

NTT's Global Strategy after Re-organization

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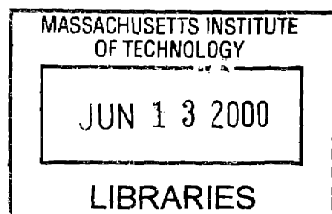
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ABSTRACT

Nippon Telegraph and Telephone Corporation (NTT), the largest telecommunication carrier in the world, was broken up, and reconstituted NTT had a new start on July 1, 1999. On that day, free competition in the telecommunication industry began in Japan. And, NTT Communication, new subsidiary, launched international telecommunication services as a no-regulated company. In many other countries, the telecommunication market has already been deregulated. Since there is no longer a distinction between long-distance and local telecommunication carriers, competition has become more severe.

Globally, telecommunication has turned into a commodity. It is difficult to differentiate the service from rivals. Furthermore, due to recent data communication and Internet growth, the demand for the integrated network has increased. As business is becoming borderless, to overcome the time and distance, a global network is necessary for multinational companies.

In this severe situation, Japanese telecommunication carriers, including NTT and new common carriers (NCCs), have to play the game with these strong experienced players. The mission of NTT, the leading company in the Japanese telecommunication market, is not only to win among Japanese competitors, but also to help strengthen the Japanese telecommunication industry as well. Therefore, at this point, NTT's global strategy is critically important.

This thesis begins with an analysis of the Japanese telecommunication industry. It comparatively analyzes NTT's global strategy with those of global rivals, taking NTT's capabilities into consideration, and concludes by offering recommendations concerning NTT's global strategy.

Thesis Supervisor: D. Eleanor Westney
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Chapter 1 Introduction

Nippon Telegraph and Telephone Corporation (NTT), the largest telecommunication carrier in the world, was broken up, and a reconstituted NTT made a new start on July 1, 1999. On that day, free competition in telecommunication industry began in Japan. And, NTT Communications, a subsidiary of NTT, launched international telecommunication service as a non-regulated company.

In many other countries, the telecommunication market has already been deregulated. For example, AT&T was broken up in 1984 and the Telecommunications Act of 1996 was enacted. Regional Bell operating companies (RBOCs), AT&T and MCI WorldCom have subsequently competed aggressively in the U.S. telecommunication market. Since there is no longer distinction long-distance and local telecommunication carriers, competition has become more severe.

Globally, telecommunication has turned into a commodity. It is difficult to differentiate the service from rivals. Furthermore, due to recent data communication and Internet growth, the demand for the integrated network has increased. As business is becoming borderless, to overcome the time and distance, a global network is necessary for multinational companies.

In this severe situation, Japanese telecommunication carriers, including NTT and New Common Carriers (NCCs), have to play the game with these strong experienced players. The mission of NTT, the leading company in the Japanese telecommunication market, is not only to win among Japanese competitors, but also to contribute to strengthen the Japanese telecommunication industry as well. Therefore, at this point, NTT's global strategy is critically important.

This thesis begins with an analysis of the Japanese telecommunication industry. It comparatively analyzes NTT's global strategy with those of global rivals, taking NTT's capabilities into consideration, and concludes by offering recommendations concerning NTT's global strategy.

Chapter 2 analyzes the Japanese telecommunication industry. Porter's five forces analysis is used to clarify the Japanese telecommunication industry itself and Porter's diamond analysis is used to explain the Japan's national competitive advantage. The current topic of reducing interconnection fee is also considered. Chapter 3 analyzes the global strategies of the strong international telecommunication players, AT&T, MCI WorldCom, BT and C&W. In order to expand the global network, the "global alliance" and mergers and acquisitions (M&A) are now very effective tools. Chapter 4 describes the NTT's organizational capabilities, which are derived from both its technological potential and new holding company's structure. Chapter 5 discusses the NTT's global strategy before and after reorganization. Under regulation, NTT's global challenge was severely limited. As NTT's international activities are traced chronologically and geographically, targeting market and focusing services are clarified. Finally, Chapter 6 evaluates NTT's current global strategy, comparing it with those of other firms. Characteristics of NTT and the Japanese telecommunication industry in general will be taken into consideration, especially holding company structure and regulation/deregulation. NTT will seek a win-win strategy based on its corporate capabilities.

Chapter 2 International Telecommunication industry in Japan

2.1 Brief history of the Japanese telecommunication industry

2.1.1 National monopoly

Since the telephone was introduced in Japan in the 1890s, the industry has been regulated by Japanese government. There are several reasons why industry was not privatized. A huge investment would have been required to establish a telecommunication infrastructure at that time. A privatized company with little equity could not make a deal. If privatized companies ran the business, they might have had to put higher priority on big cities, bringing in huge profits. The government feared that universal service would be harmed. Thus, Japanese telecommunication service provider, NTT Public Corporation, had been owned and managed by the government. In other words, Japan's telecommunication industry was operated as a direct government monopoly.

2.1.2 NTT's privatization

After NTT Public Corporation achieved two primary goals, which were the elimination of a backlog of phone subscribers and completion of nationwide direct-dial coverage, it focused on quality improvement. As free competition drove not only quality improvement, but also varying services and reduced prices, the government and industry realized that Japanese telecommunication system should be changed and more toward the deregulation. Then, NTT Public Corporation was privatized as NTT in 1985. Until then, while NTT was the only domestic carrier, Kokusai Denshin Denwa (KDD) was the only international telecommunication provider in Japan under the regulation. Deregulation also permitted other entities, called New Common Carriers (NCCs), to provide telecommunication service in Japan. In spite of this openness, the Japanese telecommunication industry was still highly regulated. For example, the government did not allow foreign-owned companies to enter the market or to buy local telecommunication companies, and the new entrants needed the government permission to execute the business. NTT, in particular, was highly regulated. NTT was not allowed to enter

the international business and one-third of the NTT's shares had to be owned by government, despite its privatization.

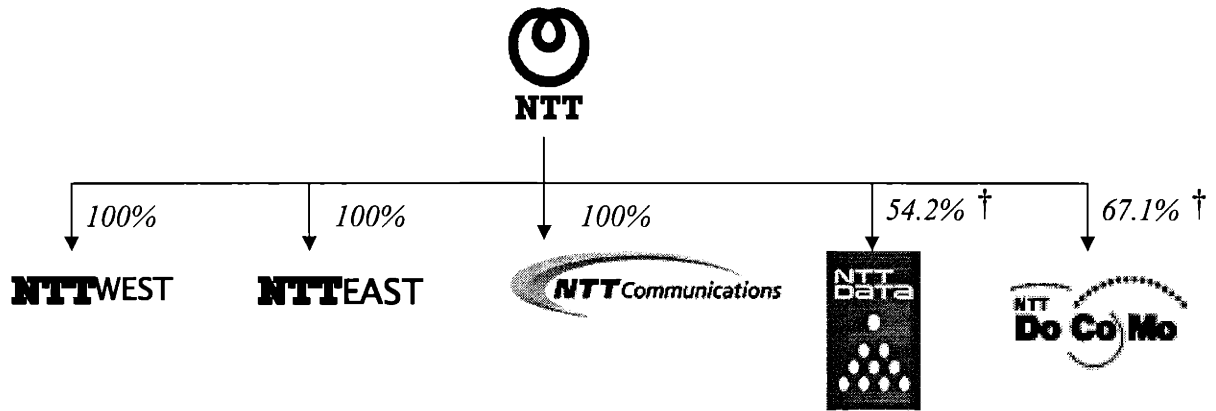
2.1.3 NTT's reorganization

As NTT's position and structure was to be reviewed five years after its privatization, the debate continued between the government and NTT on its future business. As a result, in 1994, NTT was scheduled to be divided into two local access companies, and one long-distance and international telecommunication company five years later. NTT tried to prepare itself for future business diversification, including international telecommunication service, because the domestic telecommunication business, especially wired telecommunication, had matured. As NTT's overseas operations had been limited to domestic communications business in foreign country, NTT forged an alliance with local access carriers, invested in them or cooperated to deploy multimedia service projects for future relationships. Projects with TT&T in Thailand, NEXTEL in U.S. and Multimedia Super Corridor (MSC) in Malaysia were examples. Nippon Telegraph and Telephone Corporation Law (NTT Law), which was revised in 1997, permitted NTT, through its subsidiary, to offer international telecommunications service in Japan. As part of its business, NTT had established a special type II international telecommunications business company, NTT-WT, to provide global end-to-end services in Japan in 1997. Partnering with foreign carriers and offering value-added service would provide NTT with future international business advantages. And a type I international telecommunication business company, NTT-WN was also established to deploy the international service in the same year.

2.1.4 Start of new NTT

Finally, in July 1999, NTT changed its structure to that of holding company. This reorganization allowed NTT to diversify its activities from domestic to international services. Just after this reform, NTT had five first-tier subsidiary companies, which included two local carriers, NTT East and NTT West, a mobile telecommunication carrier, NTT DoCoMo, a system integration company, NTT DATA, and a long-distance and international carrier, NTT Communications (Figure 2-1).

Figure 2-1 NTT's organizational structure (July 1st, 1999)



The number represents the percentage of shares owned by NTT.

† The data are as of March 31, 1999.

(Data Source: NTT Annual Report 1999)

Just before the reform, NTT had 140,000 employees, and its equity was 5,911 billion yen. The new company, NTT Communications have just 6,600 employees and its equity was 72 billion yen, on July 1, 1999 (Table 2-1).

Table 2-1 Corporate data of NTT group companies

	<i>NTT</i>	<i>NTT EAST</i> †	<i>NTT WEST</i> †	<i>NTT Communications</i> †	<i>NTT DoCoMo</i> ‡	<i>NTT DATA</i> ‡
Date of establishment	04/01/85	07/01/99	07/01/99	07/01/99	07/01/92	05/23/88
Employees	3,600 † (R&D: 3200)	60,000	67,600	6,600	4,450	10,334
Equity (Billion yen)	795.60‡	335 .0	312.0	72.0	474.499	145.520
% owned by NTT	-	100 %	100 %	100 %	67.1 %	54.2 %
Business area	Pure holding company	Local (East Japan)	Local (West Japan)	Long distance and international	Mobile	Information system and networking

†Data are as of July 1, 1999.

‡Data are as of March 1, 1999.

(Data Source: NTT Annual report 1999)

2.1.5 KDD's merger

DDI, KDD and IDO formally announced plans to merge into one entity that will provide international telecommunication, long-distance telecommunication and cell phone services from October 1, 2000. DDI, the largest new common carrier, is affiliated with Kyocera Corp. IDO is a cell phone company, of which Toyota Motor Corp. is the largest shareholder. The new company is expected to have consolidated sales of 2.69 trillion yen (U.S.\$ 26.11 billion) in the year through March 2001, a quarter the scale of Nippon Telegraph and Telephone Corp. before its break-up. This would make it the largest comprehensive telecommunication company in Japan after NTT, and one of the ten biggest in the world. Until then, KDD was just an international and long distance telecommunication carrier. This merger gives KDD a potential power to compete with NTT in entire telecommunication industry in Japan.

According to Nikkei interview, Yusai Okuyama, president of DDI noted, "We noticed the growing ability of NTT to dominate the market since its reorganization in July (1999). And, we felt all too keenly the need to create a core business entity that can pose a serious challenge to NTT."¹ The new company will make combined mobile communications and Internet services its core operations. For NTT, competition has become much fiercer than ever before.

Figure 2-2 Competitive environment in Japan

<i>Major Owner</i>	<i>International</i>	<i>Long Distance</i>	<i>Local</i>	<i>Mobile</i>	<i>PHS</i>
NTT	NTT Communications		NTT East NTT West	NTT DoCoMo	
JR (Japan Railroad)	Japan Telecom			J-phone	
Kyocera	DDI			DDI Cellular	DDI Pocket
Toyota				IDO	
KDD	KDD				
Tokyo Electric Power	TTnet				Astel
C&W IDC	C&W IDC				

(Source: Nikkei Ryuutsuu Newspaper, January 6)

¹ Asia Pulse, "DDI-KDD-IDO Merger To Create Japan's Second Largest Telecommunication Co.," Dec 17, 1999.

2.1.6 Foreign carrier's launch

(1) Japan Telecom unlocks the door for AT&T and BT

After limited success in opening the Japanese market with their own offerings, BT and AT&T paid \$1.8 billion to gain a 30% stake in Japan Telecom in April 1999. AT&T president John Zeglis said, "No corporation can achieve global play without being in Japan. This is a must-do market for AT&T."² Japan is the most important country in Asia for both AT&T and BT, which have already established the joint venture company targeting the global business. Japan Telecom, ranking behind KDD and IDC in the international telecommunication market, hopes to leverage the cash and the breadth of its investors' international coverage to present formidable global competition against NTT.

(2) Cable & Wireless scoops up a Japanese carrier

After a three-month bidding war against NTT, C&W, a telecommunication carrier in the UK, bought IDC for 69 billion yen (\$573 million) in June 1999. At about a 20% market share, IDC is Japan's second largest international carrier, ranking behind KDD and offers residential frame relay and ATM data services.³

2.2 Analysis of the industry structure – Porter's five forces analysis

The revenue of international telecommunication in Japan reached ¥474.2 billion in 1997 though it was ¥328.0 billion in 1993. Thus, its growth rate is about 10% per year in these four years,⁴ and this figure is not deemed to be high. Eighty percent of international telecommunication revenue comes from international call business. Porter's five forces analysis⁵ is applied to this international call market in Japan. The basic five forces are: (1) rivalry, (2) substitutes of products, (3) buyer power, (4) supplier power, and (5) entry barrier. In addition, the complement and regulation are also important for telecommunication industry.

² Bloomberg News, "AT&T-BT Consolidate Asian Interests with Japan Telecommunication Stake," Apr. 26, 1999.

³ Forrester Research, "Japan: Competition Breaks Out," Jun 30, 1999.

⁴ Ministry of Post and Telecommunication (MPT), "White paper: Communications in Japan 1999," 1999.

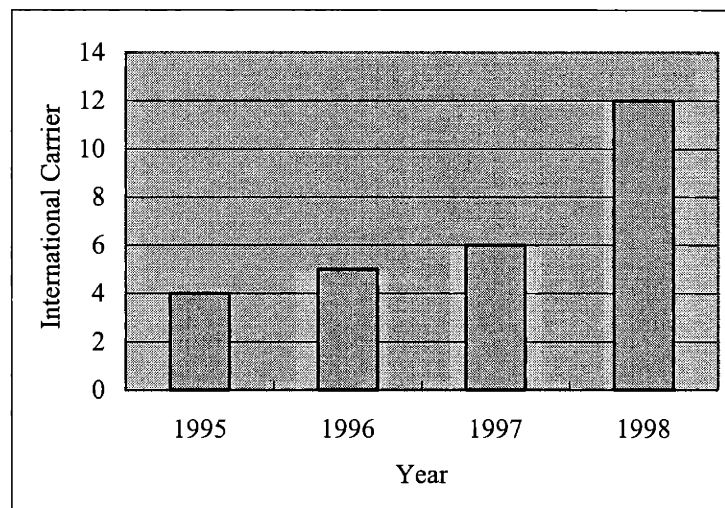
⁵ Porter, M. "Technology and Competitive Advantage," NY: The Free Press, pp.164-200, 1985.

2.2.1 Porter's five forces analysis

(1) Rivalry

NTT Communication's direct competitors are type I telecommunication companies such as KDD, Japan Telecom and Cable & Wireless IDC. The number of international NCCs has grown every year (Figure 2-3). These companies are allowed to have a telecommunication infrastructure, i.e., a telecommunication line between Japan and other foreign countries, and to offer international call service.

Figure 2-3 Number of international NCCs in Japan



(Data source: White Paper "Communications in Japan 1997,"

"Communications in Japan 1998," "Communications in Japan 1999.")

Due to the recent price wars, which make the profit margins very low, carriers are eager to expand their market share for ensuring future infrastructure investment. As the phone call is a commodity service, it is difficult to differentiate themselves from rivals by products (services). Coverage areas are almost the same among them. Thus, price competition is very intensive, especially for value-added services such as the solutions business. NTT still derives much of its revenue from the monthly charges for fixed leased lines, where the number of competitors is still small.

(2) Substitutes

IP Telephony

Innovation, such as IP telephony, provides customers with much cheaper international call services. While traditional service is based on the basic network infrastructure, IP telephony utilizes that the existing Internet infrastructure, and this saves a huge investment. This has achieved tremendous cost advantages. In fact, IP Telephony can offer ¥57 yen three minute call from Japan to U.S., which is just one third of KDD's call current rate, now.⁶

Iridium

Iridium provided the cellular phone service worldwide, using only one phone number. Iridium World Satellite Service covered the entire globe, using the Iridium constellation of 66 low-orbiting satellites. Iridium was the only telecommunication carrier that had the telecommunication infrastructure for covering all of the globe. However, this was an old substitute because Iridium terminated its service March 18, 2000 because it went bankrupt.

Cellular

On the other hand, normal mobile telecommunication companies, such as NTT DoCoMo and IDO, do not have international telecommunication infrastructure, and utilize type I telecommunication carrier's international call service. But these companies offer international call service to meet their customer needs. For example, NTT DoCoMo's "Worldcall" allows their customers to make international calls from their mobile terminals, and the calling charge is consolidated into their regular domestic mobile phone charge. Its coverage area, which includes 219 countries, is not inferior to that of NTT Communications as of March 31, 2000.⁷ When customers want to use the NTT Communications service from their mobile terminals, they have to apply its usage to the NTT Communications and pay the international call charge to NTT Communications, in addition to mobile call charges. Thus, for the customers, NTT DoCoMo's Worldcall is more convenient and attractive. The threat of substitutes is extremely high.

⁶ <http://www.int-connect.com/inp/>.

⁷ <http://www.nttdocomo.co.jp/products/service/keitai/guide/gb-wc.html>.

(3) Buyer power

The buyers are general consumers and corporate customers who call foreign countries. The international is already a commodity because there is no high switching cost from one company to another. A customer can simply dial the prefix number, a 3 or 4 digit-number identifying each carrier, before dialing the recipient's telephone number.

Corporate customers utilize the frame relay service or international leased line service, combined with data network or maintenance service. The circuit cost is defined by tariff, but the other data network solution or maintenance service requires customization and is based on the customers network situation. Thus, it is defined based on contract base. Corporate customers have an increasing choice of providers, and can demand customized services. Therefore, buyer power is very strong.

(4) Supplier power

Switching or transmission equipment providers and marine cable integrators are main suppliers. NTT has worked with Oki, Hitachi, Fujitsu and NEC to research and develop that new equipment for a long time. Their equipment conforms to NTT's procurement system and it is of high quality. Also, there are many foreign competitors, such as ALCATEL, NORTEL and Lucent Technologies. Since there are many choices not only in Japan but abroad as well, supplier power is weak.

International links need to connect Japan and another country because Japan is an island country. Most links use marine cable.⁸ The suppliers of marine cable are divided into two types: carrier consortium and privatized companies. Until very recently, the marine cable was used only by telecommunication carriers, such as AT&T, BT, and MCI WorldCom. Then, the marine cables were planned, financed and operated by carrier consortia, which often had as many as 20 to 30 members, each contributing toward the investment in a well-defined way, depending on their forecast of increasing demand. The traditional time span between initial planning and a major cable system being ready for service was some four years, and cables are engineered for a 25-year operational lifetime.⁹ However, nowadays, there are three companies that are really major "vertically integrated" manufacturers and installers of submarine cable systems. Tyco

⁸ Satellite is now mainly used for backup or experiment.

⁹ David O. Williams, "An Oversimplified Overview of Undersea Cable Systems," CERN-IT-97-005 , May 1997.

Submarine Systems Ltd. (TSSL), KDD Submarine and Cable Systems (KDD-SCS), and ALCATEL Submarine Networks (ASN). The submarine cable industry has changed, and the competition lets the supplier power moderate from high.

(5) Entry barrier

To provide international calls, the carriers needed to have the international lines by themselves. As the telecommunication carriers did not have marine cable before, they needed to have IRU (indefeasible right of use) of marine cables. Nowadays, even telecommunication carriers have to have their own marine cables, which required the huge investment and long lead time for laying the cable. Therefore, especially during KDD's monopoly era, the entry barrier was high. As written in substitutes, IP telephony, which does not need the international infrastructure, but they can offer similar service. The industry itself is changing and technology innovation has made the entry barrier low. But brand name is one of the advantages for incumbents because their brand names reached throughout Japan.

(6) Complement

Telecommunication has many complements, such as voice/video conference equipment and contents. The inexpensive but good quality video or voice conference kit has accelerated the demand for international videoconference for many more customers, especially for business use. Also, a lot of contents such as information, video or music are in the foreign countries, but they are available through Internet. Users do not have to call international call for getting the contents. Thus, complements power would be moderate.

(7) Government

The government has significant power. NTT Law, KDD Law (Kokusai Denshin Denwa Corporation Law) and Telecommunication Business Law are a base, but the environment surrounding the Japanese telecommunication industry is changing substantially in the face of a global trend toward greater deregulation. However, telecommunication carriers cannot set the price freely because they have to seek the permission of the Ministry of Post and Telecommunication (MPT). MPT encourages the free competition, but it controls the market.

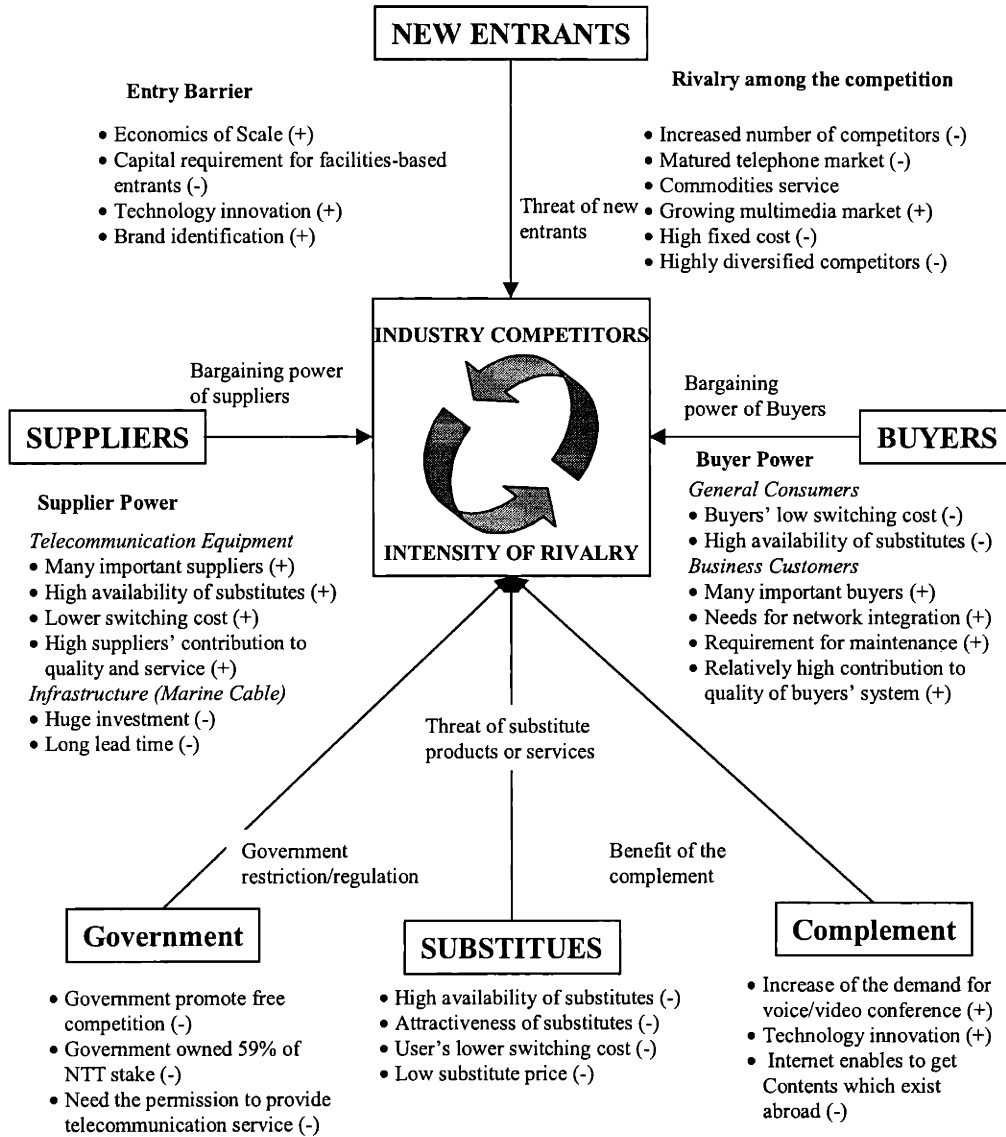
Also, NTT is pressured not only from the MPT, but also from United States. The U.S. Federal Communications Commission (FCC) urged the company to reduce the interconnection fee to Japan, through MPT. This issue is also addressed in the section 2.3.2.2.

2.2.2 Overall assessment

Figure 2-4 summarizes the above analysis. Although the international telecommunication market seems to be saturated, there is a high demand from multinational companies for international communication. Entry barriers to the Japanese international telecommunication market have become low due to the deregulation and technological innovation. New entrants with convenient substitutes or disruptive technology, such as IP telephony, offer incumbent carriers with a major threat. As the telecommunication is already commoditized, market share is very important to ensure the revenue for traditional carriers who have to maintain and invest expensive in an infrastructure. Buyer power is so strong that carriers have to meet their demand, otherwise they lose market share. Thus, the international telecommunication market is not so attractive.

However, Japan is one of the highly advanced telecommunication countries in Asia. Japan seems attractive to foreign carriers building their global network. In fact, some global players launched this market because not only Japanese telecommunication market is attractive, but also it is a good base in Asia to build global networks. Taken together, international telecommunication market could be attractive to those foreign carriers.

Figure 2-4 Porter's 5 forces analysis for Japanese international telecommunication market



2.3 National competitive advantage

Liberalization of the Japanese telecommunication market has allowed foreign telecommunication carriers to enter the Japanese market. As the Japanese government forecasted this phenomenon, they encouraged NCCs to compete with the incumbent carriers. Before the privatization of 1985, NTT served the entire domestic market and KDD served the international market, thirteen years later, there were 77 local telecommunication carriers and twelve international telecommunication carriers. The intensive competition enhances the nation's competitive advantages. Although deregulation has intensified the competition, Japan's competitive advantage is still weak.

2.3.1 Porter's diamond analysis¹⁰

(1) Factor conditions

For basic telecommunication, this is an established industry and the service is commodity. Thus, a skilled labor force is not needed in this area. However, regional features should be considered. Because Japan is an island country, any international telecommunication line is setup by marine cable or satellite connection. This forges international telecommunication carriers to prepare the marine cable for providing the international telecommunication services in Japan. As a result, Japan is less attractive from the point of geographic features for foreign competitors. Also, the Japanese population density is high. It is easy to set-up a telecommunication infrastructure that covers Japan with less money than in larger countries such as China. On the other hand, in big established cities where the roads are meshed and offices are built closely such as in Tokyo, it is very difficult to set up the "last one mile," which is the network to a subscriber. It is easier to establish long distance telecommunication lines than local access lines. This feature attracts the new entrants into long distance telecommunication service rather than local access services.

(2) Demand conditions

In order to reduce labor costs or material costs, the manufacturing companies have owned their factories in other countries. Furthermore, due to globalization, many companies entered the cross border business. This global trend allowed Japanese companies to locate their offices,

branches and factories abroad. Like other foreign multinational companies, they needed the network connected with overseas bases communicating with each other and exchanging various documents. Japan has a distinctive demand. First, Japanese culture requires frequent communication. For example, any decisions are made at certain meetings, with face-to-face communication. Furthermore, “*Nemawashi*,” the personal negotiating process before the decision-making meeting should be required. In fact, because of an immature low-band TV conference system and the expensiveness of broad-band international connection, they often use telephone conferencing with people at oversea bases. Also, the manager usually asks the people to submit the report, monthly, weekly, sometimes daily. Second is the demand for the local language. All Japanese people use Japanese and Kanji characters. Although any data and voice is transmitted regardless of what they are, service menu, advertisement and information service in Japanese would be preferable.

Therefore, there are strong and distinctive demand conditions.

(3) Related and supporting industries

The computer and equipment industry is very strong. As the Japanese government intended to cultivate the computer industry to compete with companies in U.S. or Europe, the mission of NTT Public Corporation was to bring up them through cooperative R&D activities and its procurement system. DENDEN family companies, Oki, Hitachi, Fujitsu and NEC are the high technology companies that can compete with foreign firms. For telecommunication switching equipment, NEC was ranked seventh and Fujitsu was ranked ninth, in 1998 (Table 2-2).

Although the old tight relationship has already been dismissed, the academic and cooperative relationships still exist. The academic societies in Japan encourage the human relationship. Thus, they can communicate with each other, quickly.

For the related industry, the Japan’s national competitive advantage is relatively high.

¹⁰ Porter, M., “The competitive Advantage of Nations,” Harvard Business Review, 1990.

Table 2-2 The ranking of communication equipment vendors

<i>Ranking</i>	<i>Company</i>	<i>Nationality</i>
1	Lucent Technologies	U.S.
2	Ericsson	Sweden
3	Motorola	U.S.
4	Alcatel	France
5	Northern Telecom	Canada
6	Siemens	Germany
7	NEC	Japan
8	Nokia	Finland
9	Fujitsu	Japan
10	Cisco	U.S.

(Data Source: *Communications Week International*, November 23, 1998)

(4) Firm strategy, structure and rivalry

When the government owned NTT, NTT had the obligation to provide the universal services, but dominated the telecommunication market. As a consequence, NTT utilized economy of scale and finally achieved the elimination of the backlog of phone subscribers and completion of nationwide direct-dial coverage.

However, as Porter indicated, most national champions are uncompetitive, although heavily subsidized and protected by their government.¹¹ This was applicable to NTT in the domestic telecommunication market and to KDD in the international telecommunication market. When NCCs appeared in the market, the government encouraged them to develop the capabilities to compete with foreign carriers in the coming free market era. Therefore, NTT's and KDD's activities had to be regulated and restricted by NTT Law and KDD Law.

Because NCCs have aggressively tried to catch up with NTT and KDD, the NCC's share has grown, especially in the international telecommunication market. More NCCs have entered the market (Figure 2-3) and NCCs' market share was 36.1 %.¹² This intensive competition caused price wars to lock-in the customers. Whomever entered the Japanese market, they needed to compete with these local rivals in the price wars.

Multinational companies require one-stop shopping and seamless global network connecting their bases abroad. To meet this demand, NTT forged a business alliance with AT&T.¹³ It will

¹¹ Porter, M., "The competitive Advantage of Nations," p.85, Harvard Business Review, 1990.

¹² MPT, "White paper: Communications in Japan 1999," 1999.

¹³ NTT Press Release, "NTT and AT&T to Collaborate on Global Network Solutions for Multinational Corporations," Apr 27, 1999.

develop value-added networking solutions that will be delivered in the form of professional services for custom designing, deploying and managing enterprise networks, for large and medium-sized businesses. Also, Japan Telecom, AT&T and BT are pursuing strategic investments each other. AT&T and BT jointly took a 30 % of Japan Telecoms' stake, and their Japanese operations will be merged into Japan Telecom.¹⁴ Thus, Japanese carriers enthusiastically made a strategic alliance. But none of the Japanese telecommunication carriers acquired foreign telecommunication carriers or rival carriers offering the same international business area.

2.3.2 Regulatory issues

NTT's business was regulated by two laws: the Telecommunication Business Law and Nippon Telegraph and Telephone Corporation Law. NTT and the Japanese government are now facing pressure to reduce the interconnection fee. This issue was much related to the Japanese industry and the national competitive advantage Japan. To understand this issue, the Telecommunication Business Law will be discussed.

2.3.2.1 Telecommunication Business Law

The Telecommunication Business Law was enacted in 1985 to regulate all the telecommunication providers. This law was passed in order to develop telecommunications in Japan, to promote the welfare of the public, and to protect the interests of its customers by ensuring the proper and reasonable operation of telecommunication services. This law categorized the telecommunication providers into type I and type II (Table 2-1).

¹⁴ Newsbytes, "Japan Telecom, AT&T, BT close deal early," Sep 2, 1999.

Table 2-3 Categories of telecommunications in Japan

<i>Category</i>	<i>Definition</i>	<i>Example</i>
Type I carriers	The carriers who have their own telecommunication facilities and provide their own telecommunication service.	NTT, KDD, C&W IDC, Japan Telecom
Type II carriers	The carriers who do not have their own facilities and provide services through telecommunication circuits leased from type I carriers.	VAN service providers, Internet service providers

In 1997, this law was amended in order to accelerate further competition in the Japanese telecommunication market. The major component was the “basic rules for interconnection.” This rule governs the interconnection of telecommunication networks, such as the networks of NTT and those of competitors, and is designed to reduce prices and improve service to Japanese telecommunication users.

In response to the several complaints from the NCCs, the new rules were drawn up by the telecommunication’s council of the MPT. Before the new rules were enacted, the interconnection depended on negotiations between carriers. Interconnection was not obligatory and in cases where the interconnection negotiation between carriers fails to reach an agreement, the MPT may issue an order to connect or arbitrate for the sake of protecting the public interest. The Japanese interconnection charges were very high. In Japan, it cost 1.22 yen per minute (precisely, 3.66 yen per three minutes), but in the U.S., it cost 0.2 to 0.4 yen per minute, and in the UK, it cost 0.76 yen per minute.¹⁵ The following basic rules have two basic principles; acting to improve benefits for users and promoting fair and effective competition. To improve benefits for users, it specified the following goals:

- 1) To secure an end-to-end seamless service
- 2) To make it possible to provide new services in response to the demands of a multimedia society.

And, to promote fair and effective competition, the following goals were noted:

- 1) To provide transparent, fair, prompt, and reasonable interconnection
- 2) To prevent any anti-competitive conduct that would hinder smooth interconnection.

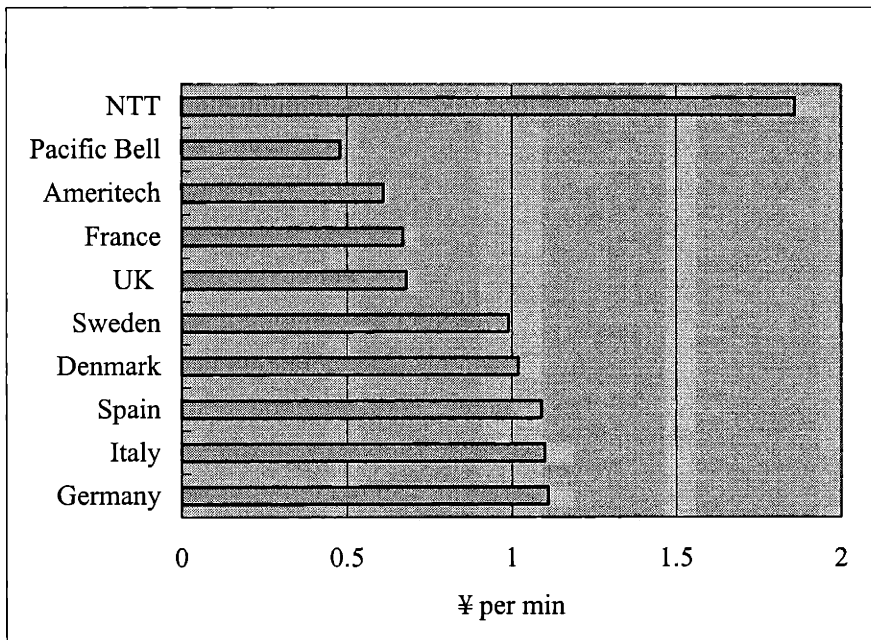
The basic rules for interconnection required every carrier to follow these interconnection points as technical feasible points.

¹⁵ MPT Telecommunications Council, “Basic Rules for Interconnection (Summary)”, Dec 19, 1996.

2.3.2.2 The current pressure from FCC – lowering interconnection fee

According to the basic rules of interconnection, NTT is planning to reduce the interconnection charge. However, NTT's proposal is not comfortable to U.S. government. Thus, not only NTT but Japanese government are now receiving the huge pressure to reduce its interconnection fees. The U.S. government, carriers and even Japanese NCCs argued that the interconnection charge in Japan is very high, compared with those in other countries (Figure 2-5).

Figure 2-5 Interconnection rate



(Data Source: Financial Times February 1, 2000)

If NTT is obliged to lower its interconnection rates as dramatically as the U.S. wants, MPT worries that NTT would have to pass on the burden to consumers in the form of higher subscription fees. Furthermore, bigger cuts would jeopardize NTT's profits and threaten its workers' jobs.

In January 2000, Japan proposed revising the fee calculation system to reduce the rate NTT charges by some 16.5 percent over several years. But, deputy U.S. trade representative, Richard

Fisher said, "My understanding (is) that what they proposed essentially represents little or no significant change."¹⁶

Then, Tokyo proposed a 22.5 percent cut to be implemented over four years. But the U.S. wants 42 percent cut in the charge. This would benefit not only U.S. firms seeking access to Japan's telecommunication market, but provide a much-needed lift to the Japanese economy by stimulating faster growth of the telecommunication industry as well as the spread of the Internet-driven technology.

Japanese officials admit that the feud could cloud the G8 summit in July 2000, if it is not resolved before President Clinton arrives for the gathering.¹⁷ Therefore, the interconnection fee is the first big problem to resolve by the Japanese telecommunication market.

Although a reduction in the interconnection fee will provide the huge pressure to the local NTT (NTT East and NTT West), NTT Communication and NTT DoCoMo will save the cost because NTT Communications and NTT DoCoMo have to pay the interconnection fee to the NTT local subsidiaries. This will also be taken into consideration when the NTT's global strategy is examined.

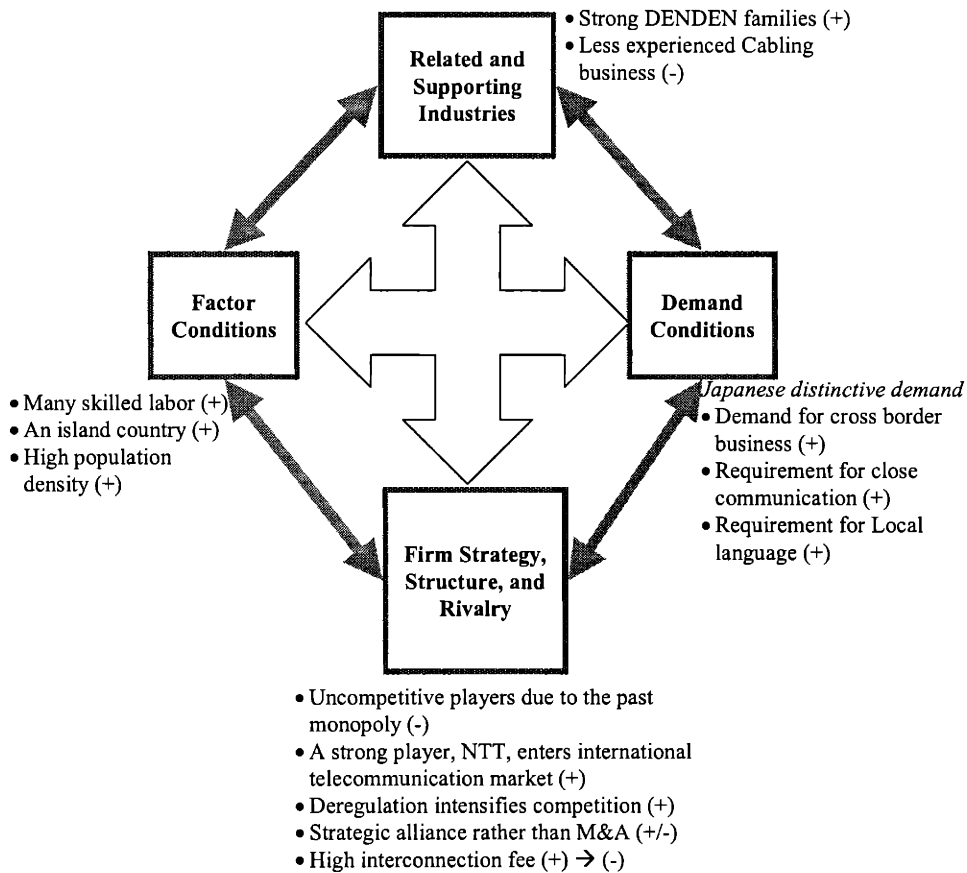
2.3.3 Overall assessment

Competition in Japanese telecommunication market has been accelerated by two NTT organizational changes, privatization and reorganization. The former event was a domestic change that let NCCs appear, and broke the monopoly of NTT and KDD. The second one is NTT's reorganization, which means liberalization of Japanese market. Around this event, powerful foreign carriers entered the Japanese market. As described in section 2.2, the Japanese international telecommunication market is becoming easier to enter for new entrants. Furthermore, Porter's diamond showed that the Japanese competitive advantage is weak (Figure 2-6).

¹⁶ Reuters, "U.S. Threatens Japan Over Telecommunication Fees," Jan. 13, 2000.

¹⁷ Reuters, "Japan Responds to U.S. Criticism," March 31, 2000.

Figure 2-6 Porter's diamond analysis



Although the Japan's national competitive advantage for factor conditions is not low, those for demand conditions and the supporting industries are high, they are not good enough to compete with political pressure of U.S. As the U.S. and U.K. opened and liberalized the telecommunication market earlier than Japan, global telecommunication players in those countries have experienced global business and more advantageous than the Japanese players. Therefore, this situation is very critical for NTT's international business subsidiary, NTT Communications. The effective global strategy is crucial not only to NTT, but also to the Japanese telecommunication market in general.

Chapter 3 Comparative CASE Study – US and UK Telecommunication –

To examine the current NTT's global strategy and recommend future strategy, this chapter will consider a comparative case study. The United States and the United Kingdom, vis-à-vis Japan.

3.1 U.S. Telecommunication – AT&T vs. MCI WorldCom

In the United States, competition in the long distance and international telecommunication market began in 1969, when MCI was granted the right to compete with AT&T. Antitrust suits in 1974 and 1982 requested AT&T to split off seven regional Bell operating companies (RBOCs) in 1984. This was the beginning of the free competition in not only United States, but also all over the world. As the second wave, the enactment of Telecommunications Act of 1996 in the U.S., the settlement of problems surrounding the split of NTT after a fourteen year dispute in Japan, the overall deregulation of the telecommunication business in Europe, and the agreement of ground telecommunication negotiations in World Trade Organization (WTO), will certainly accelerate the liberalization of the world telecommunication business all at once.

MCI WorldCom and AT&T are two distinguished international telecommunication players in U.S. AT&T has lead the telecommunication industry from its inception. AT&T's famous international global alliance was "World Partners." But AT&T exited from the World Partners and has a joint venture with BT. For its past, MCI WorldCom will finish the acquisition of Sprint, its rival. MCI WorldCom's history is the history of repeated mergers and acquisitions (M&A).

Table 3-1 Comparison AT&T vs. MCI WorldCom

	<i>AT&T</i>	<i>MCI WorldCom</i>
Origin	Telephone company	Telephone company (Long distance discount)
Base business	Telecommunication	(Long distance) Telecommunication
Sales (million \$)	62,391	17,678
Net income (million \$)	5,450	2,669
Employees	107,800	77,000
Sales per employee (Million \$ / person)	0.58	0.23
Market value (million \$)	184,531.3	132,047.7
EPS (\$)	0.36	0.43

(Data Source: Hoovers Online)

3.1.1 AT&T

3.1.1.1 Overview

AT&T's history is the history of telecommunication industry in the United States. Due to the fierce competition in domestic (long distance) telecommunication, AT&T began to seek more business opportunities in the international telecommunication business after its break-up in 1984, by utilizing its huge business capabilities.

In 1995, AT&T was divided three companies: AT&T, Lucent technologies and NCR. Before this, AT&T had tried to keep its manufacturing section in-house and vertical integration from equipment through service in its long history. That was the AT&T core competence for a long time. The Telecommunications Act of 1996 would not allow AT&T to have a manufacturing section anymore. As a consequence, AT&T's strategy dramatically changed.

According to C. Michael Armstrong, who became chairman and CEO of AT&T in November 1997, "We're transforming AT&T from a long distance company to an "any-distance" company. From a company that handles mostly voice calls to a company that connects you to information in any form that is useful to you - voice, data and video. From a primarily domestic company to

a truly global company."¹⁸ AT&T has shifted to a more lucrative market, such as wireless, cable, Internet and global network, seeking multinational business customers. Based on the new business strategy, AT&T has repeated the acquisitions in various telecommunication areas in parallel.

3.1.1.2 Global strategy's transition

AT&T's global challenge started in the middle 1980s. Recent strategies have been changed through three phases: (1) bilateral partnership era, (2) World Partners' era and (3) joint venture (JV) with BT.

(1) Bilateral partnership (middle of 1980s to 1993)

The business has become borderless. Global enterprises need to connect their branches or factories located overseas and establish network integrating voice, data and multimedia. Because connecting multinationals requires negotiating with several countries, it is difficult for users to coordinate technically and logistically. Then, the one-stop shopping that consolidates technical and financial issues, and packaged with integrating system planning and maintenance, are needed by these multinational companies.

AT&T's global challenges started in the middle 1980s. For example, the firm cooperated with KDD and BT to provide one-stop shopping. But in this framework, AT&T had to negotiate with other carriers bilaterally. The carriers could not perform their business efficiently.

(2) World Partners (1993 to 1998)

To overcome the above inefficiency, AT&T established a consortium "World Partner" with KDD and Singapore Telecom in 1993. Its purpose was to provide one-stop shopping for global network services such as voice and data. The capital investment for this consortium was \$100 million (AT&T 50%, KDD 30% and Singapore Telecom 20%).¹⁹ The features of this consortium are that the telecommunication carrier that meets the technical conditions and

¹⁸ AT&T, "AT&T Annual Report 1998," p.3, 1999.

¹⁹ Communications Daily, "AT&T, KDD and Singapore Telecommunication lay base for world Telecommunications Network," Vol. 13, No. 101, May 26, 1993.

specified service quality level can join the consortium as an associate member without any investment. The associate members include Telestra (Australia) and Korean Telecom. But AT&T exited World Partners in 1998.

This withdrawal implies that AT&T failed to implement an appropriate partnering strategy. Before establishing World Partners, AT&T needed to assess carefully its reasons for entering into any sort of collaborative activities.²⁰ Because of its size, the geographic and technical scope of its existing business, and its access to capital, AT&T did not need a partnership to fund its global ambitions, diversify its risks or obtain and exploit new technology. AT&T should have dispensed with the distractions and inflexibility of alliances and moved quickly ahead by itself. While this may have been a mistake, at least it would have been a reasonable approach for AT&T.

However, other market factors weighed heavily in favor of establishing a concrete joint enterprise for its global ambitions. Business customers, the primary market for higher margin, value-added telecommunication services, demand globally consistent quality of both network and services, access to the newest and best technology, and a telecommunication provider that is knowledgeable about local needs and local markets, while, at the same time, maintaining its focus as a global carrier. A loose alliance such as World Partners is structurally incapable of meeting these demands. Unless all members of the alliance have a concrete economic stake in the financial condition of the joint enterprise as a whole and profit from their equity interest in the venture, the venture will not be suitably cohesive. This is because alliance does not mean legal entity. The result of a loose alliance is that beneficial investments will not be made, and quality standards will not be met uniformly, thus defeating the primary aim of the venture – delivery of uniform quality high-end services globally.

²⁰ Telecommunications, “The Root of AT&T’s International Troubles,” Aug 1997.

(3) Joint venture with BT (1998 to present)

Learning the weakness of the alliance, AT&T finally agreed to form an international venture with BT, which aims to generate about \$10 billion in revenue in the first full year and operating profits of \$1 billion.²¹ AT&T is now waiting for the U.S. government to follow the lead of the EC (European Commission) and make the global venture feasible. This JV, Concert, has the vision that huge volumes of traffic carried over next generation IP fabric will create economies of scale. To expand their network to Asia, Concert and Japan Telecom forged an alliance covering data transmission services for corporate users. This is the first deal after AT&T and BT acquired stakes in Japan Telecom in 1999. The tie-up gives Japan Telecom exclusive Japanese rights to market Concert's data transmission service, which is expected to eventually cover some 30,000 companies worldwide.²²

3.1.1.3 Characteristics of M&A

As other telecommunication companies, AT&T also has merged or acquired other companies. After the Telecommunications Act 1996, the company cannot take over equipment manufacturers. The firm has acquired other telecommunication companies and other service providers, such as Internet, cable and cellular operators.

(1) On-going M&A

AT&T's acquisition of cable companies within its home market, the U.S., has been very aggressive (Table 3-2). As the acquisition will reduce the AT&T's dependence on RBOCs for direct connections to businesses, AT&T will be able to offer seamless service, from local to long distance.

²¹ Communications Today, "AT&T Takes First Step Toward BT Alliance," Nov 12, 1998.

²² Asia Pulse, "Japan Telecommunication Concert Team Up on Data Transmission Service," Mar 23, 2000

Table 3-2 AT&T's M&A of cable companies

<i>Company</i>	<i>Notes</i>	<i>Size of deal</i>	<i>Year</i>
TCG	Internet access provider	11.02billion	01/08/1998
TCI	U.S. #2 cable firm with 11 million customers and 18 million homes passed.	37 billion	06/24/1999
Liberty Media	TV guide / cable channel company		
AtHome	High-speed internet access (formerly owned by TCI)		
MediaOne	Cable and Internet company	58 billion	04/22/1999

AT&T also expanded its capabilities into rapidly growing wireless telecommunication market, and was ranked top U.S. personal communication service operator, with 10.8 million subscribers.²³ (Table 3-3)

Table 3-3 AT&T's M&A of cellular companies

<i>Company</i>	<i>Notes</i>	<i>Size of deal</i>	<i>Year</i>
McCaw Cellular	U.S. #1 cellular phone operator.	11.5 billion	08/16/1993
Vanguard Cellular	One of the last independent cellular companies	1.5 billion	10/05/1999
Wireless One	Florida base Wireless provider	(undisclosed)	02/07/2000

AT&T realized two advantages from acquiring cellular and cable firms. First, it could reduce its dependence on RBOCs. Cable and wireless are the technology bypassing RBOCs' local access. Second, AT&T reduces the threats of those operators, too. For wired business, the cellular communications and cable operating companies have become big rivals. Thus, AT&T has to have the capabilities to compete with RBOCs, such as Bell South and Bell Atlantic. Last, this dominant market share yields huge revenue. As AT&T split off its local business section, RBOCs, cable companies would provide the regional access and Internet access infrastructure.

²³ Radio Communications Report, "RCR's Top 20 cellular carriers," Vol.19, p.16, March 27, 2000.

AT&T's targeted customers, multinational companies in U.S., need the integrated voice and data networks that connect their branches or bases abroad. AT&T extends its network and offers the one-stop shopping services by establishing the joint venture "Concert" with BT, described in section 3.1.1.2. Concert gives AT&T BT's vast coverage areas, mainly in Europe. AT&T also needed to expand its networks to other countries, including Latin America and Canada, and improve its solution technology through acquisition of IBM Global Network (Table 3-4).

Table 3-4 AT&T's M&A of foreign carriers and data network unit

<i>Company</i>	<i>Notes</i>	<i>Size of deal</i>	<i>Year</i>
MetroNet Communications Copr.	Canada's largest telecommunications carriers with one of Canada's facilities-based CLEC (competitive local exchange carrier).	\$7 billion	03/04/1999
Netstream	Brazilian CLEC	\$ 70 million	08/24/1999
FirstCom	CLEC in Chile, Columbia, and Peru	-	1999
IBM Global Network (IGN)	Japanese and U.S. portions of IBM Global Network	5 billion	12/08/1999

(2) Big failure - buying NCR

Table 3-5 AT&T's M&A of computer vendor

<i>Company</i>	<i>Notes</i>	<i>Size of deal</i>	<i>Year</i>
NCR	AT&T bought world class computer maker. <i>(But, sold it in 1996)</i>	\$4.7 billion	12/02/1990

One of the major failures of AT&T was the computer and communication strategy. AT&T bought computer maker, NCR, in 1991. NCR was the number five U.S. computer maker. The Dayton, Ohio-based firm has a large stake in the vital and growing market for mid-sized computers that use the Unix operating system. After its merger, AT&T and NCR were ahead of

DEC (Digital Equipment Corporation) and Sun Microsystems. Through this merger, AT&T expected a synergy effect in its telecommunication and computer businesses (Table 3-5). However, as with other similar mergers, including Northern Telecom and DATA 100 Corp., IBM and Mitel (Canadian telephone switch maker), this marriage finally resulted in divorce.²⁴ AT&T sold NCR in 1996.

It was difficult to create the synergy by M&A across service (telecommunication) and manufacturer (computer) because their interests conflict. The service side tried to offer the solution to the customers via low cost. Therefore, the price of computer, which consists of solutions offered to the customers, should be low. On the other hand, the manufacturer needed to sell their product at higher price.

However, there is a successful example of the combination of computer and communication, NEC C&C (computer and communication) strategy. NEC has been one of the top telecommunication equipment and computer vendors in Japan. When the government owned NTT, it promoted the high technology industry and tried to grow high technology vendors through NTT. Therefore, NEC has a long history of manufacturing telecommunication equipment based on NTT's procurement system and was known to the telecommunication industry very well. In the middle 1980s, NEC announced its C&C strategy. Although NEC had kept their core business (manufacturing IC, computers and telecommunication equipment, and the system integration and software business), NEC sought the business opportunities around the communication, but not into the telecommunication carrier business. For example, NEC provided major corporate customers with the integrated network system using their computers, phones and telecommunication equipment. Because NEC had a strong relationship with NTT based on the long procurement history, they had deep knowledge about the network utilizing NTT's various services, such as frame relay, leased line and PSTN (public switched telephone network). The people who engaged in computer and communication business were from the same company and had the same corporate culture. Therefore, it was easy to communicate with each other so as to achieve the same goal.

²⁴ Financial Post (Toronto), "Data suggest AT&T, NCR merger may not compute," May 13, 1991.

3.1.1.4 Summary

AT&T tried to make the relationship stronger with its partners. Their partnerships were changed from being bilateral in nature, through global alliance, to joint venture. Inefficient and loose alliances are not appropriate for drastic changes to keep the partners on AT&T's side. AT&T chose the joint venture, which is ultimate form of the alliance, and acquisition.

To expand its global network, AT&T also acquired CLECs (competitive local exchange carriers) in Latin America and Canada because these areas are close to the U.S. and not covered by BT. Also, the IBM Global Network has competence in the solution and data networking technology. This will provide the technological advantage to its strategy meeting with business customers.

In addition, AT&T dominates market in both cable and cellular markets to ensure the huge revenue. Although long distance voice revenue was once 75% of AT&T's total revenue, in 1999, it dropped to 62%.²⁵ While long distance is increasingly becoming a commodity, as evidenced by the continued pricing pressures in the industry, its current profitability supports investments in growth businesses. These growth businesses, such as data, wireless and cable, in turn will support the long distance business of AT&T, which includes long distance as a component of a bundle of competitively priced services.

On behalf of AT&T, Concert has made the next step – launch in Asia. Even Concert did not form the joint venture with Japan Telecom both entities invested in each other and the alliance is an exclusive one. AT&T needs a stronger alliance than what existed in past relationships, such as a bilateral partnership or World Partners.

3.1.2 MCI WorldCom

3.1.2.1 Overview

MCI WorldCom, the second largest telecommunication carrier in U.S., was born after the merger of MCI and WorldCom. This merger strategy was characteristic of WorldCom. On the other hand, MCI had a long history of battling AT&T. In fact, MCI's suit in 1974 was the trigger for the divestiture of AT&T. In the U.S. long distance and international telecommunication industry,

²⁵ AT&T, "Annual Report 1999," p.12, 2000.

the current major players are AT&T, MCI WorldCom (which will acquire Sprint after FCC's approval), and new players, which used to be local carriers, such as Bell Atlantic.

3.1.2.2 Global strategy through M&A

According to its 1998 annual report, MCI WorldCom's strategy is to further develop as a fully integrated telecommunications company positioned to take advantage of growth opportunities in global telecommunications.²⁶ In order to offer seamless one-stop service to the multinational customers and enhance their capabilities, MCI WorldCom executed a number of acquisitions (Table 3-6).

Table 3-6 MCI WorldCom's M&A

<i>Company</i>	<i>Notes</i>	<i>Size of deal</i>	<i>Date</i>
Advanced Telecommunications Inc.,	Long distance reseller	\$850 million	1992
Metromedia Communications Corporation Resurgens Communications group Inc.,	Full service long distance providers	\$ 1.24 billion	1993
IDB Communications group, Inc.,	Domestic & international communications network (Facsimile and data connections, TV and radio transmission services, and mobile satellite communications capabilities)	\$396 million	1994
WilTel	Network Service operations	-	01/05/1995
MFS Communications Company (UUNET Technologies, Inc.)	Local network access (fiber optic cable networks) MFS previously acquired UUNET, internet service provider.	\$12 billion	08/26/1996
Brooks Fiber Properties Inc.,	Local exchange markets	\$2.9 billion	01/29/1998
AOL and CompuServe (Network Units only)	Internet	-	01/31/1998
MCI	Long distance carrier	\$37 billion	09/14/1998
CAI Wireless System	Wireless	-	09/01/1999
SkyTel	Wireless messaging firm	\$1.8 billion	10/01/1999
Sprint	Long distance carrier	\$115 billion	10/05/1999

(Data Source: Corporate History²⁷)

²⁶ MCI WorldCom, "Annual Report 1998," 1999.

²⁷ MCI WorldCom, "Corporate History," http://www.wcom.com/about_the_company/corporate_history/wcom_history.pdf.

These series of M&A are divided into two categories: Vertical M&A and horizontal M&A.

(1) Vertical M&A

Their first mega-deal of the vertical M&A variety involved the acquisition of MFS (Metropolitan Fiber System). MFS had capabilities in the local network access via digital fiber optic cable networks installed in and around major U.S. cities. With this acquisition, MCI WorldCom's business area was not only in long distance, in local access, as well. As AT&T, MCI WorldCom would not try to rely on RBOCs. Integrated networks from local to long-distance enable MCI WorldCom to compete with other foreign carriers in the international telecommunication competition business.

Another vertical M&A involved the acquisition of Internet-related companies and units. UUNET was one of the first international Internet service providers established in 1987. Along with this acquisition, MCI WorldCom also acquired the CompuServe Network Services (CNS) and ANS, the network service unit of AOL at the same time. MCI WorldCom has emphasized strengthening its Internet capabilities.

As the demand for bandwidth becomes very high, the preparation for international links is critical. MCI WorldCom focused not only on domestic vertical integration, but also on international vertical integration. With C&W, MCI WorldCom has established joint venture company Gemini, a company whose marine cable connects U.S. and Europe.

(2) Horizontal M&A

Through vertical M&A, MCI WorldCom is well positioned the coming international competition. However, before its merger with MCI, WorldCom was ranked number four in their its business, long-distance telecommunications behind AT&T, MCI and Sprint.

The MCI WorldCom merge with Sprint would make it the largest telecommunication carrier in the U.S. (Table 3-7). MCI WorldCom entered the long distance telecommunication business later than AT&T, MCI and Sprint. Due to these strategic horizontal and vertical M&A, MCI WorldCom has steadily evolved its telecommunication business. However, wireless communication is relatively out of its focus.

Table 3-7 Market value of U.S. telecommunication carriers

	<i>Market Value (\$ Billion)</i>	<i>Estimated Market value after merger (\$ Billion)</i>
AT&T	143.8	143.8
<i>MCI WorldCom</i>	<i>128.3</i>	<i>206.1</i>
<i>Sprint (Telephone) (PCS)</i>	<i>46.0 31.8</i>	
Bell Atlantic	101.8	175.5
GTE	73.7	
SBC	100.2	173.5
Ameritech	73.3	
Bell South	78.8	78.8
U.S. West	29.6	52.9
Quest	23.3	

(Data Source: InfoCom News Letter²⁸)

²⁸ InfoCom News Letter, "MCI WorldCom no Gappei to Kongo no Beikoku ni okeru Tsuushin Saihensei no yukueni kansuru kousatsu," Oct., 1999.

3.1.2.3 International business expansion

MCI WorldCom's international business is focused on Europe, first. In U.K., for example, MCI WorldCom is the third largest carrier despite being a foreign carrier. London is the center of its business activities in Europe.

The company has expanded its international business area since the early 1990s. In the 1980s, most European countries opened their various markets to foreign business players and American multinational companies demanded to connect their foreign branches with the network. To lock-in their corporate customers, MCI WorldCom needed to provide them with international voice and value added data services. Thus, MCI WorldCom invested in infrastructure in European countries by itself.

Table 3-8 MCI WorldCom's infrastructure investment in Europe

<i>Country</i>	<i>Network size</i>	<i>Voice switches</i>	<i>data network node</i>	<i>Customer ports</i>	<i>Inter-connecting carrier</i>	<i>Notable customers</i>
U.K.	180 route km (London)	5	1	113,000	BT	BP Oil International Harrods
France	40 route km (Paris)	1	1	4,920	France Telecom	JP Morgan Societe General
Germany	57 route km (Frankfurt)	8	8	21,800	Deutsche Telecom	Commerzbank AG BMW/Rolls Royce
Switzerland	-	2	-	994	-	UBS Rentenanstalt
Sweden	19 route km (Stockholm)	1	-	2,490	Telia	Ericsson Net Source
Ireland	Under construction	1	-	-	-	Ulster Bank Irish Permanent plc.
Belgium	33 route km (Brussels)	1	-	440	Belgacom Telecom	Medecins sans Frontiers Finacor
Netherlands	37 route km (Amsterdam)	1	-	1,568	PTT Telecom	Chase Manhattan Bank Justice Department
Italy	-	1	-	-	-	Caboto SIM Net Communications

(Data Source: MCI WorldCom Annual Report 1998)

While investing Europe, MCI WorldCom can use its good relationship with Telefonica in Latin America. Telefonica, Spain's dominant phone company, is seeking its opportunities in Latin America. More than a quarter of Telefonica's sales come from beyond Spanish borders and its Telefonica International subsidiary has more than 20 million fixed lines and more than 9 million cellular subscribers in Argentina, Brazil, Chile, El Salvador, Peru Puerto Rico, and Venezuela.²⁹

²⁹ Hoovers Online, "Telefonica, S.A.,"

3.1.2.4 Summary

MCI WorldCom's basic strategy is the same as AT&T is, targeting to the multinational business customers. In order to expand to broadband IP network to Europe, MCI WorldCom emphasizes establishing infrastructure in Europe, including Atlantic marine cable and local access in major cities. By acquiring local access companies, such as cable firms and rival MCI and Sprint, MCI WorldCom does not have to rely on RBOCs. But it is very clear that MCI WorldCom's market is not general consumers but corporate customers, multinational ones. The company aggressively conducted mergers and acquisitions to achieve this goal.

3.2 U.K. Telecommunication – BT vs. C&W

3.2.1 U.K. Telecommunication history

The United Kingdom began its regulatory reform programs at almost same time and under similar circumstances, and extended their programs to a similar range of sectors, as Japan. The U.K. was much influenced by the United States' deregulation movement and faced common international market pressures.

(1) Government control era (before 1980)

In 1879, the British Post Office was granted the exclusive right to operate the telegraph system. And, it was empowered to license private phone companies, collect a 10% royalty and operate its own systems. This was the model for Japan.

The U.K. along with other countries had a typical post, telegraph and telephone authority (PTT), with a public corporation serving as the monopoly provider of all telecommunication services. For this high capital investment industry, a monopoly was the most efficient way because it would minimize duplication of investment by competitors.

(2) Liberalization – Thatcher's challenge (1980 to 1990)

From 1980 through 1984, the British government, under prime minister, Margaret Thatcher enacted the most radical pro-competitive reform of telecommunication. First, the government

separated the post and telecommunications operator, BT, from the post office and privatized BT in 1984. Second, the government planned to privatize Cable & Wireless (C&W), a company whose primary business lay in telecommunication services overseas, especially in former colonies of the U.K. such as Hong Kong. Third, the government introduced competition in telecommunication equipment, value-added services, mobile communications, and long-distance and local telephone service. And, it also created a new independent regulatory authority, the Office of Telecommunications (OFTEL), and promoted free competition.

(3) More competition (1990 to present)

After the liberalization of the U.K. telecommunication market, Thatcher became more committed to a privatization program. After Mercury, an operator owned by C&W, was legally allowed to interconnect with BT, the U.K.'s telecommunication industry was regulated as a duopoly composed of BT and Mercury. However, when this duopoly was reviewed in 1990, to promote freer competition, the government decided to fully privatize the two companies and open the market place.

Table 3-9 Comparison with BT & C&W

<i>Item</i>	<i>BT</i>	<i>Cable & Wireless</i>
Base business	Telecommunication	Cables and short-wave radio
Sales (Million \$)	27,321.5	12,802.6
Net income (Million \$)	4,807.4	1,463.3
Employees	124,700	50,671
Sales per employee (Million \$ /person)	0.219	0.2526
Market value (Million \$)	106,221.7	28,061.9
EPS (\$)	1.1	3.49

(Source: Hoovers Online, 1999)

3.2.2 BT

3.2.2.1 Overview

BT is the national flagship carrier of U.K. Its history is overlapped by the U.K.'s telecommunication industry itself. Even after its privatization in 1981, the market was still

dominated as duopoly of BT and Mercury. However, in 1999, the market becomes open to even foreign telecommunication carriers, and BT was exposed to fierce competition.

The strategy is a simple one – to seize opportunities for growth in its chosen communications markets worldwide. In the European market, which is growing by ten per cent per year, BT currently has more licenses than any other operator. In 1998/99, its European ventures increased their customer base by more than 150 per cent to over nine million.³⁰ In Asia Pacific, BT has made carefully targeted investments in high-growth companies. During the year, revenues from its new ventures in mainland Europe and the Asia-Pacific region amounted to over £1.1 billion.³¹ Two considerations are driving this approach. The first is that only three or four genuinely global telecommunication companies will be able to provide the world's top 5,000 companies with one-stop shopping for all their communications needs worldwide. The second is that without a large share of that business, it will be far more difficult to recruit as clients the hundreds of thousands of smaller companies with which the multinationals trade.³²

BT is aiming to achieve the following goals:³³

- A global voice and data business to develop network-based communications solutions for multinational companies and organizations around the world;
- A global sales and service business to serve directly the communications needs of multinational customers from selected industries;
- An international carrier services business to manage all of the international correspondent relationships.

3.2.2.2 Global strategy's transition

(1) Syncordia (1991 to 1992)

Syncordia was the first network outsourcing company in the world to replace internal corporate networks of multinational companies. Because BT targeted these corporate customers in the U.S., it established Syncordia in 1991. To achieve this goal, BT needs partners abroad for providing seamless service. NTT was one of the candidates at that time. Being flagship carriers,

³⁰ BT, "Annual Report 1999," p.6, 1999.

³¹ BT, "Annual Report 1999," p.7, 1999.

³² Economist, "British Telecommunication A map of the future," Apr 4, 1998.

NTT has the largest market share in Japan. However, because of Japanese regulation, NTT could not join Syncordia, and finally BT was forced to operate Syncordia by itself.

Syncordia didn't turn out to be successful in the U.S. market. Even though BT was a well-established brand in the U.K., its presence was much weaker in the U.S. market than other U.S. main carriers, such as AT&T, MCI and Sprint. Second, as stated above, BT failed to establish a partnership with foreign telecommunication carriers. It made the Syncordia less attractive for multinational companies. Third, there was entry barrier for BT Syncordia in the U.S. market. EDS was strong in the computer systems market, and as a result, it was difficult for BT to compete with EDS in the U.S.³⁴

(2) Concert with MCI (1993 to 1997)

Due to the insufficiency of Syncordia, BT went on to the next challenge. To expand to the U.S. market, it is necessary to cooperate with U.S. telecommunication carriers. Under this situation, the alliance between BT and MCI was set up in 1993. They reached an agreement to establish a joint venture company, Concert. BT's role was to take responsibility for Europe and the Pacific Rim, while MCI's was in charge of the U.S. In the next five years, BT and MCI intends to invest \$1 billion in Concert. Part of that money will go to establishing a backbone network with 5,000 access points in 55 countries by next spring. Concert is picking up some of BT's and MCI's largest accounts. The joint venture has already taken over British Petroleum, Glaxo and 18 other former customers of Syncordia, BT's now-defunct outsourcing arm. Concert is engaged in discussions with First Data Corp. and Holiday Inn Worldwide, two large MCI customers.³⁵ Furthermore, BT and MCI reached to an agreement that BT took over MCI in order to strengthen their competitive advantages worldwide.

However, this merger effort did not succeed. WorldCom won the bidding for MCI by raising its offer by 22% to \$37 billion, including \$7 billion cash for original suitor BT and responding more quickly to MCI than rival GTE. BT's merger with MCI was abandoned and BT bought the

³³ BT, "Annual Report 1999," p.9, 1999.

³⁴ PR Newswire, "British Telecommunication Forms Syncordia for Global Telecommunications outsourcing," Sep 19, 1991.

³⁵ Communications Daily, "MCI-BT Deal Clears Justice Dept. Review," Vol.14 No. 116, Jun 16, 1994.

remaining 24.9% stake of Concert that MCI had owned. But BT confirmed that MCI continued to be the exclusive provider of Concert services in U.S., until September 2000.³⁶ Losing an important connection in the U.S. market due to this failure, BT had to reconsider its global strategy. Losing MCI represents a failure not only in the U.S. but also in Latin America. At that time, MCI and Telefonica tried to establish a partnership. Telefonica, an aggressive Italian telecommunication carrier, has been very strong in Latin America. Because Telefonica has an important competitive advantage – cultural similarity with Latin America – it is easier to invest and acquire those carriers. This means that BT also lost the Latin America connection.

(3) Concert with AT&T (1997 to present)

In the middle of the 1990s, BT found itself in the similar position with AT&T. Although AT&T was developing for its global strategy by building “World Partners,” AT&T decided to exit from the World Partners (☞ section 3.1.1.3). On the other hand, BT faced failure in the MCI merger and obstacles for the Concert strategy. Both of them had a huge presence in their respective countries and they shared the goal of providing the one stop shopping to multinational companies.

With more than 4,700 customers in 52 countries, Concert has become one of the world’s leading providers of managed global services. Concert services are offered through 47 distributors around the globe, many of which are companies within the BT group or joint venture companies of BT. The two big giants pursued their global strategies together.

³⁶ Communications Daily, “WorldCom’s \$37-Billion Bid Persuades MCI Board,” Nov 13, 1997.

3.2.2.3 Characteristics of M&A

BT acquired not only telecommunication companies, but companies in other business area as well (Table 3-10).

Table 3-10 BT's major M&A

<i>Company</i>	<i>Description</i>	<i>Size of deal</i>	<i>Year</i>
MCI	BT bought 20% stake in MCI.	\$4.3 billion	1993
Concert Communications Services	BT formed Concert JV with MCI.	-	1993
C&W	BT attempted to buy, but failed.	-	1995
MCI (failure)	BT announced to buy out MCI. Bu, BT lowered its bid and competed by WorldCom.	(1.7 billion)	1997
Concert	BT bought the remaining 24.9% stake from MCI.	-	1999
Concert	BT and AT&T agreed to merge their international operations as JV.	-	1999
ImpSat	20% stake (Latin America)	\$145 million	03/11/1999
Japan Telecom	30% stake (with AT&T)	\$1.9 billion	1999
Control Data System	System integration and outsourcing e-Business	\$340 million	07/01/1999
Yellow Book U.S.A.	The Largest U.S. publisher of yellow pages	\$665 million	1999

(1) Solution business

In 1999, through its systems integration unit, BT acquired Control Data Systems, which specializes in systems integration and the outsourcing of electronic business services in 1999.^{37,38}

³⁷ European Telecommunications, "BT Syntegra acquires Control Data Systems," Vol.17, No.14, Jul 13, 1999.

This acquisition satisfied its global strategy to provide solution business to the corporate customers. Reviewing the former failure in U.S. market in the Syncordia era, this acquisition is effective for BT to strengthen its solution business capabilities.

(2) Internet business portal site

The acquisition of Yellow Book U.S.A, which is the largest independent U.S. publisher of yellow pages, is also unique. According to the John Condron, BT's Yellow Pages' managing director, "Yellow Book had an outstanding record and would assist BT in its plans for e-commerce. After YellowBook.com web site to be incorporated into BT Yellow Pages' Yell Internet site, users can access to a combined online directory system for both U.S. and U.K."³⁹ This integrated online directory service will play an important role as a portal site, which is the entrance of the Internet for users.

(3) International challenge

In spite of the failure of the partnership with Telefonica and MCI, BT finally found a strong partner in AT&T. In Europe, BT has already invested a considerable amount (Table 3-11). But even AT&T's challenge in Latin America has just started. BT still needs to acquire or make alliances with Latin America carriers for expanding to their networks.

In Asia, BT also invested much money, mainly in their colonies (Table 3-11). BT invested in Japan Telecom in the amount of a 30 % interest stake.⁴⁰

³⁸ The Electronic Commerce Briefing, "BT's Syntegra Buys Control Data Systems," No. 522, Jul 1, 1999.

³⁹ Newsbytes, "British Telecommunication Pays \$665 Mi For Yellow Book USA," Aug 26, 1999.

⁴⁰ Communications Today, "Market a Strong Lure for AT&T, BT," Vol.5, No.12, Sep 3, 1999.

Table 3-11 BT's investment

<i>Carrier</i>	<i>Country</i>	<i>Note</i>	<i>Fixed Line</i>	<i>Mobile</i>	<i>Internet</i>
<i>Europe</i>					
Cegetel	France	No.2 fixed-line operator after Telecommunication France.	✓		
VIAG Interkom	Germany	JV with Viag energy and industrial group.	✓	✓	✓
Albacom	Italy	JV with energy group ENI, media company Mediaset and Banca Nazionale del Lavoro.	✓		
Blutel	Italy	JV with the same partners. The fourth Italian 3G mobile license.		✓	
Telfort	Netherlands	JV with Dutch railway company. Got the license of mobile telephony.			
Sunrise	Switzerland	Spanish largest ISP	✓		✓
Airtel Movil	Spain	Spanish mobile operator			
Telenordia	Sweden	The largest web hotel in Northern Europe.			✓
Ocean	Ireland		✓		
ESAT/Digifone	Ireland	Ireland's number-two fixed-line and mobile operator	✓	✓	
<i>Asia</i>					
SmarTone	Hong Kong	Acquired a 20 % stake (1998) Launch WAP in Hong Kong.		✓	
Clear	New Zealand	100 % owned by BT. The second largest operator.	✓		
Binariang	Malaysia	Acquired 33 % stake (1998)	✓	✓	✓
LG Telecom	South Korea	Leading Korean mobile operator. LG is the largest conglomerate.		✓	
Bharti Cellular	India	Owned 39.5 % stake. Expected to offer Internet service.		✓	
StarHub	Singapore	Owned 33 % stake. Partners are NTT, Singapore Technologies and Singapore Power.	✓	✓	✓
AT&T Canada	Canada	Fiber-optic, pan Canadian Network. The largest CLEC, #2 ISP.	✓		✓
Impsat	Latin America	Acquired 20 % stake. Argentina, Brazil, Columbia, Ecuador, Mexico and Venezuela.	✓		✓

(Data source: Annual Report 1998, Charter House Securities, "British Telecom"⁴¹)

⁴¹ Charterhouse Securities, "British Telecom," Mar 24, 2000.

(4) Past failure in acquisition of Mitel

BT's failure acquisition involved the merger with Mitel, Canadian PBX (Private Business eXchange) manufacturer, in 1986. Although the acquisition cost BT \$230 million, Mitel has cost BT over C\$240 million in losses from 1986 to 1990.^{42,43} As stated in AT&T's NCR merger failure (☞Section 3.1.1.3), it is difficult to create the synergy effect by mergers and acquisitions across service (telecommunication) and manufacturer (equipment). The service side tried to offer the solution to the customers at a low cost. Therefore, the price of PBX, which is a component of network offered to the customers, should be low. On the other hand, the manufacturer needed to sell its product at a higher price. The different nationalities of the companies further complicated the development of common objective.

(5) Cellular business challenges

BT's entry to the cellular business started in 1985 with the establishment of Cellnet.⁴⁴ As BT looked to the U.S. not only for solution business, but also for cellular phone business, it bought a 20% stake in McCaw Cellular, a U.S. cellular firm.⁴⁵ However, this stake was taken by AT&T, which wanted to strengthen its presence in the U.S. BT focused on European markets. BT will expand its holdings in Ireland's telecommunication market by acquiring the ESAT Telecom group.⁴⁶

Table 3-12 also reveals BT's aggressive challenge in mobile market all over the world. BT wants to take over the market share in 3G mobile market. Therefore, its mobile activities are in Europe and Asia, not in the U.S.⁴⁷

By acquiring the cellular company and expanding its business area, BT has reduced the threats from mobile communication, and is now expecting future revenue after introducing the 3G standards. It is important to compete with C&W, the competitor, that has core competence in the cable business.

⁴² Management Today, "BT's poor exchange," pp.80-84, Apr. 1990.

⁴³ Computer World, "British Telecommunication takes over Mitel," May 20, 1985.

⁴⁴ European Telecommunications, "BT Takes Full Control of Cellnet," Vol. 17, No.6, Aug. 4, 1999.

⁴⁵ Communications Daily, "British Telecommunication buys 22% of McCaw Cellular; Restructuring unveiled," Vol.9, No.13, Jan 20, 1989.

⁴⁶ Wireless Today, "British Telecommunication Prevails in ESAT Sweepstakes," Vol.4, No.7, Jan. 11, 2000.

⁴⁷ US's 3G standard is CDMA2000. But, Europe and Asia adopted W-CDMA as 3G standards.

Table 3-12 BT's cellular companies' acquisition

<i>Company</i>	<i>Description</i>	<i>Size of deal</i>	<i>Year</i>
Cellnet	BT established JV with Securior and launched mobile phone network.	11.5 billion	1985
McCaw Cellular	U.S. Cellular firm. 22% of stocks. (But, sold to AT&T in 1994.)	\$1.5 billion	01/20/1989
Cellnet	Acquire the full control from Securicor	£3.15 Billion	08/14/1999
Esat Telecom	Ireland's #2 fixed-line and mobile operator.	\$2.5 billion	01/11/2000

3.2.2.4 Summary

Exposed to the fierce free competition, BT has shifted its focus to the lucrative telecommunication market, such as high margin multinational business customers, and the growing mobile market. The center of the current global strategy is Concert. Unlike AT&T, BT has been an all telecommunication service company, from local access through long-distance and international telecommunication. BT does not have to get the local-access infrastructure such as cable TV. However, it now emphasizes mobile communication. To acquire 3G licenses in Europe and Asia, BT made investments in several countries in these regions. Being a flagship carrier, general consumers still represent BT's market.

3.2.3 Cable & Wireless (C&W)

3.2.3.1 Overview

C&W's 27% of the revenue comes from consumer markets and 73% from business customers. Of the business revenues, about a quarter is from data, Internet and advanced services. Geographically, 31% of the total revenue comes from the Asian market and 14 % from Western Europe. Although C&W is the U.K.'s major telecommunication carrier, it is very strong in Asian market. Like other carriers, C&W expands and strengthens its capabilities by utilizing and

alliances, mergers and acquisitions. However, its recent strategy is very focused on data and on the Internet business, and strengthening its position in the Asian market.

3.2.3.2 Global strategy

C&W's global strategy is very clear. Having served the world as an international telephone company, it is now re-casting itself for the Internet age. With its high-speed network, global reach and IP-based technology, it intends to lead the world in advanced, integrated communications. C&W has focused on the following four business areas:⁴⁸

1. A high-capacity, global network offering fast, low-cost communication services to multinational customers around the world.
2. Achieving a leading position in data and IP-based applications and services.
3. Outstanding customer service with consistent standards around the world.
4. A powerful global brand standing for excellence, innovation and reliability.

3.2.3.3 Characteristics of M&A

In order to achieve its goal in data and Internet business, C&W executed two sets of acquisitions. The first involved the acquisition of MCI's Internet business, and the second was that of European ISPs (Internet service providers).

To get involved in the European Internet market, C&W acquired three ISPs in 1999 and eight in 2000. The former three ISPs were ECRC, Germany; PI.se, Sweden, and INS, U.K., The latter eight were Xpoint, Austria; Online Internet, Belgium; ISDNnet, France; UNIDATA and DSLogic-DSNet, both of Italy; group INTERCOM, Spain; and agri.ch and Petrel Communications, both of Switzerland.^{49,50} As a result of these acquisitions, C&W obtained the

⁴⁸ C&W, "C&W Annual Report 1999."

⁴⁹ TechWeb News, "Cable & Wireless Snaps Up Eight European ISPs", Jan. 14, 2000.

⁵⁰ News bytes, "Cable & Wireless Nabs 8 European ISPs," Jan 13, 2000.

all necessary facilities, licenses and interconnect agreements, the first stage of a high-speed backbone ATM network linking ten key cities in eight countries.

On the other hand, as C&W has focused on business customers rather than general consumers, it did not stick to the past strategy and instead began selling off the business units, that did not fit to the new strategy. To concentrate on data and Internet business, C&W sold some business units, which were out of its scope, including an undersea cable unit, a consumer Internet business unit and a cellular service operator. The undersea cable unit was sold to Global Crossing in 1999. Although marine cable is important for establishing international link overseas, in case of Europe, most countries can be connected without marine cable. Digital cellular service, One-2-One, which is a joint venture with U.S. West, was sold to Deutsche Telecom.⁵¹ Its original purpose was targeting average consumers, not just to business people, with the attractive price.⁵² Even C&W bought MCI's Internet business, making C&W the second-largest carrier of Internet traffic in the U.S., C&W sold this to Prodigy, ISP in the U.S.⁵³ because C&W is targeting business customers rather than consumers.

⁵¹ Washington Telecommunication Newswire, "Deutsche Telekom Buys Wireless Carrier One-2-One for \$13.5 billion," Aug 6, 1999.

⁵² Communications Daily, "US West – C&W Pcs Joint Venture in U.K. Looks to Take on BT," Sep 8, 1993.

⁵³ Newsbytes, "Prodigy to scoop up C&W's Dialup Internet Operation," May 27, 1999.

Table 3-13 C&W's M&A

<i>Company</i>	<i>Description</i>	<i>Size of deal</i>	<i>Date</i>
One-2-One	C&W and U.S. West's cable unit (later MediaOne) launched a digital cellular service – One 2 One – in the UK.	-	1993
	<i>Sold to Deutsche Telekom</i>	<i>\$13.5 billion</i>	<i>08/06/1999</i>
MCI's Internet business	C&W bought MCI's Internet business, a major step toward its emerging data centric strategy.	\$625 million	1998
	<i>Sold its dial-up operation to Prodigy, in U.S.</i>	<i>\$50 ~ \$75 million</i>	<i>05/27/1999</i>
IDC	C&W won a bidding war with NTT for Japan's International Digital Communications, IDC	Y69 billion	06/21/1999
European 3 ISPs	ECRC, Germany; PI.se, Sweden; and INS, UK.	(ECRC's deal was \$45.7 million)	1999
European 8 ISPs	C&W agreed to spend \$1 billion to buy eight business ISPs and expand its network.	\$1billion	01/13/2000
C&W HKT (This deal failed ⁵⁴ .)	C&W talks to merge its Hong Kong unit with SingTel to form a Pacific Rim Telecommunication force.	-	2000

⁵⁴ Pacific Century Cyber Works (PCCW), a Hong Kong's Internet-related firm owned by tycoon Richard Li. Finally takes the deal.

Table 3-14 C&W's disposal list

	<i>Description</i>	<i>Size of deal</i>	<i>Year</i>
U.S. dial-up operation	C&W announced to sell its U.S. dial-up operation to Prodigy,	\$50 ~ 75 million	05/27/1999
Undersea Cable Unit	C&W sold its undersea cable unit to Global Crossing.	\$885 million	08/26/1999
One 2 One	C&W soled its cellular operator (JV with MediaOne) to Deutsche Telecom.	\$13.5 billion (in total)	08/06/1999

For the Asian market, C&W also attempted to expand its network. To expand its Internet business in Japan, C&W took a major stake in IDC. In this hostile takeover bid, C&W offer for IDC beat a rival bid by NTT, the world's largest phone company at the time. C&W paid 110,577 yen (\$996) a share, valuing the company at 69 billion yen, while NTT had offered only 68 billion yen.⁵⁵ Before the IDC take over, C&W increased its stake in Cable & Wireless Optus (Australia) in 1998. These activities helped C&W strengthen its position in the Asia-Pacific market.

However, C&W is reducing its reliance on Hong Kong in the Asian market. Chairman Sir Ralph Robins said, "Hongkong Telecom remains vital to our Asian business and a major contributor to profits. Despite the economic storm and the upsurge in competition that followed liberalization, Hongkong Telecom has performed well. It is also pioneering much of the technology that the re-positioned, Internet-oriented Cable & Wireless will deploy in the future."⁵⁶ In March 2000, C&W HKT is supposed to be acquired by Hong Kong Internet startup company, Pacific Century Cyberworks (PCCW) Ltd. C&W said that its board views PCCW transaction as contributing to its plans to streamline operations and focus on high-growth areas. "Our strategy for future growth is to focus on delivering data and Internet protocol-based services to business customers in the world's major markets – the U.S., Europe and Japan. These transactions enable us increasingly to concentrate both financial and management resources on this strategy," said

⁵⁵ European Telecommunications, "C&W Set to Win Bidding War for IDC," Vol. 17, No.12, June 21, 1999.

⁵⁶ C&W, "Annual Report 1998/1999."

C&W CEO Graham Wallace.⁵⁷ C&W has shifted from Hong Kong, its former revenue source, to Japan and Europe, new high margin markets.

3.2.3.4 Summary

C&W is also targeting multinational business customers. Like MCI WorldCom, general consumers are relatively out of its scope. To meet their demands, C&W has aggressively expanded its IP high-speed network in Europe. After the merger with BT failed, C&W has not made any major alliances for global partnership. Furthermore, C&W experienced the failure with Telecom Italia, which failed in the World Partners alliance with AT&T. However, the relationship between C&W and Telecom Italia also failed due to internal problem at Telecom Italia.⁵⁸ C&W's current strategy is not based on alliance or global partnership.

3.3 Overall assessment

Table 3-15 shows global strategy portfolio of AT&T, MCI WorldCom, BT and C&W. These major global players have targeted multinational business customers. However, there are considerable difference in their implementation, how much they should concentrate on business customers, how much they should still focus on general consumers, how to expand their network to foreign countries, how much emphasis to place on local access, what relationship is preferable to their strategy, and what is learned from the past failure, for example. Table 3-16 summarizes the observations of their strategies.

⁵⁷ Communications Daily, "Hong Kong Internet Startup to Acquired C&W HKT for \$38.5 Billion," Mar 1, 2000.

⁵⁸ Computing, "C&W Dumps Telecommunication Italia and Goes Solo," Nov 19, 1998.

Table 3-15 Strategic comparison AT&T, MCI WorldCom, BT and C&W

	<i>AT&T</i>	<i>BT</i>	<i>MCI WorldCom</i>	<i>C&W</i>
Positioning	Flagship carrier	Flagship carrier	Second carrier	Second carrier
<i>Market</i>				
Multinational business customers	xxx	xxx	xxx	xxx
General consumers	xxx	xxx		
<i>Region</i>				
U.S.	xxx	xxx	xxx	xxx
Latin America	xx	x	xx	
Europe	xxx	xxx		xx
Asia		xxx	x	xxx
<i>Business Area</i>				
Long distance & international	xxx	xxx	xxx	xxx
Wireless	xxx	xxx		
Local access	xxx	xxx	xx	
Cable TV	xxx			xxx
Contents	xxx	xx		
Solution	xxx	xxx	xxx	xxx
Marine Cable			xx	xx
<i>Partnership</i>				
Global partnership	JV: Concert, M&A	JV: Concert, M&A	M&A	M&A

Table 3-16 Features of global strategy among world class telecommunication carriers

<i>Category</i>	<i>Observations</i>
Market	<ul style="list-style-type: none"> • Multinational business customers are the targets. • Flagship carrier is relatively focus on general consumers. • Second carrier does not concentrate on general consumers.
Region	<ul style="list-style-type: none"> • U.S. should be covered. • U.S. carriers extend their network to Latin America by acquisitions. • U.K. carriers put the priority on the Asian market, because they have well known these areas, as U.K.'s colonies. • U.K. carriers also extend their network into Continent Europe.
Business Areas	<p><i>(Wireless)</i></p> <ul style="list-style-type: none"> • The purpose is to get the huge revenue and bypassing the local access carrier. • Another purpose is to obtain the market share coming 3G markets. <p><i>(Local access, Cable)</i></p> <ul style="list-style-type: none"> • To provide seamless service, local access is needed. • Carriers without local access acquire the cable firms because local access companies are now their strong rivals. • Flagship carriers with local access do not have to enhance the local access capacity. <p><i>(Solution)</i></p> <ul style="list-style-type: none"> • Solution is important to implement the data networks connecting many branches abroad. • The application over the networks, such as electronic commerce, is attractive to the customers. • All players seek for the solution technology. <p><i>(Marine cable)</i></p> <ul style="list-style-type: none"> • To catch up with the growing demand for the bandwidth, trans-ocean cable is needed for global networks.
Partnership	<ul style="list-style-type: none"> • Direct investment to foreign telecommunication infrastructure is risky. • To build the global network, partnership with foreign players is effective because no capital investment is needed. • Alliance is too weak to control quality and to manage entire network. • As the acquisition may cause the cultural obstacles, it is difficult to create the synergy effect.

Chapter 4 NTT's Organizational Capabilities

Although NTT was split, NTT still has impressive organizational capabilities, especially its world class R&D. Its new holding company structure should enable it to leverage its exiting capabilities as well as develop new ones.

4.1 R&D Capabilities

4.1.1 Overview

First is the world class R&D center. This R&D has enabled new multimedia service and new network services. For a long time, NTT had been the only telecommunication service entity in Japan. NTT's R&D area has varied from the material supporting the telecommunication infrastructure, such as LSI and optical cable, to the application layer, offering benefit to customers. In other words, NTT's core strengths are not only telecommunication network technology, but also multimedia services. FEAL (Fast Data Encryption Algorithm) Cryptogram, MPEG (Moving Pictures Experts group) and three Dimensional Cyberspace are the examples of the latter. Although new venture companies have emerged in the market with disruptive technology and taken the first mover advantage, big companies are able to catch up with the market utilizing their potential R&D power. This is difficult to imitate because this R&D capability has a long history since NTT was a public corporation.

4.1.2 R&D expenses

The revenue of the entire NTT group amounts to \$92,667 million (¥84,019 billion), which is much greater than AT&T and BT, as well as other world class telecommunication carriers (Table 4-1).

Supported by this huge revenue, NTT could spend much on its R&D for future advanced technology. While NTT spent \$3,638 million for R&D, AT&T and BT spent \$633 million and \$423 million (£459 million), respectively. Furthermore, NTT emphasized its center of

excellence, where the R&D cost nearly 4% of operating revenue, while those of AT&T and BT cost 1 to 1.5% (Figure 4-1).

Table 4-1 NTT's revenue and R&D expenses

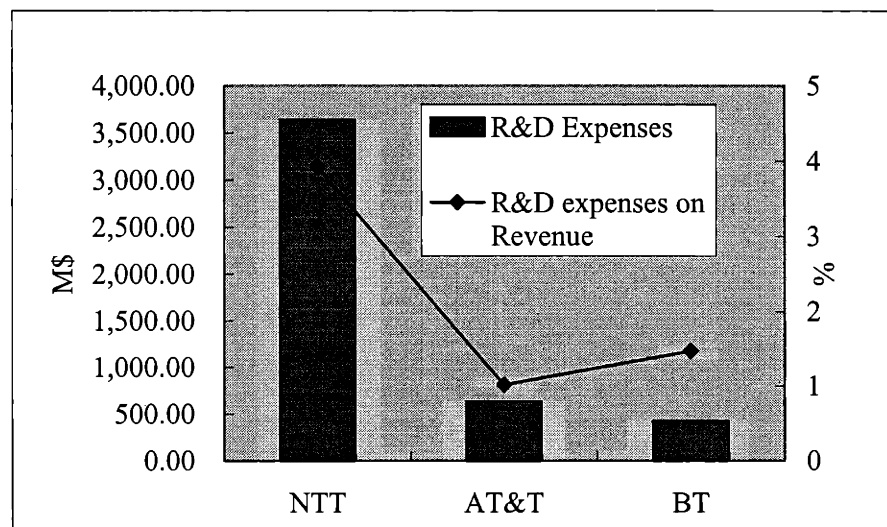
	<i>NTT</i> ⁵⁹	<i>AT&T</i> ⁶⁰	<i>BT</i> ⁶¹
Operating revenue	92667	62391	23692
R&D Expense	3638	633	423

(Million \$)

†Data are as of March 31, 1999.

‡Data are as of December 31, 1999.

Figure 4-1 Comparison of R&D expenses year 1999



4.1.3 NTT brand

Supported by this R&D capability and the long telecommunication history in Japan, NTT has a significant brand recognition, which translates to mean high quality and universal service to customers. For international telecommunication service, although NTT Communications is a

⁵⁹ NTT, "NTT Annual Report 1999," 1999.

⁶⁰ AT&T, "AT&T Annual Report 1999," 2000.

⁶¹ BT, "BT Annual Report 1999," 1999.

late comer in this market, the name “NTT” is an effective marketing weapon when developing and promoting services to Japanese customers.

4.1.4 Element Technology

4.1.4.1 Internet

With an advanced cutting edge technology and experience, NTT has been very successful in the Internet business in Japan. Hence, not surprisingly, NTT’s Internet access service, Open Computer Network (OCN), has been maintaining the top-three shares in the competitive Japanese ISP market since its launch in 1995. Reflecting a substantial increase in Internet usage, the number of subscribers for NTT's “OCN Dial Access,” services dial-up services targeting general consumers rose dramatically during fiscal year 1999, with the number of installations rising to over 400,000. As a result, the total number of OCN subscribers increased by 201.4% to 478,000.⁶²

4.1.4.2 World-record optical transmission speed

The information-sharing platform required not only technology for maintaining the Internet but also an infrastructure that can afford to transfer much more data than presently possible.

The NTT group has successfully tested various new fiber-optic large-capacity data transmission technologies. In trials using a 40-kilometer length of fiber-optic cable, transmission speeds in excess of 3 terabits/second (Tbps) were achieved, a world record for a single fiber. This is equivalent to sending the information contained on 670 CD-ROM disks in one second.⁶³

⁶² NTT, “NTT Annual Report 1999,” p.26, 1999.

⁶³ NTT, “NTT Annual Report 1999,” p.12, 1999.

4.1.4.3 Wireless advantage

NTT DoCoMo's wireless Internet access service, known as i-mode, is one of the most distinctive and promising Internet services in Japan. According to the President of NTT DoCoMo, Keiji Tachikawa, "At the end of March 2000, i-mode has 5.6 million subscribers and 8000 free sites (offering the i-mode contents)."⁶⁴ Thus, NTT's technological superiority as well as its business experience in the highly competitive Japanese Internet market, will be attractive to potential local partners.

For the next-generation mobile communications system, IMT-2000 and W-CDMA technologies are applied as 3G standards. They promise to offer users global, borderless access to mobile multimedia through the high-speed transmission of video and large-volume data. NTT DoCoMo has already successfully completed field trials covering video transmission at speeds of up to 2 Mbps.⁶⁵

4.2 NTT's new feature – holding companies' structure

4.2.1 Overview

NTT's strategic decision was made in the board meeting, which was held once a month. However, this process required "*Nemawashi*" in advance to all board members. "*Nemawashi*" is a Japanese form for the process of consulting in advance all those who will be included in a decision, and it is therefore a relatively slow process. On the other hand, most successful world class large companies can manage their company's resources to adjust themselves flexibly to the environment. Thus, NTT required the efficient company structure. After reorganization, each subsidiary company can decide on its business strategy more quickly, especially in R&D and human resources.

On December 6, 1998, NTT announced that it has agreed with the reorganization plan for a pure holding company structure (100% capital from NTT) that was proposed by the MPT. Previously,

⁶⁴ At the eBusiness award ceremony at MIT, Apr. 12, 2000.

⁶⁵ NTT, "NTT Annual Report 1999," p.13, 1999.

NTT had reconciled with MPT on NTT's management structure in response to the cabinet decision in the Japanese government. NTT agreed to the reorganization plan, primarily because the introduction of the pure holding company structure would resolve the issue of shareholders' right protection, which has been the most difficult issue in connection with the separation and break-up of NTT. It will also enable NTT to enter the international telecommunications business.

Before World War II, Japan had large multi-industry business groups, with a structure similar to that of the holding company, called "*Zaibatsu*." However, for the Japan's postwar rehabilitation and promotion of the many forthcoming businesses, the *Zaibatsu*, which had huge capital and many employers and dominated a specific industry, was inappropriate. Therefore, the antitrust law prohibited the holding company structure after the World War II. But, with the globalization era, it is necessary to strengthen the company so that it can compete with the foreign companies with huge capital and many bases all over the world. The antitrust law was thus revised to allow for the holding company structure, December 1997.

Following the approval of the corresponding resolution at the fourteenth Ordinary General Meeting of Shareholders held on June 29, 1999. The NTT group was reorganized into a holding company structure. NTT itself continues to exist as a holding company that fully owns two regional companies, NTT East and NTT West, and one long-distance and international telecommunication company, NTT Communications. For two other subsidiaries, NTT Data and NTT DoCoMo, which were split off before, NTT owned 54.2% share of NTT Data and 67.1% share of NTT DoCoMo.

Whole NTT group, there are 132 subsidiary companies, as of March 31, 1999 (Table 4-2).

Table 4-2 The number of NTT's subsidiaries

The subsidiaries, where NTT's direct outstanding share is more than 50%	98
The subsidiaries, where NTT's direct outstanding share is less than 50%	34
Other consolidated subsidiaries	9
Total	132

(Data Source: Information NTT 1999)

4.2.2 Advantages of holding company structure

Under the holding company structure, NTT will have three advantages.

(1) Unified group strategy with sharing the resources

By becoming a group centered around a pure holding company, NTT can plan a unified group strategy. Although group companies are independent, they are in complementary businesses and can benefit from sharing a common group strategy. Further, by making the most efficient use of management resources, NTT expects to derive considerable synergy from the move. Human resource capital and technology are the common properties for group companies. The management staffs of the holding company will fulfill this role. Thus, under the holding company structure, they are loosely connected, besides maintaining the independence as a profit center.

(2) Specialization in certain businesses

As all group companies are focused on specific businesses, they will be able to respond to changes in the business environment much faster. With each of them now being its own separate profit center, the incentive to boost earnings is enhanced considerably. Because NTT was regulated by NTT Law, its activities are highly restricted to domestic telecommunication business. The various companies making up the NTT group will be divided into the four groups according to the type of company, target market and business content, clarifying the mission of each and laying out the direction which each should pursue (Table 4-3). This will allow each company to exploit its independence and autonomy in pursuing dynamic business development, while establishing the business foundations for the group as a whole.

For international telecommunication, NTT Communication is not regulated company anymore. Accordingly, NTT Communication is able to provide business customers with a seamless, global, end-to-end service. Therefore, NTT Communication can now compete with other rival carriers, on equal footing.

Table 4-3 Clarification of mission of NTT group companies

<i>Category</i>	<i>NTT's Subsidiaries</i>	<i>Types</i>	<i>Mission</i>
Regulated Companies	<ul style="list-style-type: none"> • NTT East • NTT West 	Special Companies	<ul style="list-style-type: none"> • Cost reduction • Stability • Establishment of solid financial foundations, stable provision of universal services • Strengthening of competitiveness in regional market
Competitive Companies	<ul style="list-style-type: none"> • NTT Communications • NTT DATA • NTT DoCoMo 	General Companies	<ul style="list-style-type: none"> • Enhancement of competitive strength • Expansion of information sharing services business in the non-regulated environment • International expansion
Management Resource Utilization Companies	<ul style="list-style-type: none"> • NTT Facilities • NTT ME • NTT Comware • NTT Leasing, etc. 	General Companies	<ul style="list-style-type: none"> • Rationalization of working practices • Development of new business areas
Companies breaking into new business areas	<ul style="list-style-type: none"> • NTT Electronics • NTTPC Communications • GrR HomeNet, etc 	General Companies	<ul style="list-style-type: none"> • Development of new business territory in areas outside the group's market • Strengthening of competitiveness by establishing core competencies and investing in and tying up with reputable external partners

(Source: NTT Annual Report 1999, News Release April 12, 2000)

(3) Sharing R&D capabilities

Since NTT will be undertaking fundamental R&D activities that are pertinent to the entire group, NTT will be able to concentrate its R&D power. Furthermore, in the new structure, results will more easily flow to and benefit the entire NTT group. The R&D center under the NTT holding company is engaged in the basic research, while development centers of three new companies, NTT Communications, NTT East and NTT West, will be focused on their own business. When the new technology is transferred to the specific subsidiary company, the service and the persons who are related to this technology could be transferred to the subsidiary company at the same time. Their mission is to transfer the technology, persons-to-person. After their mission is completed, they could return to R&D center with market needs. The first merit, sharing human resources enables this cycle, efficiently.

As the holding company is not the profit center, it has to collect the capital for its R&D activities. Then, NTT introduces a royalty system, where subsidiary companies share the expenses. NTT is currently developing a system whereby subsidiary companies will pay for R&D services, but their payments will go to the holding company rather than directly to the R&D center. The system is evolving, and is probably still somewhat complex. However, NTT is privatized, and is now shifting to earn the profit and protect shareholders' benefits. Its R&D activities are getting closer to the specific business. Some R&D projects are directly connected to the specific business, and the specific departments belonging to the subsidiaries. But in order not to lose NTT's core competence, NTT still keeps the basic research. Here, also, the management role of the holding company is surely important. To make good use of R&D capabilities and human resources much is owed to the resource management function.

4.2.3 Issues of the holding companies

The holding company structure will empower NTT to compete with giant telecommunication carriers abroad as well as domestic rivals. However, NTT cannot necessarily accrue above benefits.

(1) Local optimum

As most subsidiary company's business areas are related to telecommunication and information sharing industry, they are very close and sometimes overlap. Although it is important to promote competition among subsidiaries for the purpose of empowerment of competitive advantage, there might be the cannibalization among them. With each subsidiary now being its own separate profit center, the incentive to boost earnings is significantly improved. If NTT's subsidiaries have needless battles and waste their resources, this would provide other rivals with business opportunities. To avoid these obstacles, the group company management should share the group goals.

(2) Transfer the authority vs. efficient management of resources

The new NTT has 29 subsidiary companies for consolidated financial statements and 224,000 employers under the entire NTT group. But NTT, a holding company, consists of only 3500 people, 3200 of whom are R&D staff. Only 300 staff manage entire NTT group. In this rapid growth of information technology, timing is very important. As one profit center, each subsidiary company should quickly make its decision with regard to human resources and financing. Therefore, the authority must be delegated to each subsidiary. However, in order to share the common goal and utilize resource efficiently, resource management is crucial. For example, the corporate strategy needs to be consistent with NTT group's strategy. To assign the appropriate person to the business section in a specific subsidiary, human resource management should be done across the subsidiary companies. Therefore, the balance between centralization and decentralization is important to the holding company structure.

(3) Sharing R&D – the failure of Bellcore

At the AT&T's breakup in 1984, Bell Laboratory, which is engaged in basic research, remained with AT&T, Bellcore, which conducted applied research, was shared by seven RBOCs. But RBOCs started to utilize the outside research institute in order to meet their specific business demands. Although Bellcore had excellent advanced technology in telecommunication, it was finally sold in 1997 to a research and engineering company, Science Applications International and changed its name Telecordia Technologies.

Because NTT's subsidiary companies also have their own applied research center, its R&D center has the same risk as Bellcore. To avoid this problem, the system where the researchers are transferred to the business section with the new technology and establish the human relationship is important as well as the function of resource management. In other words, the group culture, sharing the same goal and sharing R&D center, must be required.

4.3 Summary

NTT has the great technological advances and new corporate structure. The key is to efficiently utilize and share the potential capabilities which are technology supported by the R&D center and human resources. As the 132 subsidiary companies have 224,000 employers in total, it is very challenging to unify those subsidiary companies. Thus, NTT group is too big for only 300 staff to manage in a top down approach.

Therefore, to avoid local optimum and utilize its common group resources, there needs to be incentives group's optimum, win-win strategy among subsidiary companies. In this sense, NTT is very different from the other major telecommunication companies that repeated mergers and acquisitions. Those companies expect a synergy effect, but also fear organizational conflict. On the other hand, NTT group's corporate cultures are still similar because many of the NTT group people are from the former NTT. To maintain good competition and not to cannibalize, it is important not only to manage in a top-down approach, but also to have incentives targeting the same group goals.

Chapter 5 NTT's global strategy before reorganization

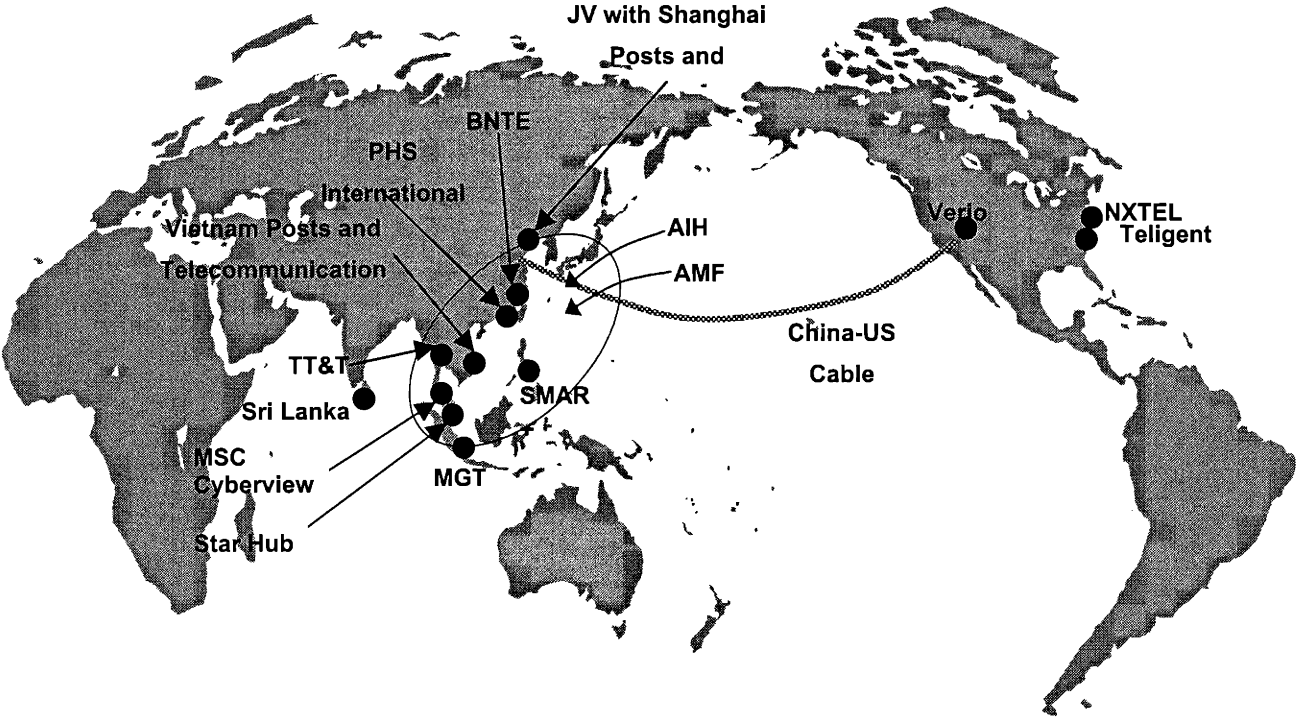
5.1 Before reorganization (before June 1999)

5.1.1 Overview

Before privatization, NTT could not conduct any international business activities. KDD was the sole provider for international telecommunication service. However, as NTT's privatization meant future international activities, NTT started international challenges under NTT Law. NTT's overseas operations had been limited to domestic communications businesses in foreign countries with local partners. But due to the revision of the NTT Law, NTT began to offer international telecommunication service via its subsidiaries.

Figure 5-1 shows that the NTT's major international activities before reorganization.

Figure 5-1 NTT's International activities map (before reorganization)



(Source: Ministry of Post and Telecommunication, "Policy Report 1999", NTT Annual Report)

Table 5-1 Portfolio of NTT's major international activities before reorganization

<i>Project / Company</i>	<i>Local Infrastructure</i>	<i>Wireless /PHS</i>	<i>Internet /multimedia</i>	<i>Marine Cable</i>
1992				
Thai Telephone & Telecommunications Public Co., Ltd. (TT&T)	✓			
1994				
NEXTEL		✓		
1995				
Smart	✓			
PT. Mitra Global Telecommunications Indonesia (MGTI)	✓			
PHS international		✓		
1996				
Multimedia Super Corridor (MSC)			✓	
Shanghai NTT Telecommunications Engineering	✓			
1997				
China-U.S. Cable				✓
Cyberview			✓	
Sri Lanka Telecommunication Ltd.	✓			
AIH (Asia Internet Holding)			✓	
Teligent	✓			
Vietnam Posts and Telecommunications	✓			
1998				
Verio			✓	
Star Hub	✓	✓		
Philippine Long Distance Telephone Company and First Pacific Company Ltd. (PLDT)	✓			
Beijing Telecom NTT Engineering Co., Ltd. (BNTE)	✓			
Asia Multimedia Forum (AMF)			✓	
IBM	✓			
Japan-U.S. Cable				✓
TAT-14 Cable				✓

(Data Source: NTT Annual Report, 1996, 1997, 1998, 1999)

As shown in the portfolio of international activities (Table 5-1), the investment in Thailand was the first step in to the global market. Before reorganization, most activities involved the construction of the telecommunication infrastructure in Asian countries. But the announcement

of Arcstar service in 1997 was the turning point in the global integrated telecommunication service to multinational business customers.

5.1.2 Infrastructure investment in Asia

To ensure future sources of revenue, the world's major telecommunications carriers are actively working to expand operations beyond their domestic markets. But due to the NTT Law, NTT's overseas operations have been limited to domestic communications businesses in foreign countries with local partners. NTT had been investing overseas, principally in Asian countries, for several years, developing telecommunication infrastructure. This is because those countries' telecommunication infrastructure were immature. Looking ahead, NTT will endeavor to strengthen the bases it has established and engage in tie-ups or takeovers by drawing on its comprehensive technological capabilities. NTT had invested into other Southeast Asian countries for building basic telecommunication infrastructure. Therefore, NTT is already ahead of its American and European counterparts in establishing carrier businesses and infrastructure operations in Asia.

5.1.3 Arcstar Strategy

On September 18, 1997, NTT announced its decision to use Arcstar as a unified brand name for global services provided by the NTT group. With the launch of the Arcstar brand name, NTT hopes to become a bridge (arc) connecting all people with a brighter future (star).⁶⁶ The NTT group, which has begun providing telecommunication services globally, will contribute to the development of global multimedia communication and help to enhance citizens' daily lives.

Although, NTT has brand recognition of Japan, NTT did not have it outside of Japan. NTT will promote the Arcstar brand name to enhance its image in the international telecommunications market. Based on the various international activities executed before, reorganization, the brand will be initially used to promote high quality global services to companies, both within and outside of Japan. NTT took the following concrete actions for the Arcstar Strategy.

⁶⁶ NTT News Release, "NTT Group Announces 'Arcstar' A New Brand Name for its Global Services," Sep 18, 1999.

(1) Establishment of two subsidiaries

NTT-WT

In July 1997, the company established a wholly owned subsidiary, NTT Worldwide Telecommunications Corporation (NTT-WT), as a special type II international telecommunications company in Japan. NTT-WT, together with NTT's overseas subsidiaries, cooperatively launched global end-to-end services in September 1997, mainly for multinational corporations, with a service area spanning major locations in the U.S., Europe and Asia. It will expand geographic coverage and its range of value-added network services. The business of NTT-WT consists of three areas: network service, comprehensive management service, and private network integration service. The service areas are U.S., U.K., and Asian countries that have the basic required infrastructure, such as Singapore and the Philippines. Furthermore, NTT-WT intends to shift to more IP service, and the service areas cover other Europe and Asia (Table 5-2).

Table 5-2 NTT-WT service menu

<i>Service</i>	<i>Description</i>	<i>Destination</i>
Network Service	Provision of domestic and international end-to-end network services of guaranteed quality. <ul style="list-style-type: none"> • Managed bandwidth service • Managed frame relay service • Enhanced private IP network service 	U.S., U.K., France, China (including Hong Kong), Singapore, Philippines
Comprehensive Management Service	Provision of one-stop network management security, ordering, billing and related services. <ul style="list-style-type: none"> • Network management • One-stop shopping • One-stop billing 	
Private Network Integration Service	Provision of total support and consultation in private network integration to our clients, in such areas as planning, design and network building.	
<i>Future Service</i>	<ul style="list-style-type: none"> • IP backbone service • Secured IP • Telephone/fax service • Managed ATM service 	<i>(In addition)</i> Germany, Belgium, Italy, Australia, Malaysia and others

NTT-WN

In October 1997, the company established another wholly owned subsidiary, NTT Worldwide Network Corporation (NTT-WN), as a type I international telecommunication company in Japan to provide facility-based international leased circuit services and international telephone services. Subject to MPT's license approval, NTT Worldwide Network Corporation expects to launch high-speed international digital leased-line services in order to meet Internet and system integration needs of corporate customers. The company will start the services of 45 and 156 Mbps international digital leased lines on April 1, 1999. Destination areas will include the U.S., the U.K., China (including Hong Kong), Taiwan, Korea, Singapore, the Philippines, Thailand, Malaysia and Indonesia. NTT-WN planned to develop a reliable network to provide high quality services at reasonable prices, while expanding service types and destination areas to meet market needs.

With other consortium members, NTT-WN signed agreements for the construction and maintenance of the "China-U.S. Undersea Fiber-Optic Cable Network," and the "Japan-U.S. Cable Network" in December 1997 and July 1998, respectively. Both networks will be the world's largest class submarine fiber-optic cable, linking Japan and other Pacific Rim countries.

(2) Cutting-edge project

To promote multi-media services that extend beyond national boundaries, NTT is an active participant in the Asian Multimedia Forum (AMF), comprising information and communications companies, vendors, traders and other interested parties, mainly from the Asia-Pacific region. The NTT's president became the first president of the forum, which aims to develop Asia-wide multimedia platforms.

The company also invested \$100 million for a 12.5% stake in Teligent, a fixed wireless access carrier in the U.S. This investment decision recognizes the growth prospects of the U.S. local-access market and the potential strength of Teligent, when combined with NTT's managerial and technological support. The company also signed agreements with Verio Inc., a U.S.-based Internet service provider. Under the terms of the agreements, the company acquired approximately 12% of Verio's stock for \$100 million, concurrently with Verio's initial public offering in May 1998. NTT appointed one member to Verio's board of directors to work with

Verio to jointly deploy a comprehensive range of IP services to NTT customers. This strategic alliance will enable the provision of enhanced IP services such as Internet VPN (Virtual Private Network).⁶⁷

5.2 After the reorganization (July 1999 to present)

Although only ten months have passed after reorganization, NTT Communications have implemented its global strategy aggressively. It announced, “To meet the needs of corporate users, who face a wide range of management problems, we provide a on-stop service, on a global scale, offering ‘total solutions’ that cover everything from voice and data to multimedia network services.”⁶⁸ According to this mission, the NTT Communications service has greatly shifted to the solution business for multinational customers based on high-speed network. The portfolio of the activities after reorganization represents NTT’s global strategic features (Table 5-3).

First, NTT is now emphasizing its solution business. Many activities designed for the enhancement of the solution business and IP technology. Furthermore, these new capabilities are gained by strategic alliance and/or strategic investment. On the other hand, the number of local infrastructure investments has been reduced to a minimum. NTT’s global activities have been shifted to the solution business for multinational customers. Second, some of the former investments created the outcome, such as a web hosting service using Verio’s platform. Also, strategic investment into Telekom Malaysia is based on the experience that NTT designed MSC master plan together with Telekom Malaysia. Third, the company has gained highly advanced network technology, not by acquisition or merger, but from NTT technological capabilities. Commercialized IP network service using MPLS (Multi-Protocol Label Switching) and IPv6 trial have been investigated and developed in the NTT’s R&D center and was brought to the NTT Communications.

⁶⁷ NTT, “NTT Annual Report 1998,” p.13, 1998.

⁶⁸ NTT Communications, “Corporate Profile 1999,” 1999.

Table 5-3 Portfolio of NTT's major international activities after reorganization

<i>Project / Company</i>	<i>Local Infrastructure</i>	<i>Wireless /PHS</i>	<i>Internet /multimedia</i>	<i>Data/ Solution</i>	<i>Marine Cable</i>
HKnet ⁶⁹			✓		
IP service with MPLS ⁷⁰			✓		
Web Hosting Service ⁷¹			✓		
Star Hub ⁷²	✓	✓			
SAP ⁷³				✓	
Davenet ⁷⁴				✓	
IPv6 trial ⁷⁵			✓		
Computer Associates International ⁷⁶				✓	
Telekom Malaysia ⁷⁷		✓			
IBM and Tivoli ⁷⁸				✓	
Korea Telecom ⁷⁹			✓	✓	
AMF Multimedia Mall ⁸⁰			✓		
AT&T Global Network ⁸¹				✓	
Australia-Japan Cable ⁸²					✓

⁶⁹ NTT Communications Press Release, "NTT Communications to Purchase Stake in HKNet ," Jul 26, 1999.

⁷⁰ NTT Communications Press Release, "NTT Communications Programs to Commercialize IP Network Services using MPLS," Aug 2, 1999.

⁷¹ NTT Communications Press Release, NTT Communications Press Release, NTT Communications and Verio to Provide Web Hosting using "the World's Most Favored Platform" of Verio," Sep 28, 1999.

⁷² NTT Communications Press Release, NTT-WT, StarHub Seal Agreement on Sole Distribution Rights for Arcstar Services In Singapore, Oct 6, 1999.

⁷³ NTT Communications Press Release, "NTT Communications and SAP Japan to Provide Application Hosting Services," Oct 27, 1999.

⁷⁴ NTT Communications Press Release, "NTT Communications in partnership with Davnet," Nov 8, 1999.

⁷⁵ NTT Communications Press Release, NTT Communications to Begin Trial with Next-Generation Internet Nov 16, 1999.

⁷⁶ NTT Communications Press Release, NTT Communications Corporation and Computer Associates Partner to Deliver Enterprise Management Services, Nov 18, 1999.

⁷⁷ NTT Communications Press Release, "NTT Communications Corporation and NTT Mobile Communications Network, Inc. to Enter into MOU on Possible Strategic Investment in Telekom Malaysia," Nov 24, 1999.

⁷⁸ NTT Communications Press Release, "NTT Communications, IBM Corporation and Tivoli Systems Reach Basic Agreement in E-Business Outsourcing," Dec 7, 1999.

⁷⁸ NTT Communications Press Release, "NTT Com, Korea Telecommunication Reach Basic Agreement on Tie-up," Dec 21, 1999.

⁷⁹ NTT Communications Press Release, "NTT Com, Korea Telecommunication Reach Basic Agreement on Tie-up," Dec 21, 1999.

⁸⁰ NTT Communications Press Release, "NTT Com Launching Web Site for Asia Multimedia Forum "AMF Multimedia Mall"," Feb 3, 2000.

⁸¹ NTT Communications Press Release, "NTT Communications to Take Equity in AT&T Global Network Services - Japan," Feb 29, 2000.

5.3 Summary

In the international telecommunications field, NTT offers multinational corporations a seamless end-to-end service. NTT first entered the international telecommunications market in 1997 through its subsidiaries. Following the reorganization, the NTT Communications will be offering full-range international services under the Arcstar brand name. Moreover, in October 1999, NTT Communications will launch a new international telephone service using the “0033” dialing prefix. Thus, by focusing and selectively investing management resources, NTT will develop new revenue streams.

After reorganization, NTT Communications has steadily implemented NTT’s global strategy based on the past activities and technology capabilities. But NTT communications is a latecomer in this market. In order to catch up with its rivals, NTT Communications conducted strategic alliance and outsourcing. Thus, NTT has tried to offer much better solution services, with high security or e-business utilities, to the multinational business customers.

⁸² NTT Communications Press Release, “Announcement of the Participation in the Australia-Japan Cable Project,” Feb 29, 2000.

Chapter 6 NTT's Future global Strategy

6.1 Comparative analysis

NTT Communications has unique characteristic, i.e., a combination of the flagship carrier and the new entrant. Like AT&T in U.S. and BT in U.K., NTT was the huge incumbent carrier. But NTT Communication is a latecomer in this international telecommunication business field, as was MCI WorldCom and C&W. Therefore, NTT should learn its global strategy from both sides of players. Table 6-1 compares NTT's current strategy with the global telecommunication players, AT&T, BT, MCI WorldCom and C&W.

All of the companies have the same global strategy of targeting the multinational business customers. But other features and the implementation processes are different.

Table 6-1 Global strategy comparison – NTT vs. world class telecommunication players –

	<i>NTT</i>	<i>AT&T</i>	<i>BT</i>	<i>MCI WorldCom</i>	<i>C&W</i>
Positioning	Flagship carrier	Flagship carrier	Flagship carrier	Second carrier	Second carrier
Market					
Multinational business customers	xxx	xxx	xxx	xxx	xxx
General consumers	xxx	xxx	xxx		
Region					
U.S.	xxx	xxx	xxx	xxx	xxx
Latin America		xx	x	xx	
Europe	x	xxx	xxx		xx
Asia	xxx		xxx	x	xxx
Business Area					
Long distance & international telecommunication	xxx NTT Communications	xxx	xxx	xxx	xxx
Wireless	xxx NTT DoCoMo	xxx	xxx		
Local Access	xxx NTT East NTT West	xxx	xxx	xx	
Cable TV		xxx			xxx
Contents	x	xxx			
IP backbone	xxx R&D center				
Solution	xxx	xxx			
Marine Cable	xx			xx	xx
Brand recognition					
Domestic	xxx	xxx	xxx	xx	xx
Abroad		xx	xx	x	x
Global network construction					
Global partnership	Alliance	JV: Concert, M&A	JV: Concert, M&A	M&A	M&A

Observation through comparative analysis

General Consumers

For NTT Communications, its international call service, “0033” is mainly targeting general consumers. However, in the international call service, KDD brand is much more famous than NTT, although NTT is dominant in the domestic market. Also, the revenue of fixed-line sales

will likely continue to fall, while that of wireless communication grows rapidly. This is just the complement service of the solution business for corporate customers. Otherwise, it can be covered by value added service for the wireless. International call for general consumers is a less attractive business.

Region

As the U.S. is at the center of the economic world, many Japanese multinational companies have offices in the U.S. Also, manufacturing companies for automobiles and electronic products, have their factories in Asia. The demand for traffic across the Pacific and across the Asian region is very high. NTT's regional emphasis on the U.S. and Asia does make sense. However, as business becomes more borderless, there is also a need to expand the global network to Europe and Latin America. In this sense, NTT's next step is required soon.

Wireless

NTT DoCoMo has the biggest market share in the Japanese wireless market through its evolving i-mode service. Wireless revenue amounts to 70% of the entire group revenue, while that of fixed line falls to the 30%.⁸³ Unlike other carriers, NTT does not have to acquire wireless operators in Japan for revenue sources. BT is now preparing to acquire 3G licenses in other European countries. Although NTT DoCoMo is the second largest mobile operator in the world, its market is now limited in Japan. International strategic investment is conducted only to Telecom Malaysia. Wireless market expansion is needed for future revenue sources and business opportunities.

Local Access, Cable

Because about 90% of the local market is dominated by NTT local companies, NTT Communications does not need to acquire local or cable companies for seamless connection from local to international.

⁸³ NTT, "NTT group Three-Year Business Plan," April 12, 2000.

Solution

This is the key technology for the integrated global networks. Putting together and selling solutions requires various technologies, including networks, computers and telecommunication equipment and skills such as integration and reengineering. By acquiring the computer vendors, telecommunication companies expect to meet the equipment side technology. However, the acquisition is apt to fail, as shown in the examples of AT&T's NCR and BT's Mitel. Accordingly, the direct strategy, alliances or acquisitions of solution companies is preferable. This may also be applicable to NTT. But Japanese multinational customers have their distinctive demand, including close communication and language supports. To meet these demands thoroughly may be crucial for customer lock-in. These are not always covered by the solution technology. Having the same culture, NTT should be cautious to this issue.

Content

Content is also needed for the data communication. Translation, portal sites and directory services are important elements. NTT experimented translation and portal sites in AMF trials. These are distinctive demands for the Asian market. However, as e-business is now becoming popular, the multinational corporate customers also intend to expand their markets cross borders. Carriers are offering the "meeting place," where their customers come together. This area is not included much by any players, now. However, combined with solution, this is necessary.

Marine cable

As Japan is an island, the trans ocean cable is crucial. NTT has begun to construct marine cable as a consortium member. To meet the growth of the international traffic, these players have to prepare the infrastructure in advance. However, it is not necessarily to have the marine cable company because their power as a supplier is not particularly strong.

Partnership

NTT has not currently joined the any global alliance, such as World Partners, Concert joint venture, or Global One, where Deutsche Telecom and France Telecom played major roles.⁸⁴ In spite of forming an alliance with the AT&T global network and collaborative work with BT on

Star Hub in Singapore, NTT did not join the Concert. For the global network, Concert is getting closer to Japan Telecom, not NTT. The relationship between NTT and AT&T is limited to business alliance for outsourcing business. Cooperation with BT is limited to the only for Star Hub (Singapore) issue. NTT's expanding network method is a bilateral partnership. It might be inefficient based on AT&T's lessons.

Organization

Other players, especially traditional flagship carriers, suffer from organizational problems due to the acquisition. NTT's strategy is "alliance" one. Although it is a loose relationship, NTT has made the strategic business alliance to implement its global strategy. Furthermore, one of the strongest advantages of NTT is the inside synergy effect. While other players need to acquire the company having the cutting-edge technology, NTT does not need to do so because its R&D center has the entire technology related to the telecommunication. Also, NTT's subsidiaries are the winners in the Internet and wireless area. It is important to share these winning experiences. People can move to other subsidiaries via the NTT holding company with technology, skills and experiences. The human resource allocation is the key success factor for the future of NTT.

6.2 Future environmental change

Due to its long monopoly history, NTT has experienced the more prejudice than NCCs. As MPT intends to promote freer competition and give equal opportunities to NCCs, various deregulations, including reduction of interconnection charges, are projected. Only the competition strengthens the national competitive advantages. To compete with foreign rivals, these deregulations are necessary for the Japanese telecommunication industry.

The reduction in the interconnection charge will divest the revenue from NTT East and NTT West. However, this deregulation is not necessarily disadvantageous to the entire NTT group. This will provide huge cost savings to NTT Communications and to NTT DoCoMo because they have to interconnect local companies as well as other NCCs. Then, management staff of the holding company have to re-allocate the resource based on the unbalanced revenue.

⁸⁴ PriceWaterhouse and Coopers, "Technology Forecast: 1999," 1999.

6.3 Recommendation

As a whole, NTT's current strategy makes sense. However, there are some weak points. To complement the current strategy, the following is proposed.

Preparation for the Latin America and/or European market

The current NTT's expanding global network method is a bilateral one, which AT&T challenged at its first global stage. Therefore, NTT has to cope with the inefficiency of the bilateral relationship. However, the speed of globalization is fast.

Therefore, joining the global alliance, which is strong in the Europe and/or Latin America, would be the shortcut to its globalization. Otherwise, NTT could build the global alliance with major players who are strong in Europe and Latin America.

Combination of mobile business and international business

If the NTT wants to target to the general consumers even in international telecommunication, the collaboration with NTT DoCoMo is crucial. Bringing the success of the i-mode and 57.5 % market share in Japanese cellular market at the end of fiscal year 1999,⁸⁵ convenient international calls are much attractive. However, it is important to expand the market for NTT DoCoMo. The strategic investment in foreign countries is expected for the future revenue sources. To share the international business know-how and NTT DoCoMo's winning experiences between DoCoMo and NTT Communications is one of the win-win strategies for optimizing the group benefit.

6.4 Next challenge

This paper pointed out NTT's weak points by comparing the strategies of other global players in the U.S. and the U.K. As their basic strategy is the same in targeting to the multinational corporate customers in their countries, their implementation and the method of expanding their networks are different. NTT has to make the next steps.

⁸⁵ <http://www.nttdocomo.co.jp/corporate/ir/data/operation.html>.

As prohibited after the Second World War, the restoration of holding company attracts the attention of entire industry in Japan. The organizational effect is expected. The key success factor is to balance the delegation and coordination. As each company specializes in its business and the corporate size is becoming smaller, it is easy to make a speedy decision. On the other hand, the holding company tries to coordinate the resources of group companies. It needs the time to coordinate the conflict among them.

Most of the employees in the group companies have a similar corporate culture, now. However, as new employees enter every year and senior persons retire, each subsidiary's corporate culture will change. Also, it is difficult to remember who is who anymore. To keep the unity feeling, the incentives to the global optimum are very important. In order to implement this, the leadership or the charisma must be required in its chair of the holding company.

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