Japan

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Overview

Japan is a nation with a population of 127 million people, 377,800 square kilometres of land and 6,852 islands. It is a leader in the industrial world, drawing its economic strength from its mighty electronics, automobile and manufacturing industries, which emerged after the Second World War. Its main cities are Tokyo (12 million inhabitants), Osaka (8.5 million), Yokohama (3.4 million) and Nagoya (2.2 million). Japan is also a country of mountains, forests, and rice fields in rural areas.

The country is one of the most industrialised in Asia. It enjoyed a GNP of US$4,823 billion in 2000 or US$38,026 per capita, one of the highest in Asia and in the world.

The ICT infrastructure in Japan is well developed. Nationwide high-speed trunk lines link all the major cities and surrounding areas. Virtually every home and office is equipped with telephones. The number of fixed-line telephone subscribers in 2001 was 50,740,000 – a 2.6 percent decline over the previous fiscal year and marking the fifth consecutive annual decline. This is due to subscribers switching to mobile phones and replacing ISDN lines with ADSL connections for high-speed Internet access.

The number of Internet users was estimated at 55.93 million in 2001, or an 18.8 percent increase over the past year. They account for 44.0 percent of the population or 60.5 percent of all households. Japan's Internet penetration is not the highest in Asia; it lags behind Korea, Hong Kong and Singapore. This suggests that, while industrialisation is well advanced in Japan, ICT development has not kept pace with its economic and industrial strength.

The government became aware in 2000 of the slow development of ICTs, including Internet penetration and high-speed access, and started to promote broadband applications under the banner of "e-Japan Strategy" initiated by the Prime Minister's Office.[1] By July 2002, the number of broadband users reached more than 5.6 million or 4.4 percent of the population. It had almost quadrupled in less than a year but still lagged behind Korea and Hong Kong in terms of the penetration rate of the population. Broadband penetration among households accessing the Internet reached 18.5 percent, representing a 350 percent increase over the previous year.

The recent accelerated growth of broadband is due mainly to the fierce price competition triggered by entrepreneur Masayoshi Son's company, Yahoo Broadband. The average price for 8 Mb ADSL Internet access is around US$20[2] per month at the time of writing, one of the lowest in the world.

Men still account for the majority of Internet users at 56.1 percent of the total. Women users make up 43.9 percent. However, compared with 2001, the percentage of male users dropped by 5 percent, indicating the rapid growth of female users. Among female users, 48.5 percent are teenagers, 30.3 percent are in the 60–69-year age group and 26.5 percent are over 70 years.[3]

The mobile phone is also becoming pervasive. NTT DoCoMo's i-Mode offers users the highly popular compact versions of the Web and e-mail service functions. The huge success enjoyed by i-Mode helped promote the use of mobile phones to almost everyone living in urban areas. Significant numbers of users in rural areas have also signed up for the service. Services similar to i-Mode are also offered by all the other competitors in the mobile market – AU by KDDI and J-phone by Japan Telecom. The latter has been acquired by Vodafone.

The number of mobile phone subscribers reached 71,622,000[4] in August 2002, or a 10.7 percent increase over the previous year. Mobile phone service is available throughout the country with the exception of a few remote islands. In terms of penetration in the total population, it is still under 60 percent, lagging behind Hong Kong, Korea and Singapore. Mobile phone subscription rates remain expensive in Japan at a monthly minimum usage fee of around 2,500 yen or 20–40 yen per minute, depending on the type of subscription plan. An average user spends 5,000–6,000 yen per month on mobile phone services, and it is not surprising to hear of people spending more than 10,000 yen per month if they make frequent use of e-mail and other i-Mode-like services on top of regular voice services.

The penetration rate of PCs is also extensive: 58 percent of all households owned and used PCs in 2001, a 14.8 percent increase over the previous year. Most individuals and companies are using off-the-shelf commercial application software. The Microsoft Office line of products dominates the corporate and individual end-user market. The open

source movement is becoming popular in Japan, with many free Linux servers running in both the commercial and non-commercial sectors. However, this is limited to back-end server applications. Many end-user applications have been developed by the open source community, but few are readily available nor popular among non-specialist users in offices and homes.

The standardisation and adaptation of the Japanese language character code sets for computers was completed in the 1980s. The average user today encounters no technical barriers at all in using Japanese in word processing or e-mail.

ICT policy initiatives

Despite what some critics may suggest, the slow uptake of broadband in Japan was not due to a lack of government policy to promote broadband. However, the government was slow in acknowledging that the country was lagging behind Hong Kong, Korea and Singapore. To make up for this, it set the ambitious target of wiring at least 30 million households with high-speed Internet access by 2005. This target is part of the eJapan Strategy released in 2001.[5] eJapan also contains other comprehensive policy packages, such as the facilitation of e-commerce and realisation of e-government services, to expedite widespread digitisation of communities and businesses and to nurture high-quality human resources in the education sector.

The major policy package for the information and communications sector which preceded eJapan was "Towards Advanced Information Society". It was first announced in 1995 and later supplemented with a mid-term plan and action plans in 1996 and 1998, respectively. It is uncertain how much of the results and experiences of this earlier policy package were plugged into the new eJapan Strategy. This raises serious doubt as to how much difference the new strategy will succeed in making within the sector.

The eJapan Strategy spells out in detail the specific actors involved and the implementation schedule for its activities – somewhat unusual for this kind of policy paper, which was prepared in the Japanese bureaucratic tradition and amid a deep economic recession. In spite of this unusual move, there is little change happening in the private sector. This seems to demonstrate Japanese society's tendency to rely too much on the authorities, even when it comes to the broadband and ICT industries.

However, there have been other signs of change. As noted earlier, the number of broadband subscribers surged in the first half of 2002, due mostly to the fierce price competition triggered by Yahoo Broadband. The competition was welcomed by users and at the same time criticised by the industry for cutting profit margins razor-thin. Nevertheless, it succeeded in stimulating the market a great deal. Many service providers responded to this price war, and ADSL prices in Japan were drastically reduced to less than US$20 per month for 8 Mb services. As a result, the number of

Japan facts

Total population: 127,560,000 (2002)[a]
Rural population as a percentage of total population: 20%[b]
Key economic sectors (in terms of number of employees): Services, wholesale and retail trade, manufacturing, construction, transport and communication, finance and insurance, real estate[c]
Literacy in the national language: There are no official data available since the government assumes literacy levels have reached 100%. *The CIA World Factbook* lists it as 99.0%[d]
Computer ownership per 100 inhabitants: 34.9 (2001)[e]
Telephone lines per 100 inhabitants: 40.1 (2000)[f]
Internet hosts per 10,000 inhabitants: 698.26 (2002)[g]
Internet users per 100 inhabitants: 44 (2002)[h] (male: 56.1%, female: 43.9%)[i]
Cell phone subscribers per 100 inhabitants: 61.1 (2002)[j]

Sources:
(a) Statistics Bureau and Statistics Centre <http://www.stat.go.jp/english/data/jinsui/15k2.htm>.
(b) Embassy of Japan, Washington, DC <http://jin.jcic.or.jp/insight/html/focus03/four_phases/index.html>.
(c) Statistics Bureau and Statistics Centre, Ministry of Home Affairs, Public Management and Posts and Telecommunications <http://www.stat.go.jp/english/data/figures/zuhyou/1619.xls>.
(d) See <http://www.mrdowling.com/800literacy.html>.
(e) European Institute of Japanese Studies <http://www.hhs.se/personal/suzuki/o-English/it05.html>.
(f) Telecommunications Carriers Association <http://www.tca.or.jp/japan/annual/2002/index2.html>.
(g) Internet Software Consortium/Network Wizard <http://www.isc.org/ds/WWW-200207/dist-bynum.html>.
(h) Ministry of Home Affairs, Public Management and Posts and Telecommunications <http://www.johotsusintokei.soumu.go.jp/statistics/data/020521_1.pdf>.
(i) *Internet White Paper 2002*.
(j) Telecommunications Carriers Association <http://www.tca.or.jp/index-e.html>.

Is Japan leading up front or lagging behind?

With its advanced economy and highly industrialised society, Japan is often regarded as the front-runner in high-technology areas, including ICTs. It is true that the supply of high-technology products in Japan is vast and abundant; yet when it comes to the actual "use" of ICTs, one must admit that usage has not kept pace with supply. The level of Internet use in the workplace, in formal communication in organisations for their everyday business, or in schools and other social institutions lags behind some of its Asian neighbours such as Korea and Singapore. Japan is a society of senior citizens: many of the old do not make direct use of e-mail but rather have their assistants or subordinates do the work for them. They still maintain their segregated world where face-to-face communication with their peers or customers is regarded as much more valuable than instant online contacts. There is no hard evidence to show that this relatively low level of ICT use is the direct cause of the current decade-long recession. The author believes that this ignorance of the importance of effective use of the latest communication technologies is one of the biggest challenges Japan has to face during the coming years.

DSL and cable Internet subscribers reached 3.6 million and 1.6 million, respectively, by July 2002 and together accounted for more than 5 million subscribers. This total represented a 300 percent growth over the past year.

Content

Japan is one of the most homogeneous countries in Asia Pacific. Japanese is the main language of communication throughout the country. The content provided through the Internet in Japan is becoming very rich and diverse. It now reflects the country's entire cultural and social spectrum. Most of the content is in Japanese. A limited amount of material is created in English or translated from the Japanese original. There are very few content sources providing information about Japan in any of the other major languages – Chinese, Korean, Indonesian, French, German, Spanish, Arabic and Russian.

The linguistic isolation of Japan has helped in the building of a national content industry. This contrasts with some Asian countries, such as Singapore, Hong Kong and Malaysia, where English is widely read and spoken and users tend to turn to foreign sources of content, thereby retarding the growth of the local content industry.

Many commercial and industrial organisations have started to provide online content as part of their business. The commercial content market is growing steadily, if not exploding. The content business ranges from audio and video streaming services and on-demand movie and television programme distribution to music delivery, online games, electronic books and magazines, and database services.

Almost all the major national and provincial newspapers also publish their news over the Internet. The major radio and television broadcasting networks operate their own news websites too. However, the quality and quantity of the information provided vary. Most of the websites lack "archive" and "search" functions, thus limiting their usefulness in research. The same is true with magazine publishers. Apart from a few exceptions, magazine websites provide only the titles and index of their issues; the full text or summaries of articles are very rarely published online. This reflects the apprehension of newspaper and magazine publishers about losing their paid subscribers if they should give away their content for free online. However, by choosing not to provide any content at all, they may also be missing out on excellent opportunities to promote their publications online.

There is significantly more non-commercial content available on the Internet in Japan than commercial content. Most organisations maintain websites. Users can now easily find basic information about organisations by using popular search engines such as Google, Yahoo, Lycos and Goo. All the search engines can be accessed in Japanese to look for content published in this language. Institutions and organisations which maintain a web presence include all national and local government offices, corporations, stores, restaurants, schools and hospitals. But very often only basic organisational information, such as addresses, and a catalogue of services are provided. Substantive and detailed information is often missing.

Education

Internet access in schools in Japan is still lacking. The Osaka Education University conducted a survey in March 2002 among webmasters to research this subject. Only 1,300 webmasters (out of 9,913 contacted) completed and returned an e-mail questionnaire. The survey results revealed that 29 percent of schools use dial-up connections, another 29 percent use mid-band (less than 1.5 Mb) access and 38 percent use

broadband (more than 1.5 Mb). Only 8.3 percent of classrooms are connected via LAN to the Internet as compared with 100 percent in Korea and 77 percent in the USA.[6]

According to this survey, a total of 15,000 primary, secondary and high schools maintain their own websites. Among the respondents, 52 percent reported that learning material, such as useful pictures and statistical data, were lacking on the Internet, 37 percent said good case studies and syllabuses were not available online; 51 percent noted that they often experienced difficulties obtaining the information they were searching for; while 35 percent reported that there was too much information available and they had difficulty identifying useful information from the mass of content.

The security of computer systems is also becoming an important concern among schools: 57 percent of the respondents replied that they had installed anti-virus filters and software on their PCs, 39 percent reported that they had installed such software on their servers, 39 percent said they relied on upstream ISPs or education centres to secure their systems, 9 percent reported that vendors were in charge of their online security, and only 17 percent replied that they had done nothing or knew nothing about the matter. Measures have also been taken against exposing students to inappropriate content: 55 percent of the respondents said they had installed filtering software at their servers and PCs, 28 percent said teachers were monitoring students' Internet access, and 49 percent replied that they had set rules and guidelines for their students and expected them to abide by the rules.

Some schools allow Internet access outside regular classes: 33 percent of the respondents said teachers permitted students to use the Internet under their supervision, 22 percent said students could access the Internet on their own during breaks and after-class hours, 18 percent replied that teachers decided when students could access the Internet on their own, 14 percent said they did not allow Internet access outside regular classes, and 10 percent said teachers monitored access during breaks and after-class hours.

Agriculture

A wide variety of information on agriculture is available in Japan, but as in many other fields most of it is available only in Japanese. A good starting point in English is found at the Japan Society of Agricultural Informatics website <http://www.jsai.or.jp/english/index.html>. Other sources recommended are the websites of the Ministry of Agriculture, Fishery and Forestry <http://www.maff.go.jp/eindex.html> and the Tokyo University of Agriculture and Technology <http://www.tuat.ac.jp/index-e.html>.

Rural development

The official agency dealing with rural development is the Ministry of Land, Infrastructure and Transport <http://www.mlit.go.jp/english/index.html>. The quality and quantity of information provided here in English are limited.

There are a number of Japanese institutions involved in rural development in developing countries. Among them is the Asia Rural Institute an NGO. Information on its training seminars for NGO workers is available at its website <http://www.ari.edu/index_e.html>. The other interesting organisation is the Institute of Developing Economies, a government-supported research body which focuses on economic cooperation with developing countries <http://www.ide.go.jp>. Another government body supporting rural development activities in developing countries is the Japan International Cooperation Agency <http://www.jica.go.jp>.

Industry and business

The commercial content market exists in Japan, even though it is not yet profitable. This market continues to grow steadily. According to the *Internet White Paper 2002,* 9.3 percent of Internet users have made online commercial purchases. By comparison, 14.7 percent of broadband users have made such purchases, clearly higher than the number of narrowband users. Within the content market, business software downloads form the largest segment, comprising 46 percent of regular users and 60 percent of broadband users. Entertainment software is the second, attracting 25 percent of regular users and 16 percent of broadband users. The third most popular commercial content is music:23 percent of regular users and 15 percent of broadband users have made purchases in this segment. This survey did not include online games, which had an estimated value of 35 billion yen in 2001.

The *Internet White Paper* also estimated that the total digital content market in Japan in 2001 was worth 48.5 billion yen (US$400 million). This included online gaming, music delivery, electronic publishing and video streaming services. It forecast that this market would expand to 550 billion yen (US$5 billion) by 2006, a tenfold increase and an average 60 percent annual growth over a five-year period. The author does not believe that this will be the case. However, the market remains bullish with regard to the online content business in Japan. A growing trend for this business is to provide "broadband" content. The massive success of broadband in Korea has influenced the Japanese market. The number of existing online game users in Japan is low and estimated at only 200,000, compared against 20 million users in the USA and Korea's 10 million users. The differences in these user numbers is partly due to the existence of very popular video game machines in Japan such as Nintendo and Sony's PlayStation. These machines enjoy a 75 percent household penetration rate, compared to 50 percent in the

USA and 30 percent in Europe. But the game machine market is beginning to stagnate in Japan. New machines with the latest features which enable them to connect to the Internet, allowing users to play online games, are becoming the next battlefield of the gaming market. Some game vendors are forming strategic alliances with their Korean counterparts. They include Japan's Softbank, which set up a joint venture with Korea's NCsoft Corporation and started to offer in 2002, a Japanese version of Lineage, one of the most popular online games in Korea. During the initial free trial period, more than 150,000 users were attracted to this new game in Japan. Similar joint venture activities have been formed between a number of successful Korean game vendors and their Japanese counterparts.

A unique category of online content in Japan is the "mail magazine". It is news and various kinds of information distributed via e-mail. Some require a subscription fee, while others are free. One of the oldest and most successful mail magazines in Japan is *Internet Watch*, a daily news watch on Internet-related services, technology and products, which costs 500 yen (US$4) a month to subscribe. It signed up 30,000 subscribers in its first year of publication.

Technology

There are numerous Japanese information providers within the technology field. The Japanese language dominates here as well, with only a limited number of English services available. The following are some recommended sources:

Japan Science Corporation (JCS) <http://www.jcs.go.jp>
JCS is a government-supported public corporation offering a wide range of information on science and technology from Japan. It runs the Japan Science and Technology Information Aggregator <http://www.jstage.jst.go.jp/en/index.html>, an online "aggregator" that provides a common database query gateway and links to many journals, reports and organisations related to science and technology.

Asia Technology Information Program (ATIP) <http://www.atip.org>
A Tokyo-based institution which operates in cooperation with the University of New Mexico in the USA, ATIP provides selected information on technologies from Japan and Asia.

Asia Biztech News <http://www.asiabiztech.com/index.shtml>
A free website and e-mail service covering ICT and business-oriented news from Japan as well as other Asian countries and economies. It is run by Nikkei BP, a publisher specialising in business and technology. Free sub-scriptions are offered to "qualified" people in India, Hong Kong, Korea, Malaysia, the Philippines, Singapore, Taiwan and Thailand.

Global Environment Centre (GEC) Foundation <http://www.unep.or.jp/gec>
The GEC Foundation provides an environmental technology database, called NETT21, that contains seven databases on environmental technology-related fields, such as water treatment, air pollution control, soil and groundwater contamination and energy conservation.

Government

Online content provided by both central and local government offices is increasing rapidly. E-Government is one of the central policies of the country for the 21st century. The policy is championed by the Prime Minister's Office and is a part of the broader national IT policy. Websites have been set up by ministries and their agencies as well as local governments including prefectures, cities, towns and villages.

A convenient starting point when searching for government information in Japan is the Prime Minister's Office website, which is also the first website established by the central government in 1994. The page <http://www.kantei.go.jp/foreign/index-e.html> containes general information, while <http://www.kantei.go.jp/foreign/link_e.html> provides links to all government agencies and their peripheral organisations.

When it comes to content in foreign languages, all national ministries and their agencies maintain English pages as their only foreign language content. The exception is the Ministry of Foreign Affairs which provides content in a variety of languages through the respective Japanese embassies based in various countries. The amount and quality of information provided in these languages differ between embassies.

Some local governments also provide content in a range of languages. The City of Osaka, for example, provides information in English, Chinese, Korean and French, while the City of Fukuoka and Kitakyushu provides information in English, Chinese and Korean. However, many other major cities, including Yokohama, Nagoya, Kobe and Sapporo, provide only English content. The City of Sendai shows a bias towards European languages by providing information in Italian, Dutch and Spanish, partly becasue it co-hosted the Soccer World Cup in 2002. However, its website does offer Asian languages such as Chinese and Korean.

The above reflects the varying cultural and social awareness of the Japanese people. Cities such as Osaka and Fukuoka maintain strong traditional and business dealings with Asian countries such as Korea and China and they are also home to large segments of the Korean-Japanese population, hence their bias towards these two languages.[7]

Statistics Bureau and Statistics Centre <http://www.stat.go.jp/english/index.htm>
Official statistical information is provided by these two organisations, which are part of the Ministry of Home Affairs, Public Management and Posts and Telecommunications.

NGOs

NGOs in Japan are making increasing use of the Internet to share information and activities. The Japan NGO Centre for International Cooperation <http://www.janic.org/en/whatjanic.html> coordinates these activities and provides useful links to their member NGOs. There are a number of highly active NGOs in Japan engaged in international issues. BHN Association <http://www.bhn.or.jp> specialises in IT and telecommunications-related aid and disaster relief. The Japan Volunteer Centre <http://www.jvc.org> is engaged in field support activities in seven Asian and African countries. JCAFE <http://www.jcafe.net> provides IT support to NGOs. Pacific Asia Resource Centre <http://www.parc-jp.org>, Africa-Japan Forum <http://www.ajf.gr.jp> and Peace Winds Japan <http://www.peace-winds.org> are also Japanese NGOs engaged in development activities.

Political groupings

All the major national political parties maintain their own websites. Many elected congressmen also publish their personal websites. Some parties use the Internet to provide live video feed or on-demand video services to cover their annual general meetings and other important news and events. Official party websites do provide information in English, but most websites of the members of parliament are published only in Japanese.

Other active political groups, ranging from right-wing associations to environmental activist groups that do not have seats in the National Assembly, also provide online news and information. However, the information services provided by these groups do not seem to make much difference to Japanese politics. There are very few cases where the use of the Internet has made an impact on political matters.

The following are some of the major websites maintained by the various national political parties:

Liberal Democratic Party:
<http://www.jimin.jp/jimin/english/index.html>
Democratic Party of Japan:
<http://www.dpj.or.jp/english>
New Komeito:
<http://www.komei.or.jp>
Liberal Party:
<http://www.jiyuto.or.jp/ENG/index_e.htm>
Japanese Communist Party:
<http://www.jcp.or.jp/english/index.html>

Sample English websites of members of parliament:

Koji Omi:
<http://www.omi.or.jp/speech_e.htm>
Nobuteru Ishihara:
<http://www.nobuteru.or.jp/english/index.html>

Civil society

Civil society groups and not-for-profit organisations (NPOs) lag behind the commercial and business sectors in the use of the Internet and the provision of information over the Internet. However, the recent growth in the number of Internet users in Japan is changing the picture. The introduction of a new law, the *Law to Promote Specified Nonprofit Activities,* in 1998 means that an NPO that meets specified criteria can now be recognised by local governments as a legal entity. This has helped to promote the establishment of new NPO entities nationwide. The number of NPOs recognised by this law exceeded 8,000 by the end of September 2002. Some useful information about NPO activities in Japan can be found at the Japan NPO Centre website <http://www.jnpoc.ne.jp/English/index.html>.

News and current affairs

Most newspapers publish online versions in Japanese together with some English content. The quality and quantity of the English pages are usually limited. There are a number of English-only online news and commentary sources:

Online English news from major daily newspapers:
Japan Times Online <http://www.japantimes.co.jp>
Nikkei Net Interactive <http://www.nni.nikkei.co.jp>
Asahi.com <http://www.asahi.com/english/english.html>
Mainichi Daily News <http://mdn.mainichi.co.jp>
Daily Yomiuri Online <http://www.yomiuri.co.jp/index-e.htm>

Other sources of news and commentaries from Japan:
Kyodo News <http://home.kyodo.co.jp>
Japan Today <http://www.japantoday.com>
The Japan News.Net <http://thejapannews.net>
Japan Inc <http://www.japaninc.net>
News on Japan <http://www.newsonjapan.com>

GLOCOM Platform <http://www.glocom.org>
This is a unique communication platform that provides issue-oriented opinions and commentaries from opinion leaders in the business and policy arenas.

There are some sources of information available in non-English languages. The following sites provide frequently updated news and information: *China People's Daily* in Chinese <http://japan. people.com.cn> and *Mangaiken* in French <http://mangaiken.free.fr/news.php3>.

Important national sources of content

Tokyo National Museum
<http://www.tnm.jp/scripts/Index.en.idc>
This museum has a large and comprehensive collection of Japanese cultural and heritage items. The information provided here is mainly in Japanese, but some English information is also available.

Kyoto National Museum
<http://www.kyohaku.go.jp/mus_dict/hdtce.htm>
Located in the historic capital of Kyoto, this museum focuses on East Asian art. The information is provided in Japanese, but, some English pages are also available.

National Museum of National History
<http://www.rekihaku.ac.jp>
This is the only museum of Japanese history in Japan. It mounts exhibitions and supports systematic research into Japanese history and culture. The information is in Japanese, but some English content is also available.

National Museum of Ethnology
<http://www.minpaku.ac.jp/english>
This is a public museum that supports ethnological (anthropological) research. It maintains a collection and exhibition of ethnographic material. The information is in Japanese with a limited amount in English.

Ainu language and culture
There are very few indigenous languages left in use in Japan today. The Ainu people in the northern island of Hokkaido possess their own language, which is totally different from the Japanese language. According to a survey conducted by the Hokkaido government in 1984, the Ainu population in Hokkaido at that time was 24,381. There are efforts underway to preserve the original culture and language of the Ainu. This community also use Japanese in their everyday life. Although the Ainu population is very small, their existence has raised a fundamental question about the origins of the Japanese people.

The Ainu Museum is an important centre for the Ainu culture and language. It is located in Shiraoi, Hokkaido, and is a good source of information about the Ainu cultural heritage and lifestyle. English content is found at <http://www.ainu-museum.or.jp/english/english.html>and Chinese content at <http://www.ainu-museum.or.jp/chinese/chinese.html>.

Literature and material for learners of the Ainu language are available at <http://jinbunweb.sgu.ac.jp/~ainu/biblio/european.html>. This scholarly website provides useful bibliographic information on the Ainu language and a few links to related sites.

Korean residents in Japan
There are many Korean residents in Japan whose families moved to Japan during the colonial era of the Japanese military regime preceding World War II. The officially registered population of this community is around 600,000. In addition to this number is a group of about half a million people who have obtained Japanese nationality. Together, they bring the total population of Korean residents to more than 1.2 million or 1 percent of the total population of Japan.

Many of the Koreans moved to Japan because of severe hardship in their original home country or as forced labour of the Japanese industrial and military complex. Many returned home after the end of World War II, but some chose to stay in Japan because they found it difficult to readapt to the society in Korea or they were apprehensive about their ability to make a living in Korea after such a long period spent in Japan. The Korean residents, who make up Japan's largest minority group, are not socially well accepted in spite of their 50-year history in the country.

Unlike Ainu, the Korean residents have their own homeland and language and their population is significantly larger. Although some of their children receive Korean language education, they now make extensive use of Japanese and have adopted the language as their own. Politically speaking, they are divided into two different groups: the South and North Koreans. In reality, it is overly simplistic to try to group them into just these two communities. There are a number of websites by Korean residents in Japan, most of them in Japanese with some in Korean. These sites cover Korea-related topics:

Han net <http://www.han.org>: This website deals with issues relating to Korean residents from both the academic and cultural perspectives.

Korea Town <http://www.asc-net.or.jp/KoreaTown>: This provides a bulletin board system (BBS) and other information and communications services related to many aspects of life of Korean residents in Japan.

JK-Net <http://www.j-korean.nets>: This website provides business, cultural and social information, as well as communications services to help bridge the Korean and Japanese societies.

SJ Gallery <http://www.sjack.com>: This is a unique website containing graphic art and information about a Korean Japanese artist Suja Lee.

Chinese residents in Japan
Although smaller in number than the Koreans, there are also Chinese people living in Japan, who either moved to Japan before World War II or came more recently to acquire academic, language and business skills. The following websites are published for the Chinese community:

E-China@Town <http://www.cam.hi-ho.ne.jp/li_zhu/echinatown/zhusearch.html>: This is a comprehensive website for Chinese residents in Japan.

ALA China <http://www.alachugoku.com/zainichi>: website for both Chinese residents in Japan and Japanese people who are interested in China-related affairs, it provides travel, business, cultural and other information.

Online services

The rise in broadband penetration has helped to increase the number of people using online services. A tipping point may be reached with the introduction of e-government services by many local governments. Distance education, e-commerce and other online services, combined with the wide-spread use of broadband and e-government, may bring the Internet much closer to everyday life, especially at the local community level.

E-government

Japan's level of development in e-government was ranked 17th among 23 countries surveyed by Accentur <http://www.accentur.com>, and 27th among more than 140 countries surveyed[8] jointly by the United Nations Division for Public Economics and Public Administration and the American Society for Public Administration in 2002.

The government is investing significant resources in e-government programmes at both the central and local administrative levels. In April 2002, interconnection between the central government network and the local government WANs was established.

A highly controversial programme for building a nationwide unified database network system containing basic registration information about citizens was implemented in August 2002. This network allows all municipalities and central government agencies to share the basic residential registers network systems, which contain the names, addresses, gender and dates of birth of all registered citizens. The government rationale is that it will help create an information infrastructure that is essential for improving the efficiency of local administration. However, some citizens' groups feel that this programme is an invasion of privacy in view of the lack of privacy protection legislation, which was debated in Congress but not passed before the introduction of the new network system. A number of local governments, including the City of Yokohama, expressed their serious concerns to the central government and have decided not to interconnect their databases, as mandated by law, nor permit their residents' private data to be included in the central database.

In spite of this, many local governments are implementing new online applications to deliver administrative services to their residents. These include downloaded forms for various purposes, filing online tax declarations and returns, online procurement, and online public comment and participation in policy-making processes.

Distance education and e-learning

According to a survey by the *Internet White Paper*, 48 percent of institutions of higher education are providing courses over the Internet and another 20 percent said they were providing courses on an experimental basis. These courses are provided mainly via websites and e-mail. A few of them are conducting courses via real-time or live video classes. The School of Internet (SOI) programme[9] by the Widely Integrated Distributed Environment (WIDE) Project, a pioneering initiative on the Internet in Japan, has been providing real-time lectures via video. The SOI project is aiming to develop a feasible method of delivering lectures from a distance using the latest Internet technology. It is also trying to determine the best mix and use of different technologies.

In 2002, special programmes[10] on IT, fisheries and maritime subjects customised for students from across Asia were provided by the University of Keio's Japan Advanced Institute of Science and Technology and the Tokyo University of Fisheries. This Asian programme originated from the Japan Associate Degree programme (JAD), which provides preparatory courses to students in Malaysia who are planning to enrol at Japanese universities. JAD has been expanded to include seven university partners in Thailand, Myanmar, Lao and Indonesia, countries where broadband connectivity is still in its infancy. They employ satellite links using uni-directional link routing (UDLR) technology with a receiver bandwidth of 6 Mb to achieve faster transmission at low costs.

E-commerce and e-business

The total market size of e-commerce in Japan in 2001 was estimated at 1,500 billion yen, or US$12.5 billion.[11] This figure included housing and real estate businesses, which accounted for 673 billion yen. However, real estate companies use their websites primarily for establishing initial contact with their prospective customers; the rest of the transactions are conducted in the traditional face-to-face manner. As such, the true value of the e-commerce market is approximately 800 billion yen (US$6.6 billion), still a sizeable figure.

The largest segment of the Japanese e-commerce market, in terms of sales, is automobile, accounting for 347 billion yen (US$2.9 billion). But the figure represents only 2.8 percent of all cars sold in Japan. Sale of PCs and related products reached 148 billion yen or 12 percent of the total market share for these products; this is the highest share for e-commerce for any one category of goods and services in the country. In terms of sales volume, the largest is automobiles, followed by real estate, travel, entertainment, general goods, financial services, clothing and accessories, and food. Books and music registered only 34 billion yen in 2001.

Some of the major players of B2C e-commerce in Japan include:

Rakuten <http://www.rakuten.co.jp>: This is the largest online mall in Japan providing both B2C and B2B e-commerce, including auction, travel and general retail with more than 8,000 "tenants".

Yahoo Japan <http://www.yahoo.co.jp>: The most visited portal site and the leader of online auction, it leverages business from its vast number of visitors.

Amazon <http://www.amazon.co.jp>: The Japanese operation of Amazon.com started in 2001 and has become the number one online bookseller in Japan.

e-Bay, the leading auction shop, retreated from the Japanese market in 2002 after a two-year presence.

E-conference and forum

E-conferences or forums, such as PC-VAN or Nifty-Serve and many community-based BBSs, used to be very popular before the Internet came of age in the 1980s. However, with the introduction of the Internet and the World Wide Web, the energy and sense of community were absorbed by the new and more fashionable trend of creating personal webpages, and e-forums became less popular.

COARA <http://www.coara.or.jp>: This is one of the earliest locally based conference services, which started in 1985 in Oita. It is well known for its innovative approaches to new technologies and services and its strong advocacy of citizens or netizens. In 2000, COARA spun off a new commercial company to serve Fukuoka, a large metropolitan city in Kyushu Island, and started to provide both ADSL broadband services and content.

@Nifty <http://www.nifty.com>: @Nifty was originally established in 1987 as Nifty-Serve. It obtained a licence from US' CompuServe to provide online forums using dial-up connections. It has since transformed itself into an ISP with a large portal site serving a range of content, some free and some subscription-based. To many, its membership-based forum remains its core value.

2-Channel <http://www.2ch.net>: This is the largest online forum of its kind, similar to slash-dot-com. This collection of online BBSs is known for its radical, sometimes controversial, provocative and anarchic content with hundreds of thousands of users. It represents a new subculture made possible by the Internet.

E-community

There are quite a few e-community sites in Japan. Among them, the following are well known and attract many users:

Yubitoma <http://www.yubitoma.co.jp>: This is the largest alumni site in Japan with more than two million registered members. It was originally conceived by Ms Kokubo as a free voluntary service but has since become a

for-profit business providing various web-based solutions, which help to sustain the other free services that it continues to provide.

EGroups <http://www.egroups.co.jp>: The Japanese version of eGroups began in the USA by providing free mailing list service. eGroups was acquired by Yahoo and is now integrated into the Yahoo Japan website.

Geocities <http://www.geocities.co.jp>: Personal website hosting made Geocities very popular. This is again adopted from the US model and has been acquired by Yahoo.

EWomen <http://www.ewoman.co.jp/e/index.html>: eWomen focuses mainly on "smart consumers" in Japan, who form an online community of working women and working mothers.

Select bibliography on Japan

Internet White Paper
This is a Japanese language publication edited by the Internet Association of Japan <http://www.iajapan.org> and published by Impress Corporation <http://www.impress.co.jp>. It is a reliable and very convenient annual publication providing useful data and analysis on user demographics, market trends, social issues, and the international status of the Internet.

Prime Minister's Office official website
<http://www.kantei.go.jp/foreign/index-e.html>
The first website by a Japanese government agency was launched in August 1994, a few months before the site of the US White House was launched. This website provides key information from the government, including comprehensive links to all government-related websites.

Statistical Handbook of Japan
<http://www.stat.go.jp/english/data/handbook/index.htm>
This book provides statistical tables and charts on demographics, economic and social trends, and culture. Most of the data are drawn from principal statistical publications of the government and other leading sources. It is published annually in August or September.

IT Indicators in Japan
<http://www.stat.go.jp/english/data/it/index.htm>
This compendium contains basic statistical data about the recent diffusion of IT within the Japanese society and economy. It discloses major statistical data about the infrastructure, usage and impact of IT. It covers households, enterprises, governments and schools. It also describes the sources of its data.

Communications Industry Statistics
<http://www.johotsusintokei.soumu.go.jp/english/index.html>
This site of the Ministry of Home Affairs, Public Management, Posts and Telecommunications offers basic statistical information about the communications industry in Japan.

GLOCOM <http://www.glocom.ac.jp>
This NGO was founded in April 1994 by an independent social science research institute. Its website provides observations on information society-related issues and topics.

Notes

1. The late Prime Minister Obuchi was keen to push ICTs. After his sudden death, his successor, former Prime Minister Mori, accelerated this policy thrust. The current Prime Minister, Koizumi, although known as a "reformist" leader, is himself not the key driver of the national ICT policy.

2. An additional ISP fee of about US$15 is charged, thereby making a total of about US$35, or less than 5,000 yen per month.

3. Internet Association of Japan (2002). *Internet White Paper 2002.* Impress Corporation.

4. The number of personal handyphone system subscribers was 5,645,000 in August 2002, representing a slight decline when compared with the previous year.

5. <http://www.kantei.go.jp/foreign/it/network/0626_e.html>.

6. Shimpei Toyofuku of GLOCOM derived these figures from a survey by the Ministry of Science and Education.

7. Most of the Korean Japanese in Japan now use Japanese as their everyday language, but they are trying to preserve their culture by educating the younger generation in the Korean language.

8. "Benchmarking E-Government: A Global Perspective", <http://www.unpan.org/e-government/Benchmarking%20E-gov%202001.pdf.

9. <http://www.soi.wide.ad.jp/contents.html>.

10. <http://www.soi.wide.ad.jp/class/20010030/>.

11. Internet Association of Japan (2002). *Internet White Paper 2002.* Impress Corporation.