

JAPAN ECONOMIC CURRENTS

A COMMENTARY ON ECONOMIC AND BUSINESS TRENDS

Mobile Multimedia Evolution in Japan

by Masaharu Ikura, NTT DoCoMo, Inc.

Thanks to the emergence of web-phones, the cellular business has become one of the most energetic industries in Japan. The Japanese cellular market had about 68 million customers at the end of May 2001, accounting for about 9 percent of the global cellular market. The customer base of the cellular market has already exceeded that of the fixed phone market and more than one in two Japanese owns a cell phone. At the end of May, more than 38 million cellular customers were using Internet access services like DoCoMo's i-mode. More people access the web through their cell phones than the 30 million who access the web through their personal computers.

Japanese cellular operators achieved double-digit revenue growth in fiscal 2000 thanks to an increase in new customers and data traffic revenue. NTT DoCoMo, for example, posted record net profits of ¥365.5 billion. Cellular terminals sales in 2000 increased 17 percent to about 45 million, due to a surge of customers who replaced their cell phones with web-access enabled phones. The Japanese cellular market is expected to continue growing this year because mobile multimedia services offer richer content and more attractive applications, as does the promise of third-generation (3G) cellular services.

Japan's multimedia situation differs from that of other developed countries. Its penetration rate is just 25 percent, although it has grown dramatically over the last few years. But as many as 60 percent of cell phone users use their handsets for web access and e-mail – only two and a half years after such access became possible. Interestingly, most web phone users are not even aware that they are accessing Internet content. Demographic analysis of DoCoMo i-mode customers shows that the service is accepted by all consumer segments. Indeed, more than 25

percent of i-mode customers are over the age of 40.

The 3G cellular service, known as IMT-2000, improves service capability as well as voice quality, offering a maximum packet data transmission bit rate of 384 kbps. On May 30, NTT DoCoMo launched its introductory-phase 3G service in the Tokyo metropolitan area under the brand name "FOMA." The Japanese cellular giant offers 3 types of terminals during the introductory phase: standard, visual with a built-in compact camera, and data-card. Customers can expect enhanced i-mode services with richer content via data transmission rates 6 to 40 times faster than the current i-mode, as well as quality voice communication.

The 3G service will allow Japanese cellular customers to carry their phone overseas in order to make calls and send emails with photos or moving pictures to their friends and families. Global roaming will offer voice and data communications via cell phone anywhere in the world. Mobile multimedia roaming will, in the near future, enable cellular customers to enjoy mobile multimedia services offered in their home country when they are abroad.

Currently No. 10 July 2001

Bringing Broadband to Japan 4
by Douglas Ramsey
International Technology
& Trade Association

Japan Business Dialogue 8
Globalization & Localization—
Honda's Way
by Mr. Tak Sonoda,
Honda North America, Inc.

Mobile Multimedia Evolution in Japan

Far from being a dream, mobile multimedia will enrich Japanese life in the near future. A user identity module (UIM) embedded inside a cell phone will change a cell phone to an electronic wallet and Bluetooth technology embedded in a cellular device will make it function as a remote controller. People will carry their cell phones everywhere, access customized content, and receive an integrated bill from their service provider.

In terms of subscriber numbers, Japan's cellular market will soon be

1999. Average revenue per user (ARPU) for voice communication has been falling due to intense competition and difficulty in differentiation. To grow further, cellular operators must expand their business through pursuing the following three directions:

Diversification of Services

Offering customized multimedia services helps operators retain customers, thereby resulting in lower customer acquisition and retention costs. As the stagnating European WAP service has demon-

strated, an operator's agility in shifting from voice to mobile multimedia is no guarantee of success in the mobile multimedia business. The industry can succeed only if the operator truly understands key success factors including business models, role of operators, ease-of-use terminals, and rich content offerings. Cooperation among customers, vendors, content providers, and operators is essential to ascertain customer expectations and order winners in mobile multimedia services.

Expansion of Target Market

Mobile multimedia will enrich our lives, reducing the stress of daily life and freeing time. Seamless mobile multimedia services will require cooperation with partners outside the cellular industry, and regulations in individual industries could sometimes act as barriers to better services. Harmonization and deregulation between industries are expected.

Beyond person-to-person communications, cellular operators should expand their target markets to person-to-server and machine-to-machine communication. Anything mobile including automobiles, motorbikes, portable PCs, PDAs, and even animals are likely candidates. Internet access, provision of location information, remote monitoring and control, and electronic transactions would be applications for those potential targets.

Harmonization with fixed phone network services would offer innovative solutions. DoCoMo, for example, is leveraging its alliance with AOL Japan and will offer innovative Internet access services that link AOL's Internet services and DoCoMo's i-mode. Fixed-mobile convergence will offer new solutions to both consumer and corporate cellular users. Cell phones have already played an important

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mature. The penetration rate of cell phones in most developed countries is over 50 percent, and exceeds 70 percent in Nordic countries. The cellular penetration rate in Japan is low compared to European and Asian Pacific countries, but it already exceeds 50%.

Cellular operators have already recognized that they cannot survive simply by continuing to act conventionally in their market. The growth rate of the Japanese cellular industry will eventually slow to 10 percent in 2001, compared to 50 percent in 1997 and 25 percent in

role for corporate users wanting to streamline their operations.

Globalization

With the coming 3G and further services, infrastructure will be developed based upon global standards. Global standardization will benefit vendors in mass production but challenge operators to offer differentiation value to their customers. Few customers are willing to pay for standardized technologies—customers choose operators that offer attractive services and terminals.

Competition in the cellular business is no longer limited to the domestic market but is expanding to the global arena. Competitors not only operate in the same country but also overseas, offering attractive services at cheaper prices.

The target market will soon be global, too. Globalization through strategic partnerships will become more important for offering global, customized multimedia services that differentiate operators from competitors. Partnership building will not be limited to cellular operators but will expand to players with core competences in each area of the mobile multimedia value chain. Operators will have to ally with vendors, application providers, and content providers in order to differentiate themselves

through applications and content. This is challenging for operators, because they will have to change their culture of business operation and service development.

Most operators rely heavily on vendors that provide solutions to their customers. In the mobile multimedia era, the leadership of operators in service development will be indispensable to offering customers value-added services and enjoying first mover advantages. Partnerships among operators will turn them into global operators and help them drive the mobile multimedia industry together with global vendors that might be reluctant to make customized systems. Partnerships can also provide operators with opportunities for cost savings by joint development and procurement.

so that operators can offer excellent services with partners in different industries. Innovation will help cellular operators and their peripheral companies to be energetic and grow further in the mobile multimedia industry. ■

Masaharu Ikura,
3G Project Manager,
Global Business Department,
NTT DoCoMo, Inc.

“Competition in the cellular business is no longer limited to the domestic market but is expanding to the global arena.”

Challenges to Further Growth

In the multimedia era, sticking with the status quo can mean losing the next big game. Winners will overcome the reluctance of potential partners that fear outsiders will invade their business. Regulatory barriers will have to be overcome

Bringing Broadband to Japan

by Douglas Ramsey, International Technology & Trade Association

Though the adoption of broadband technologies in Japan has been sluggish to date, market watchers would be wise to mark August 1, 2001, on their calendars as the start of something special in Japan's Internet market. For on this date, NTT and Yahoo Japan Corp. are scheduled to launch competing new broadband services aimed at attracting more users at bargain prices.

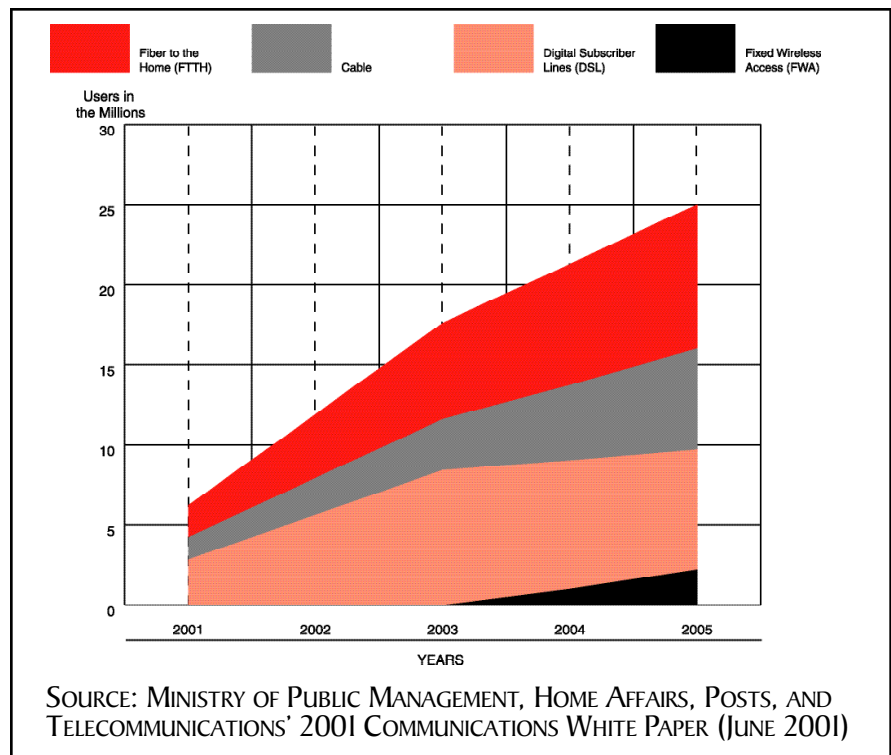
The Japanese government made a sound commitment to promote nationwide broadband proliferation in a major policy paper that it released last month. In its "2001 Communications White Paper" the Koizumi government boldly asserts that the widespread introduction of broadband in Japan will spur the nation's "IT Renaissance". Specifically, the government is promoting the development of multiple broadband infrastructures, aimed at encouraging new market entrants, greater competition, and lower prices.

High-speed broadband Internet technologies provide users with a richer, more interactive online experience. Businesses too are gearing up to reap the benefits of high-speed Internet service. A recent study by Verizon Communications calculates that the widespread introduction of broadband to both busi-

nesses and homes should contribute almost \$500 billion annually to the US economy. Japan can expect similar results.

Japan has lagged behind other countries such as South Korea, Canada, and the US in bringing broadband to homes and businesses. But just this year, Japan has begun to display all the necessary ingredients that support rapid broadband development—government promotion, a competitive market, rival infrastructures and technologies, and access to an unbundled local loop for new market entrants.

Broadband growth projections in Japan are high. In January 2001, the IT Strategy Council's *e-Japan* Plan set the ambitious goal of achieving the world's most advanced Internet network within the next five years. A key aspect of this goal is the provision of affordable, "always-on" high-speed access in 30 million households and ultra-high speed access in 10 million. Now, only a half-year later, this goal seems increasingly achievable as more new companies enter the market with rival services running on different infrastructures. Not surprisingly, as competition increases and investment costs rise, profit mar-



gins are shrinking. Incumbent telecom operator NTT (East and West) will weather the storm but several new entrants will likely fold in the coming months.

Leading Market Lessons

According to the latest Organization for Economic Cooperation and Development (OECD) numbers, South Korea and Canada have emerged as the top two international leaders in broadband deployment. Nine in every 100 South Korean households have high-speed Internet access. This figure represents 6 million South Korean households, or 41 percent

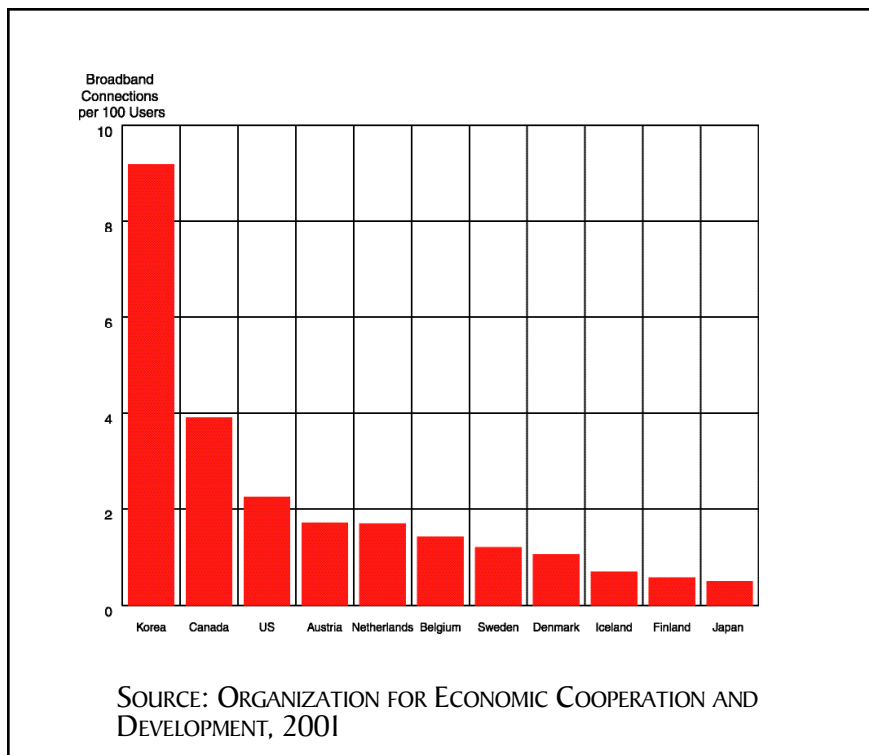
of the total with Internet access. By contrast, Canada has just over 4 in 100, and the US ranks a distant third with a mere 2.25 in 100. Japan ranks eleventh in terms of broadband connections per 100 inhabitants, with less than 1 per 100.

The 1997 Asian financial crisis hit South Korea hard and forced economic reforms, including efforts to open the telecommunications market. Canada also achieved high penetration rates by adopting several basic policies that emphasized market competition and open access to the existing telephone infrastructure. Encouragingly, Japan

is largely following suit. As Prime Minister Koizumi contemplates sweeping economic reforms, it seems appropriate to review what worked in Korea.

The guiding principles that shaped success in South Korea and Canada are the promotion of competition and the development of rival broadband infrastructures that can compete with the existing national telephone network. Digital Subscriber Lines (DSL) have been an early and popular broadband solution that can provide high-speed access by utilizing existing telephone lines and special conversion hardware. However, DSL is generally viewed as a bridging technology to more advanced and high-speed services such as cable, fiber optic lines, and Fixed Wireless Access (FWA). With government support and a conducive market, South Korea and Canada experienced a boom in these alternative broadband infrastructures.

In Japan, the government's *e-Japan* plan has charted a similar approach by promoting the development of multiple broadband technologies and related infrastructures. Specifically, the *e-Japan* plan focuses on fiber optic cable, otherwise known as Fiber to the Home (FTTH). FTTH was originally



Continued on page 6

Bringing Broadband to Japan

pushed by the Ministry of Posts and Telecommunications in 1994 as part of their IT infrastructure plans, and the current round of aggressive deployment should create an attractive alternative to DSL or cable.

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Additionally, as is occurring in most developed markets, fast-tracking efforts to “unbundle the local loop” is critical to ensuring competition and expansion in the broadband market. Canada led in unbundling its market and has been among the first to reap the benefits. In Japan, a Ministerial Ordinance on unbundling came into force in September 2000.

The US, ranked third in broadband household penetration by the OECD, has experienced a comparatively slow growth rate, especially in the rural areas. More than 50 separate Internet-related proposals have been introduced this year in the US Congress. One standout in this welter of legislation is the Tauzin-Dingell bill, which attempts to promote increased broadband deployment by allowing the former Bells, who still control 92 percent of the local market in most states,

to enter the market for high-speed access across regional boundaries.

The Tauzin-Dingell bill contradicts conventional thinking on promoting broadband development and open access. While it would require

dominant local carriers to deploy high-speed Internet service in hard-to-reach and rural areas, it would also effectively “rebundle” the local loop by allowing the dominant telecom operators to offer long-distance data services without opening local networks to competitors. As a result, the Tauzin-Dingell bill *could in time* undermine local telephone competition, which will undercut market and price competition.

Japan would be wise to avoid a similar trap. The Tauzin-Dingell bill is a trade-off between leveraging the resources of dominant market entities to provide broadband services and opening the market to increased competition. Should high-speed access competitors stumble—as some already have—officials and Diet members will have to resist the temptation to turn automatically to NTT to meet the goal of extending high-speed connections to 30 million households by 2005.

Market Competition

NTT and Yahoo Japan are fighting for the same market but by offering divergent broadband technologies and infrastructures. This competition bodes well for the future of Japan's broadband market. NTT is offering high-speed Internet access via their fiber-optic network. Yahoo Japan, backed by majority owner Softbank, is offering an Asymmetric Digital Subscriber Line (ADSL) service. NTT's fiber optic network can deliver connection rates approaching 100 mbps, which is lightyears faster than conventional ISDN or analog dialup modems which do not exceed 64kbps connection rates. NTT is providing this service for between 11,000 to 6,000 yen per month depending on the service speed. Yahoo Japan's ADSL service, slower at 8Mbps but at a cost of 2,280 yen per month, will be an attractive option.

Yahoo Japan aims to acquire one million ADSL subscribers by December and there is a high likelihood they will succeed. Because DSL broadband solutions run on standard copper telephone-lines, Yahoo Japan can, in theory, target the entire nation with their service. In contrast NTT's fiber optic network is still centralized in Tokyo and Osaka, and remains several years away from becoming a nationwide network. However,

NTT is currently the largest provider of DSL service in Japan, with 62 percent of all DSL users, and is offering competitive rates. NTT DSL service provides 1.5 mbps for between 3,800 to 4,050 yen per month.

A number of companies are now in the broadband market and offer a range of options. Other DSL entrants include Japan's second and third largest telecom operators, Japan Telecom and KDDI, as well as eAccess, a startup that wholesales DSL networks to some of the nation's largest Internet Service

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Providers (ISPs). NTT's only major competitor in the fiber optic market, Usen Corp, remains small with only about 3,500 household subscribers. In the cable market, Jupiter Telecommunications Inc., a Microsoft subsidiary, has over 180,000 high-speed Internet subscribers. Their only rival, Tokyu Cable Corp, only provides access in the Tokyo metropolitan area to just over 46,000 subscribers.

Fierce market competition and multiple broadband access options are pushing consumer prices down. But price cuts are occurring just as the need to invest in infrastructure is

mounting for both NTT and its new competitors. Relying on the deep pockets of the Softbank group, Yahoo Japan should be able to adapt to these conflicting pressures. Other early entrants, though, have begun to buckle under the strain.

Tokyo Metallic Communications Corporation serves as a warning. Despite being the first serious new entrant to challenge NTT, and the first to offer DSL in Japan in February 2000 (eventually securing 50 percent of the market), Tokyo Metallic was the first to fold. But with its thin profit margins, the

company struggled to cover its initial investment costs. Before its acquisition by Softbank in July, Tokyo Metallic had disclosed that it was overdue payments worth 4 billion yen (\$33 million). Faced with plans to implement drastic restructuring to maintain its market position, Tokyo Metallic had few options when Softbank presented a buy-out offer.

Conclusion

At the moment, the market is flush with new entrants offering broadband access in several different flavors. This has brought much

needed fixed flat rates to Japan's Internet market at substantially reduced prices. The broadband market seems sure to consolidate over the next 12 months, however, and many of the new entrants are likely to find that, like Tokyo Metallic, they will be unable to survive on razor-thin profit margins. Moreover, NTT DoCoMo 3G cellular, scheduled to start service in October 2001, will offer an additional broadband alternative and add another tier of competition. With Internet users expected to double by 2005, demand for affordable broadband connections is likely to increase. The real question that remains is how much of the broadband market will companies like Yahoo Japan manage to wrest from NTT. With unlimited local access, a new 3-year business plan that focuses on broadband deployment, and plans to invest 190 billion yen in its fiber optic network in this fiscal year alone, NTT, East or West, may be hard to beat. ■

Douglas Ramsey is a Manager for Internet Business and Japan Affairs with International Technology & Trade Association Inc. and is the lead author of the United States Internet Council's forthcoming *State of the Internet 2001 Report*.

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"Globalization & Localization— Honda's Way"

*Mr. Tak Sonoda, speaker,
Assistant to the President,
Honda North America, Inc.*

The Honda Motor Company is one of the most global companies in the world, thanks in large part to its five regional "virtual companies," said Tak Sonoda, Assistant to the President. Established in the 1990s, these five companies (North America, South America, Europe, Asia, and Japan) have the autonomy they need to anticipate and meet the changing needs of their customers. Honda automobiles are sold in 150 countries today, with manufacturing plants located in 30 countries. In North America alone, Honda employs 19,000 workers in seven plants.

The only way to accomplish a global operation with five regional virtual companies is for each entity to share the same corporate culture, values, experiences and strategy—what Mr. Sonoda called "Honda DNA."

Honda DNA has three key elements, starting with respect for the unique capabilities of each human being. The second critical element is customer satisfaction. And the third element of Honda's corporate culture is what Sonoda called "the challenging spirit."

The development of the MDX sports utility vehicle is a good demonstration of Honda's ability to develop products that meet the needs of its customers locally and the flexibility of its R&D and marketing teams to act quickly. The key to being a global company is not simply selling products around the world, but merging a corporate culture and way of doing business with the needs, capabilities, and belief systems of different local cultures.

There are only two truly independent Japanese auto companies remaining – Toyota and Honda. This was unimaginable only five years ago, Sonoda said. Traditional American auto companies have become localized in Japan through capital ownership, whereas traditional Japanese companies, like Honda, have become local companies through direct investment in North America.

In this consumer driven economy, a definition of what constitute a domestic company has become irrelevant. Only those companies with the capabilities to develop and manufacture locally to meet the needs of the customer will survive.

Today, survival in the auto industry is based on the commitment of each company to leadership and advanced technology - not what its competitor does. A company must

produce quality products that the customer can pay for. With most political barriers now gone, the sole remaining barrier is one of customer satisfaction – and that is as it should be. ■

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Katsuhiro Fujiwara,
Managing Director, Keidanren

Publisher, Keizai Koho Center

Director, Hideaki Tanaka
kkc1@kkc-usa.org

1900 K Street NW
Suite 1075

Washington D.C. 20006
202 293-8430

www.kkc.or.jp

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KKC fosters a deeper understanding of Japan's basic social structure. Furthermore, it conducts public affairs activities to improve the Japanese people's recognition of Japan's global role.

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