom Policymaking Committee, "DoCoMo is our flag bearer. If the company takes its time getting into the global arena, we will lose our lead to American or other foreign companies. Without that kind of commitment from Japanese companies, our economy will never recover."

However, the company's management had to face the wrath of its shareholders in July 2002. Following this, DoCoMo announced that its management too would shoulder the burden of the losses and cut the salaries of its top executives by 10%-20% for a year.

In April 2002, KDDI launched CDMA2002 1x, its 3G service, which though slower than FOMA, gained more than one million subscribers in the first three months. This was because its technology upgrade was in sync with technology standards worldwide and did not require rebuilding of a whole system, as required by FOMA or I-Mode. J-Phone's 3G service IMT- 2000 also, launched in June 2002, proved successful in the market.

In mid 2002, it was reported that DoCoMo was facing problems in convincing its partner wireless companies in other countries to adopt its technology. Reportedly, its partners were reluctant to spend huge amounts in upgrading their wireless networks as they feared that DoCoMo's products and services might not attract as many customers in their countries as expected. According to reports, these companies had spent billions of dollars in acquiring licenses to operate 3G services and landed in huge debts.

Commenting on the reluctance of these companies to join the 3G bandwagon, Yasumasa Goda, analyst, Merrill Lynch (Japan), a leading financial services firm, said, "The whole point of investing abroad was a speedy roll-out for 3G. But clearly this is no longer realistic." Decreasing revenues and failed global initiatives resulted in a sharp decline in the value of DoCoMo stock which fell by 33.8% from its 52-week high in mid 2002 (Refer Exhibit V for DoCoMo's stock price movements during 2000-03).

On account of its problems with its overseas partners, DoCoMo announced in October 2002 that it was considering freezing its overseas investments. According to analysts, the company was forced to consider this option to control its own costs. FOMA was yet to make profits even in late 2002, while competitors KDDI and J-phone's 3G services were doing rather well. To attract subscribers, DoCoMo had to offer heavy discounts on FOMA handsets and services. During this period, the company also began offering free global roaming to its FOMA customers to retain its existing customers and to lure new customers. According to the company sources, such discounts and free offerings took a heavy toll on the company's revenues.



Meanwhile, the performance of the I-Mode launched in other countries was also not found to be encouraging. In Netherlands and Germany, where I-Mode was launched in July 2002, the service could gain only 34,000 subscribers. AT&T also was disappointed with the performance of mMode (AT&T's version of I-Mode).

## BUSINESS AS USUAL?

In January 2003, DoCoMo decided to reduce its promotional expenditure on 3G services and focus on increasing profits. Commenting on this, CEO Keiji Tachikawa said, "Reckless spending on network expansion will not help promote (3G services); we'd better focus more on returns on investment." The company thus decided to focus on offering better phones with good battery life and to enhance the quality of its content through better content partnerships.

By February 2003, on account of DoCoMo's aggressive marketing initiatives, the sales of FOMA handsets increased to over 191,500 (though still behind the target of 320,000 units for fiscal 2002-03). However, the company's new handset P2102V launched in mid March 2003 reported sales of one million handsets by the end of the month. This model featured a rotating liquid crystal screen and had a good battery life of over 250 hours. In April 2003, DoCoMo also announced the launch of its new handset F66li, with the Global Positioning System (GPS) feature, which enabled users to pinpoint their location and get area maps and information.

In April 2003, it was reported that DoCoMo was bouncing back to profits on account of its successful new launches (handsets), declining capital expenditure and higher mobile revenues. In the words of Mark Berman, a telecom analyst, "DoCoMo is rebounding. In another year, it should regain its status as one of Japan's most profitable companies." Proving the reports right, DoCoMo announced a consolidated net profit of \$1.83 billion for the year ended March 2003.

Analysts attributed this to the company's return to its 'basics.' (After its lackluster stint with 3G technology, DoCoMo had decided to look once again towards 2G technology. As a part of this, the company launched its first photo handset based on 2G technology in June 2002, and it turned out to be an instant success. Based on its 2G experiences, DoCoMo launched more products based on 2G technology during early 2003.

In April 2003, DoCoMo launched a 'wrist-watch with phone' and also announced plans to launch six new 2G camera phones in collaboration with Sony, Sharp, Fujitsu and Mitsubishi. These camera phones were to offer the fingerprint-authentication feature and a special feature that allowed users to download images on to a small memory chip and print them at their convenience.

Meanwhile, DoCoMo's 3G initiative also began showing signs of revival. This was on account of the company's efforts to reduce the weight of its handsets and increase their battery life, combined with aggressive advertising which positioned 3G services as an 'affordable' service. The company also increased the coverage of the service during 2002, and by April 2003, covered 90% of Japan's population. On account of these initiatives, by April 2003, FOMA subscribers increased to 330,000, with 140,000 subscribers signing up in March 2003 alone (though DoCoMo sources was reported to have expected FOMA subscribers to reach 1.5 million by March 2004).

By April 2003, DoCoMo's subscriber base amounted to over 41 million (Refer Exhibit VI for growth in DoCoMo's subscriber base). However, most of this was still due to the I-Mode users who had subscribed to the company's services during the peak of its popularity (during 1999-2002). As the service seemed to be gradually losing its luster, DoCoMo had reportedly decided to focus back on it and improve its content base.

However, DoCoMo was still not free of problems. In April 2003, the Japanese Government passed a new law, The Local Taxes Amendment Law, which removed a loophole in the accounting rules. This rule had till then enabled Japanese companies to inflate their balance sheets by including items such as deferred tax assets. After taking into account the changes in the accounting rules, DoCoMo announced that it might result in a drop in its profits for fiscal 2002-03 as well.

Thus, despite its turnaround on the anvil, investors remained unconvinced. Though the company's share price increased to \$2000 in April 2003 (from \$ 1700 in March 2003), the fact remained that the share price had fallen by a third during the previous year. DoCoMo's investment partners such as KPN Mobile and Hutchison were in deep financial crisis during this period and had requested DoCoMo to infuse fresh capital. However, because of its shareholders' averseness towards its global investments, DoCoMo had to refuse the request. This crisis at DoCoMo's partner companies gave analysts room to doubt the company's chances to earn adequate returns on its investments.

Apart from the above issue, competition in the Japanese mobile telephony segment showed no signs of waning even by mid-2003. Customers were again finding little differentiation in the kind of services provided by the players. While competitors KDDI and J-Phone were increasing their market shares rapidly, DoCoMo's future prospects were being seen as rather shaky. The loss-making overseas investments, investor mistrust and a market nearing saturation were projected to be major hurdles in the company sustaining its growth and leadership.

#### **QUESTIONS FOR DISCUSSION:**

1. Analyze in detail, the strategies adopted by DoCoMo during the early and mid 1990s in detail and comment on the factors that helped it establish itself as a market leader.
2. Critically examine the role played by the I-Mode service in making DoCoMo the largest company in Japan. What were the major factors that led to the success of I-mode?
3. Examine DoCoMo's global strategies and 3G initiatives. Do you support DoCoMo's global strategies? Why/Why not? Do you think DoCoMo was correct in advancing to 3G technology during the early 2000s? Justify your answer with reasons.
4. Critically examine DoCoMo's initiatives to increase its revenues. In the light of the saturation of Japan's cellular market, intensified competition and decreasing ARPUs, do you think DoCoMo would succeed in retaining its market share? What measures would you recommend for DoCoMo to increase revenues and retain its leadership?

**EXHIBIT I**

**DoCoMo – FINANCIAL STATEMENTS (2000-2002)**

(in millions of ¥)

	2000	2001	2002
Operating revenues:			
Wireless services	¥ 3,008,726	¥ 3,620,271	¥ 4,153,459
Equipment sales	709,968	1,049,095	1,013,679
	3,718,694	4,669,366	5,167,138
Operating expenses:			
Cost of services	532,368	537,913	684,400
Cost of equipment sold	649,685	958,022	927,483
Depreciation and amortization	599,486	595,598	640,505
Selling, general and administrative	1,427,968	1,799,213	1,913,863
	3,209,507	3,890,746	4,166,251
Operating income	509,187	778,620	1,000,887
Other expenses, net	21,359	20,489	44,496
Income before income taxes, equity in net losses of affiliates and minority interests in earnings of consolidated subsidiaries	487,828	758,131	956,391
Income taxes	211,072	317,337	399,643
Income before equity in net losses of affiliates and minority interests in earnings of consolidated subsidiaries	276,756	440,794	556,748
Equity in net losses of affiliates*	(1,730)	(17,767)	(643,962)
Minority interests in earnings of consolidated subsidiaries	(18,462)	(21,272)	(28,977)
Net income (loss)	¥ 256,564	¥ 401,755	¥ (116,191)

Source: www.nttdocomo.com

\* Includes a write-down of ¥ 624,644 million, net of deferred taxes of ¥ 453,235 million, in investments in affiliates for the year ended March 31, 2002.

**DoCoMo – ARPU DATA (1998-2002)**

(in thousands of ¥)

PERIOD ENDING	ARPU	
	VOICE	DATA
March 1998	10.80	-
March 1999	9.27	-
March 2000	8.62	0.12
March 2001	7.77	0.88
March 2002	6.94	1.54

Source: www.nttdocomo.com

## EXHIBIT II

### ABOUT WIRELESS TELEPHONY ‘GENERATIONS’

Wireless telephony has evolved through various generations (G):

**1G – Analog Communication:** First Generation wireless telephony was a voice-based technology that used analog signaling (a way of signaling where transmitted signal was a wave of reflection analogous to the original signal). The sound waves were transmitted to the receiver of the telephone, where they were read and amplified to reproduce the voice through the speaker.

**2G – Digital Technology:** Second generation wireless telephony was also essentially a voice-based technology that used digital technology. This technology was based on binary code i.e., the voice to be transmitted was converted into binary form (a series of zeroes and ones). At the receivers end, it was converted back into voice through the switch-on and switch-off of the inbuilt circuit. Though digital wireless telephony provided clearer and crisper voice transmissions with little disturbance as compared to analog technology, it was slower due to the circuit switch-on and off.

**2.5G – Packet Switching Technology:** 2.5 Generation refers to the kind of wireless technology used across the world in the early 21<sup>st</sup> century and is an intermediate path between 2G and 3G. It uses General Packet Radio Service (GPRS), an interim technology between Global System for Mobile (GSM, 2G) and Universal Mobile Telecommunication Service (UMTS, 3G) technologies. It is essentially a data and voice transmission technology. GPRS technology enables high speed transmission of data or voice up to 115 kbps, as compared to the 9.6 kbps enabled by GSM technology. GPRS, apart from normal voice services, supports a wide range of bandwidths that enables the user to browse the Internet and receive and send e-mails and large amounts of data.

**3G – Advanced Packet Switched Technology:** Third Generation wireless technology was still evolving in the early 21<sup>st</sup> century. It promised to increase the bandwidth and provide faster packet-switched data transfer at a rate of 384 kbps, as compared to 115 kbps of 2.5G technology. The technology allowed for video transmission, apart from voice and data transmission on account of its high speed. DoCoMo was the pioneer of this generation.

**4G – Software Defined Wireless Technology:** Fourth Generation wireless telephony or the future generation of wireless telephony is still in the planning stage. Leading wireless companies in the world were involved in doing the groundwork for this in the early 21<sup>st</sup> century and the technology is not likely to evolve before 2010.

Compiled from various sources.

**EXHIBIT III**

**DoCoMo – PARTNER NETWORK**

TYPE	COMPANY
APPLICATIONS	IBM Japan Ltd., IBM Lotus Software, America Online Inc., Microsoft Corporation, SAP AG, Sony Computer Entertainment Inc., SEGA Corporation, Walt Disney Internet Group (Japan), Symbian Ltd., 3Com Corporation, Hewlett-Packard Company and Nokia Oracle.
CONTENT (ENGLISH)	<p><b>News And Information:</b> CNN, Nihon Keizai Shimbun, Inc., Bloomberg LP, Dow Jones, Bridge Japan, Weathernews, Inc., The Chosun Ilbo, People’s Daily, Digital Bridge Communications, The Asahi Shimbun and Stock Smart</p> <p><b>Entertainment:</b> Disney, Hudson, USJ Co.Ltd., Telysys Network Co. Ltd., and ImaHima Inc.</p> <p><b>Ring Tones:</b> Xing, Konami and Music Channel Co.Ltd.</p> <p><b>Database:</b> NTT Directory Services Co., Nokia Japan, Matsushita Electric Industrial Co.Ltd., OG Capital Co.Ltd., and Kimec.</p> <p><b>Others:</b> Northwest Airlines, Inc., Citibank NA Tokyo, Tokyo-Mitsubishi TD Waterhouse Securities, ERICSSON, Federal Express and NTT DoCoMo.com (subsidiary of DoCoMo).</p> <p>A large network of websites offering the above mentioned services and more.</p>
JAPANESE	
OPERATIONS	KG Telecommunications Co.Ltd., (Taiwan), KPN Mobile N.V. (Based in the Netherlands), AT&T Wireless (U.S.), Hutchison 3G UK Holdings Limited (U.K.), Hutchison Telephone Company Limited (Hong Kong), Tele Sudeste Celular Participacoes (Brazil) and Bouygues Telecom S.A.
TECHNICAL	MBNS Multimedia Technologies (Malaysia), PT Telekom (Indonesia), SingTel Mobile Pte. Ltd. (Singapore), Smart Communications (Philippines), SmarTone Mobile Communications Limited (Hong Kong), Sonera (Finland), Telecom Italia Mobile (Italy) and TOT (Thailand).

Source: www.nttdocomo.com

**EXHIBIT IV**

**STRENGTHS OF DoCoMo’s BUSINESS MODEL**

- **Network externality effects that generate more users.** When a new user joined the network, it created incremental benefits for all users in the network. After a critical mass was reached, there were added incentives for new consumers to come in, thus helping the network to grow.
- **High customer-retention rates.** DoCoMo had a massive up-front investment and customer acquisition cost. To prevent its customers from switching DoCoMo created a sticky business model. Under this model, the customers found the cost of switching to other service providers higher than the value gained by switching.
- **Economies of scale.** The cost of supporting new content providers, users, and new technology diminished and the size of the network grew.

Source: www.ebstrategy.com

EXHIBIT V

DoCoMo – STOCK PRICE MOVEMENTS (2000-2003)



Source: www.prophet.net

DOWN

EXHIBIT VI

DoCoMo SUBSCRIBER GROWTH

	31/1998	3/1999	3/2000	3/2001	3/2002	3/2003
CELLULAR Subscribers (thousands)	17,984.00	23,897.00	29,356.00	36,026.00	40,783.00	43,861.00
FOMA	-	-	-	-	89.00	330.00
i-mode	-	-	5,603.00	21,695.00	32,156.00	37,758.00
Market Share (%) (1)	57.00	57.50	57.40	59.10	59.00	58.00
Aggregate ARPU (PDC) (yen) (2)	-	-	8,740.00	8,650.00	8,480.00	8,120.00
Voice ARPU (yen) (3)	10,800.00	9,270.00	8,620.00	7,770.00	6,940.00	6,370.00
i-mode ARPU (yen) (4)	-	-	120.00	880.00	1,540.00	1,750.00
ARPU generated purely from i-mode (PDC) (yen)	-	-	1,540.00	2,110.00	2,200.00	2,110.00
Aggregate ARPU (FOMA) (yen) (2)	-	-	-	-	8,750.00	7,740.00
Voice ARPU (yen) (3)	-	-	-	-	-	5,050.00
Packet ARPU (yen)	-	-	-	-	-	2,690.00
i-mode ARPU (yen) (4)	-	-	-	-	-	2,120.00
ARPU generated purely from i-mode (FOMA) (PDC) (minute) (yen)	-	-	-	-	-	2,340.00
MOU (PDC) (minute) (5)	155.00	164.00	177.00	189.00	178.00	168.00
MOU (FOMA) (minute) (5)	-	-	-	-	-	109.00
Churn Rate (%) (6)	1.97	1.75	1.61	1.39	1.18	1.22
PHS						
Subscribers (thousands)	1,905.00	1,348.00	1,441.00	1,812.00	1,922.00	1,688.00
Market share (%) (1)	28.30	23.30	25.20	31.00	33.70	30.90
ARPU (yen)	-	5,550.00	4,790.00	4,200.00	3,830.00	3,530.00
MOU (minute) (5)	-	145.00	132.00	125.00	121.00	116.00
Churn Rate (%) (6)	-	6.10	4.60	3.80	3.60	3.40
PAGER (Quickcast)						
Subscribers (thousands)	3,908.00	2,111.00	1,444.00	1,098.00	827.00	604.00

Source: www.nttdocomo.com

- (1) Source: Telecommunications Carriers Association
- (2) ARPU (Average monthly revenue per unit) Aggregate ARPU (PDC) = Voice ARPU (PDC) + i-mode ARPU (PDC) Aggregate ARPU (FOMA) = Voice ARPU + Packet ARPU (FOMA)
- (3) Inclusive of circuit switched data communications
- (4) I-Mode ARPU = ARPU generated purely from I-Mode  $\Delta$  (No. of active I-Mode subscribers/ No. of active cellular phone subscribers)
- (5) MOU (Minutes of Usage): Average communication time per month per user
- (6) Total cancellations for one year /Sum of subscribers at the end of each month, from March in the previous fiscal year to February in the current fiscal year

\* No. of active subscribers used in ARPU/MOU calculation are as below:

PDC:  $\{(No. \text{ of subscribers at the end of previous fiscal year} + No. \text{ of subscribers at the end of current fiscal year})/2\}$   
 $\Delta$  12 months

FOMA: Sum of the No. of active subscribers \* for each month, from April to March

\* active subscribers =  $(No. \text{ of subscribers at the end of previous month} + No. \text{ of subscriber at the end of current month})/2$

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