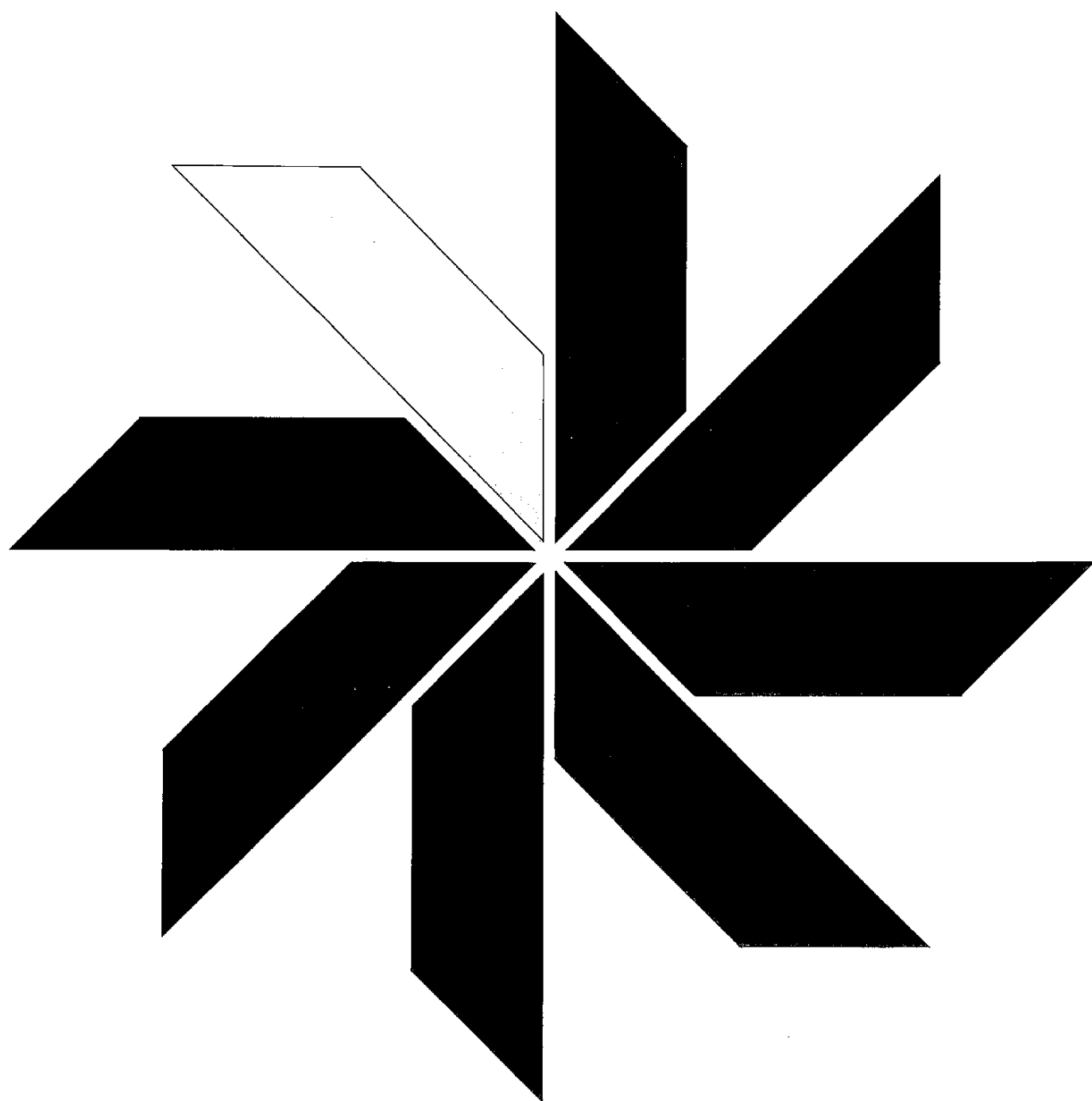


Databases in Japan

1999



Database Promotion Center, Japan

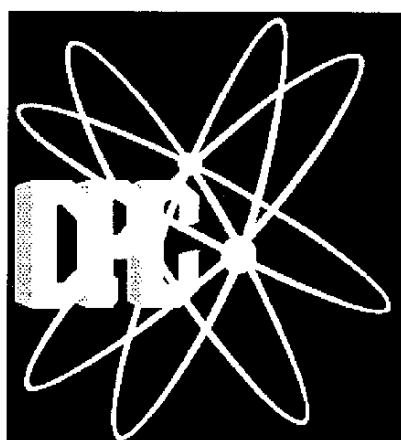
Database Promotion Center, Japan (DPC) was established in 1984 with the information suppliers, users and related industrial circles approved by the government. DPC is a non-profit organization aimed at the promotion, research, production and dissemination of database services worldwide.

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This work was subsidized by the Japan Keirin Association through its Promotion funds from KEIRIN RACE.

Databases in Japan 1999



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I. Present State of Database

1. Supply State of Commercial Database

1.1 Supply Status of Database Services

According to the "1997 Survey of Selected Service Industries," published in December 1998 by the Ministry of International Trade and Industry (MITI), the total sales of database industry in Japan in 1997 increased by 9.5% from the preceding year to ¥257.8 billion, thereby exceeding the record level of ¥22.4 billion achieved in the previous year. While the growth rate does not equal the growth rate of 19.6% achieved in 1996, when the increase was partly due to a modification of the types of companies covered. With the rapid increase in the ranks of users of the Internet, and progress of networking, and improvement of the access environment for databases overall, the market continued to expand steadily.

However, according to the "Statistics on the Dynamics of Selected Service Industries" conducted by MITI, which analyzes the market trends in the recent period, the sales in some industries such as the finance industry began to decline in 1998 in comparison with the preceding year partly due to the continued economic recession, and, so, the growth rate in 1998 is expected to slow down.

According to the "1997 Database Directory" published in August 1998 by MITI, the number of commercial databases accessible in Japan in 1997, the actual number of commercial databases that can be used in Japan in FY1997 declined sharply by 22.4% from 3,350 of the previous year to 2,598. After the start of the survey in 1982, the number reported has been increasingly without a letup, but in FY1997, the growth rate turned into negative for the first time.

This is due to the fact that some of the major dealers and agencies in Japan re-examined the use of some of the databases produced overseas, which led to the decrease of databases produced overseas from 2,185 to 1,355. Thus, the ripple effects of the economic recession brought about a change in the pattern in the distribution of databases. In the component ratio of overseas-made databases and domestic databases (numbering 1,243), the overseas-made databases made up 52%, thereby still maintaining a superior position.

1.2 Utilization Status of Database Services

When we analyze database users based upon the money value of use according to the "Survey of Selected Service Industries," business companies and corporations continue to play an overwhelmingly dominant role, by far. However, in terms of type of industry, while the financial and insurance industries continue to occupy the top position in FY1997 with 45.3% share, its share has been declining in the past several years. The financial/insurance industries are followed by

information service providers, other service industries, and public service agencies. Users in the construction industry and manufacturing industry declined significantly.

According to the "Survey on the Status of Japanese Database Services (Vendor Edition)" conducted by Database Promotion Center (DPC) in the fall of 1998, 67.5% of the business companies covered by the survey responded that they use commercial databases, which is an increase of 2.1 points from the previous year's figure, and which indicates that the user strata for database service are continue to expand and broaden. Those commercial databases having the largest monetary amounts of usage consisted of Nikkei Telecom, JOIS, PATOLIS, DIALOG and NIFTY-Serve in that order.

As in the preceding survey, the well-established database systems continue to occupy upper-ranking positions. Domestic databases enjoyed a high ratio of use in "enterprise finances/enterprise information" (No.2 rank last time) and "newspaper/magazines/news" (No.1 rank last time). And "enterprise finances/enterprise information" occupy the top position for the type of commercial databases that respondents want to use in the future.

1.3 Internet and Database Service

With the truly explosive growth of the Internet, the world of electronic media is undergoing changes at a dramatic pace. All the different media have moved into Internet business en masse, and some data broadcasting service that include audio and visual data have made their debut on the Internet as well. According to the "Survey on the Status of Japanese Database Services (Vendor Edition)" implemented by the Database Promotion Center in autumn of 1998, 43.5% of the (database service) companies covered in the survey provide services via the Internet at the present time. In addition, 21.2% of the companies are "in the planning stage" of providing such service. Thus, in the near future, two-thirds of the vendors will be providing services on the Internet. Given the dominant trends in the environment of informatization, the Internet is bound to consolidate its position as the mainstream distribution channel.

According to the "White Paper on the Internet-1998," the number of Internet users in Japan has surpassed the big 10 million mark, and the total is expected to reach 13.85 million by the beginning of 1999. The Internet itself is a tool for promoting the contents of the distribution, and so, the rapid increase of "network population" is likely to push up the reserve strata of users of the database industry. We can consider this development to be a factor for broadening the user base, and as a fair wind for the database industry.

2. New Database Trends

2.1 New Trends of Commercial Services

There are two models for database businesses seeking to make profits on the Internet: the type which seeks to make "advertising revenue," on one hand, and the type which "provides information for use-fee based upon a membership system," on the other. In this report, the former is defined as "ad contents" business, while the latter is defined as "sell-contents" business. The core of "ad contents" is portal site, which is first displayed when the user accesses the Internet; that is, it is the web site which is used by the user frequently as the "entry point" into the Internet. This type of business is believed to have a significant future promise for development of advertising with a high level of effectiveness in attracting customers, and /or to draw users to home pages for electronic commerce, and thereby earning revenues in the form of brokerage fee, etc.

Yahoo! is one example of success of such a portal site. In particular, its service called "My Yahoo!" which edits linked information sources on an individualized basis has captured a large number of users. Now, in order for a business to be successful on the Internet, three C's are considered to be necessary, namely, "Customizing," "Community," and "Commerce," and among these, "Customizing" function, which enables the provider to "customize" specific types of information suited individual users, from a vast reservoir of information available, makes a great contribution.

In the area of supply of customized commercial database, Nihon Keizai Shimbun started "Nikkei Telecom 21" in September 1998. Included in this business are "My News" where news flashes and newspaper bulletins that deal with the registered themes are "clipped" and provided to the individual users, and mail distribution of the latest news, etc. When especially important news breaks out, a "special Extra mail" is distributed as well.

JUST SYSEM, for its part, began an information search service for newspapers and business magazines called "News Trek," which uses search of natural sentences on the Internet, in September 1998. In its "News Clipping Service," if the user registers the necessary conditions in the form of natural sentences, appropriate articles can be received via mail transmission or on the Web. In the area of search for articles, the service can display related articles in the order of relevance, and make it possible for the user to search again for articles that handle similar contents, based upon the results of the initial search.

In November, G-Search has begun to provide a new, "push-type" service "Priority One." One salient characteristic of this service is that the users can have his own home page, where he can register the databases that he uses often, and also register the themes that he is interested in knowing, beforehand. This personalized service will display relevant information that matches with the registered themes, and notifies the user accordingly, etc. This service, thus, ensures that the user does not overlook or miss relevant data that is available.

In the area of levying and collecting charges on the Internet, purchase of contents that use the ISP's (Internet Service Provider's) payment settlement system is becoming established. One characteristic is that such a system is developed in the form of expanding ISP's system for computation of connection fees. With this system, the user pays the purchase price along with the monthly connection service fees to the provider. When the user makes a purchase of contents, there is no necessity for him to make a separate registration of the payment settlement method. Given the convenience, the use of this type of system is spreading very rapidly.

Nihon Keizai Shimbun makes use of the type of charging system used by NTT's home page search service called "goo," and expanded its information search system for newspaper articles, etc., to consumers at large. Starting in May of this year, the company has started this service, and under a new service called "Nikkei goo," a charge is levied each time that data search is conducted, according to the volume of data, and payment is settled with a credit card. The company says that it will also adopt a payment method of adding on the charges to the telephone bill, on an experimental basis. Thus, Nihon Keizai Shimbun is working to expand user strata beyond corporate members, and to gain small users, and this effort is watched with interest.

2.2 Database Utilization among Industries, Corporations and in the Field of Domestic Culture

(1) Heightened interest on SCM

SCM (Supply Chain Management) is a management technique which makes full use of database and information network technology, and which manages flows of information as well as the products throughout the entire process of business transaction, from production to distribution and to sales. It seeks to achieve efficient management without any inventory and any waste. Put another way, SCM aims to develop a business enterprise system of production of many varieties of products in small quantities, that can deal with a business environment where fast-selling items changes at rapid pace. Dell Computer's method is a notable example of successful use of SCM, which has achieved a rapid growth through production of personal computers on orders received, and their direct sale.

Dell Computer makes a demand forecast based upon the current sales situation on a daily basis, and this data is sent to the parts makers, which serves to keep down the inventory level to the minimum. As a result, the company does not keep any inventory of parts beyond the necessary level. Customers' orders are received directly via the Internet, and based this data, production instructions are issued to the relevant plants immediately. Thus, products are supplied without waste of even one unit. Shipments for Japan are made directly to the customers from the company's plant in Malaysia via Federal Express, with which Dell has a business tieup.

(2) Unique databases in the field of domestic culture

As we can see in the development of the virtual bookstore "Amazon.com," the ranks of users of on-line bookshops through which they can order books via the Internet have been increasing. Sites that provide consumers with information on books are very popular in Japan as well, and, in response to this, for example, Nihon Shoseki Shuppan Kyokai (the Japan Book Publishers Association, abbreviated hereafter as "Shokyo") will renew its home page "Books" starting this summer. This is a book search system based upon a database of "Nihon Shoseki Somokuroku" (Comprehensive Catalog of Japanese Books), which is estimated to cover more than 95% of all publications issued in Japan. As of now, about 550,000 items that were published up to 1997 are included, but because information on the latest publications is missing, it has been used mostly by persons connected with universities and libraries.

Shokyo is planning to renew this system by adding new publications to the system so that users will be able to search for them via "Books" from July 1999. In the future, the group intends to update the system periodically so as to improve the up-to-date quality of the system even more.

In another area, JASRAC (Japanese Society for Rights of Authors, Composers and Publishers) is working to develop its database on music with the aim of deepening the public's understanding of copyright in the field of music. JASRAC has developed a database on about 1.48 million pieces of music that have been performed in Japan as its internal data, and it has been using this data for work related to payment of copyright fees, etc. But starting in May of this year, it is planning to open to the public in its home page the code of musical works, title, copyright holder, music publisher name, and artist name, for about 1.15 million works for which processing of rights has been completed.

In the field of sports, where the battle for information is often said to play a decisive role in determining the outcome of competition, the question of database has become a topic of much attention. Asobouzu, a venture enterprise handling analysis of sports information, is already transmitting data on official games of professional baseball via the Internet on a live basis, and displays relevant data for each throw and batting as the game proceeds. From this April, it is providing various types of data for CS broadcasting, and from May, it will provide golf instruction to members via the network, in a tieup with IBM Japan.

3. New Technology Creating New Services

3.1 GIS with Expanding Uses

GIS (Geographic Information System), which combines various types of relevant statistical data (spatial data) with the map, and thereby supports varied functions such as spatial search and visual display, is being used increasingly. There are more and more efforts to develop new systems with

its use. For example, one system links digital maps with GPS (Global Positioning System) for a more efficient dispatching of taxis. In addition to the conventional uses such as development of infrastructure in cities, and management of "life-line facilities," the use of GIS has become broader to include support for drawing up of plans for opening stores, area marketing and physical distribution.

One well-known example is "McGIS" developed by McDonald's Japan. This system accumulates various relevant marketing data such as area population, age composition, number of passengers using nearby railway stations, etc., and use this data to analyzes each trading zone, in order to identify the most promising "vacant areas" for opening up new stores. The major general contractor Obayashi Corporation uses GIS for simulation of damage situation in the event of an earthquake directly beneath the greater Tokyo metropolis, in order to draw up a more effective plan for crisis management. By inputting the location of the epicenter, the scale of the earthquake, etc., the user can quickly gain a grasp of the damage situation that can be expected.

In the recent period, with an impetus provided by the dissemination of the Internet, and development of GIS network, its uses has become even more widespread. Kokusai Kogyo Co. is now developing a software program which can deal with large-scale network, and produce three-dimensional display of graphic data.

Database Promotion Center (DPC), too, publicly solicited proposals for the "new GIS model projects promotion program," in July 1998, in order to disseminate GIS, and to vitalize related industries. The Center is making efforts to expand the scope of use of GIS, which is regarded with a high level of interest as a promising growth market of the future. DPC was commissioned by the Information-technology Promotion Agency (IPA) to implement this project as a part of the policy of promoting information industry funded by the 1st supplementary budget of FY1998 of the Ministry of International Trade and Industry. The aim of this project is to develop application systems that can be put on a commercial basis. The project covers the fields of marketing, distribution, public projects, medical care and welfare, chemical industry (environment), and disaster prevention. 13 projects were selected from a total of 133 proposals because of their advanced character, and high level of the economic ripple effects that can be expected.

3.2 Digital Graphic Data Distribution

In the past several years, there has been much progress in developing databases of graphic and image data, thanks to the improvement of digital information technology such as graphic scanner, digital camera, and CG (computer graphics). Also, the business of supplying high-precision graphic data has become fully developed for building systems that can supply multimedia contents that are now in increased demand.

In October 1998, Toppan Printing Co., Ltd., Hitachi, Ltd., and Asahi Shimbun jointed formed "Image Mall Japan, Co., Ltd." and the new company has begun to a business of trusteeship and sale

of digital image data such as art works and photographs. This company receives in trust the rights for digitalization and use of graphic materials from the copyright holders and owners, with which it builds a graphic database, and distributes the contents to publishing companies and software production companies. By carrying out an unitary management of various types of work necessary for implementation of rights on behalf of copyright holders, the company frees users from cumbersome negotiations for copyright use, etc. As such, this program has become one of the models for digital contents distribution business in the future.

In the United States, Microsoft's Chairman Bill Gates established Corbis in 1989 as his personal investment, and this company has been developing a database business with the method of purchasing the rights to digitalize works of painting and historical photographs. This company already operates a digital image distribution system using the Internet called "Corbis View." In the summer of 1998, it established a tieup with the information search service company "AltaVista", and has begun a new service with which users can search for photographs on the Internet, and download pictures for his postcard, home page, etc.

3.3 Electronic Book Experiment Using Communication Satellite

In the publishing industry, a pre-experiment will start for "Book-on-Demand," which will provide electronic books to users with the use of a communication satellite, in May. With the target of achieving practicalization by the year 2000, various publishing companies are storing electronic book data at the distribution center, for direct distribution to subscribers, and for transmission to information terminals set up at sales bases in bookstores and convenience stores. Readers can download the electronic data into high-density MD (mini-disk) instore, and read the book with the use of a special two-page spread, book-type terminal machine. In October 1998, "Denshi Shoki Consortium" (Electronic Books Consortium) was established for concrete discussion on practicalization of this project, with the participation of about 140 major publishing companies, bookstore companies, printing companies, etc. including Kodansha and Shogakkan.

4. Database-Related Administrative Trends

4.1 Progress in the Plan for Promoting Administrative Informatization

The "Plan for Promoting Administrative Informatization" (established by Cabinet Decision on December 25, 1994), which started in FY1995, aims to promote informatization of clerical and project-related information in government administration, and to achieve simplification, increased efficiency, advanced administrative management, and reduced burdens for citizens, and improvement of administrative services. The plan was revised in 1997, and the revised basic plan is a five-year plan covering FY1998 to FY2002. The plan stipulates the objective of "moving from information management based upon the use of paper to electronic information management

based upon full use of networks, through further informatization of administration. Thereby, it seeks to achieve a highly informationized administration, that is, an "electronic government" at the beginning of the 21st century."

The revised plan classifies the tasks into three categories: (i) Promotion of informatization of administration to keep in step with the progress of Information Society (informatization of points of contact between the private and public sectors), (ii) simplification and increased efficiency of administrative work and projects through active use of IT, and upgrading of administrative operations (viz., informatization within the administrative agencies themselves), and (iii) development of an infrastructure for implementation of informatization. Concrete measures are developed in each category.

4.2 Moves Toward Establishment of the Law on Publicity Administrative Information

The legislation of the Law on Publicity Administrative Information, which will oblige the national government agencies of Japan to open up administrative information including internal documents as a rule to the public, was passed by unanimous support in the plenary session of the lower house of the National Diet on February 16, 1999, after the approval of a joint amendment proposed by the ruling and opposition parties. The bill was now expected to become a law. In this legislation, it is clearly stated that "the government has the obligation to explain its various activities to the people." It is expected that opening up the documents in the hands of government agencies will help to make government administration more transparent, and will facilitate the turn to a more open up of administration.

In the legislation on open access to government information, "administrative document" is defined as "a document, drawing or electronic-magnetic record (record which is produced up by an electronic, magnetic, or some other method which others cannot recognized by sensation) that is drawn up by staff members of an government agency in the course of their work, or one that they acquire through work" (Article 2, paragraph 2 of the legislation), and so, it is not limited to a paper document. If the requirement that "it is used in an organizational manner by a staff member of the government agency concerned" (*ibid.*) is satisfied, then, even an electronic document becomes subject to a request for open access.

An accurate and appropriate management of such a broad range of administrative documents is indispensable for smooth implementation of this law on open access to administrative information. For this reason, Article 36 of the draft law includes stipulations regarding "management of administrative documents." Thus, preparatory work is underway today on the part of the government to develop "administrative document file management system."

4.3 Measures to Deal with Y2K Problem

The work of dealing with the Y2K problem in Japan began with the establishment in December 1997 of the "Liaison Committee of Concerned Government Agencies on the Problem of the Year 2000." In order to focus on the importance and urgency of dealing with this problem, and to get the entire country to become thoroughly informed and involved with this problem, "The Action Plan on the Problem of the Year 2000" was established by the Advanced Information Society Promotion Headquarters head by Prime Minister Obuchi, in September 1998.

Various measures required of business companies and other concerned organizations by the Action Plan were summarized in a number of points: First, necessary correction of computer programs should be carried out quickly. Next, a system that is closely linked with people's life should be designated as a "priority system," and a simulation test should be carried out by June 1999. The third point dealt with the importance of measures to deal with microchips. Fourthly, the organizations concerned should open up information on their own initiative regarding how they are dealing with this problem. Fifthly, the organizations concerned must draw up an emergency and crisis management plan to deal with erroneous operation and other accidents.

Following this, in January 1999, Prime Minister Obuchi issued instructions for drawing up a manual to promote development of a crisis management plan by business enterprise, and under the title of "Committee to Promote Measures to Deal with the Y2K Problem," the "Manual for Establishment of an Emergency and Crisis Management Plan for Business Enterprise" was made public in April 1999.

II. Trends in the Database Service Market

1. Size of the Database Market

1.1 Database Sales

According to "Survey of Selected Services Industries" businesses in the information services industry include "software development and programming", "on-line and off-line data processing services", "facility management services" along with "database services". Sales for the entire information services industry totaled ¥7.5880 trillion, an increase of 6.2% from the previous year. (Table II-1) Although sales had been decreasing through 1994 after peaking in 1992, grew dramatically in 1996, regaining the high level that existed in 1992, and in 1997, too, the sales is showing a steady growth. While the year-on-year growth rate has been slowing, the sales amount is at the highest record level."

In looking at individual types of services, "software development and programming", which is main information service area, demonstrated sales of ¥4.6685 trillion, up 9.6% from the previous year and it reached the big 60% mark in terms of sales component ratio. On the other hand, "on- and off-line data processing," which ranks second highest in sales amount, decreased 1% from the previous year to ¥1,041.8 billion, and its component ratio, too, has been declining somewhat in the past several years. Due to the wider dissemination of personal computers and packaged software, information processing work within each enterprise has been vitalized and stepped up, which, in turn, appeared to have reduced the demand for this type of service. In the information service overall, we can see a shift of the business content from information processing work to software development work. As for "facility management services," there is a heightened demand for outsourcing work related to information systems in the recent period, and so, this type of business grew by a high rate of 7.8% in 1997, following a big growth of 11.1% in 1996.

When we turn our attention to "database services," the sales amount in 1997 increased by 9.5% from the preceding year to ¥257.8 billion, which is the second highest rate of growth following that of "software development and programming." The "database services" reached the peak sales level of ¥216.0 billion in 1991, but declined for four years in a row. In 1996, however, the sales increased by 19.3% from the year before, setting the past record of ¥235.4 billion. And the sales continued to grow steadily in 1997 as well. (Fig. II-1.) However, the nearly 20% growth in 1996 was in part due to the change (an increase) in the range of business companies covered by the survey, and so, a comparison in a time series cannot be made in a simple way. Still, even after adjusting the scope of survey to make it comparable to that in 1995, the growth rate was still around 15%, and so, it is a fact that the market for this area is on an expanding trend.

Table II-1 Annual Sales by Various Information Service Sectors

Classification	1996			1997		
	Annual sales (¥100 million)	Ratio (%)	Change from the previous year (%)	Annual sales (¥100 million)	Ratio (%)	Change from the previous year (%)
Total	71,435	100.0	112.3	75,880	100.0	106.2
On-line and off-line processing	10,520	14.7	107.7	10,418	13.7	99.0
Software development and programming	42,591	59.6	115.2	46,685	61.5	109.6
Key punching and data entry	1,887	2.6	106.3	1,732	2.3	91.8
Machine time sales	437	0.6	125.6	443	0.6	101.4
Facility management services	3,960	5.5	111.1	4,267	5.6	107.8
Database services	2,354	3.3	119.3	2,578	3.4	109.5
Various types of research	2,490	3.5	104.0	2,666	3.5	107.1
Miscellaneous services	7,195	10.1	105.3	7,090	9.3	98.5

Source: "Report of the Survey of Selected Service Industries," MITI

On the other hand, we can see some weakening in the "Statistics on the Dynamics of Selected Service Industries," which serves as a leading indicator. Seeing that the sales figure in 1998 turned into negative in comparison with the previous year, and that the forecast DI also turned into negative starting in the third quarter of 1998, we can infer that the sales growth of "database services" will continue to slow down more in the future.

Table II-2 shows the changes in on-line and off-line sales within database services. Both on-line and off-line database service has grown strongly from 1996, and both categories set a record level sales in 1997.

Table II-2 Changes in Sales of Database Services by On-line and Off-line

Year	(¥1 million)		
	Total	On-line	Off-line
1994	198,839 (377)	150,671 (242)	48,168 (228)
1995	197,291 (336)	149,190 (215)	48,101 (199)
1996	235,439 (378)	178,939 (252)	56,500 (218)
1997	257,799 (383)	189,655 (259)	68,143 (217)

Note: Figures in parentheses are the numbers of businesses

Source: "Report of the Survey of Selected Service Industries," MITI

2. Distribution of Commercial Databases

2.1 Number of Accessible Databases and Companies Implementing Database Services

Information contained in the "Database Directory" is obtained as result of vendors reporting their result for the year. The "Database Directory" contained 193 vendors in the 1997 edition and the number of reporting business companies has been declining after reaching a peak in FY1992, but this time, it turned to increase for the first time in five years. The breakdown by type of enterprise was as follows: Producer-distributor companies (56), companies handling information search on commission (38), producer companies (34), and these types together form two-thirds of the total. As we can see, many business companies are serving more than one role concurrently.

The actual number of commercial databases that can be used in Japan in 1997 total 2,598, both domestic and overseas-made databases combined. This total registered a big drop of 22.4% in comparison with the previous year, which is in contrast with the increase in the number of reporting business companies. Ever since the survey began in FY1982, the number of databases continued to expand year-after-year, but, this time, the number declined for the first time. This is largely due to the fact that some of the major distributors stopped database services produced overseas. However, with regard to the component ratio, the overseas-made databases still comprise over one half of all database services. When we look only at the domestically produced database services that can be used in Japan, the total increased by 6.7% (plus 78 items) from the previous year. (Fig. II-2).

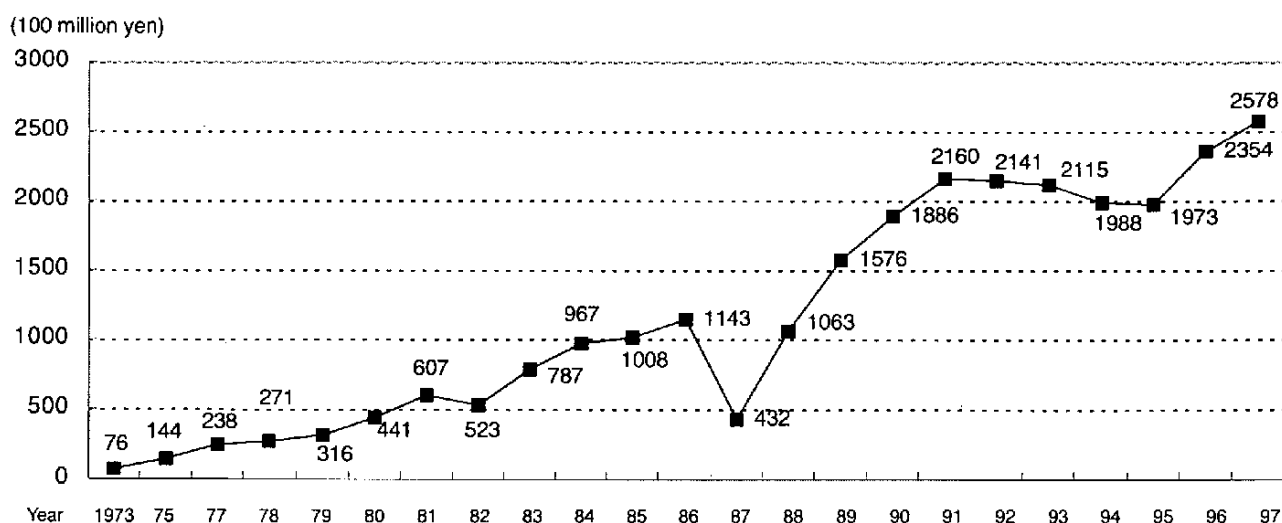
Table II-3 Distribution by Category of Databases Accessible in Japan (Based on Actual Numbers)

Subcategory		1989	1990	1991	1992	1993	1994	1995	1996	1997
General	General	62	66	70	69	69	75	82	78	76
	Newspapers, journals and news	192	231	287	322	373	412	469	444	393
	Who's who/Organizations	58	62	72	68	75	73	82	80	73
	Government administration	26	30	39	38	46	48	54	59	46
	Laws	65	67	56	63	67	80	76	77	46
	Politics	22	32	40	43	46	40	36	34	6
	Health and sports	10	9	14	15	27	27	33	35	27
	Travel and scheduling	6	8	7	8	9	8	8	8	12
	Recreation and leisure facilities guides	19	31	37	39	49	52	63	64	68
	Domestic culture and home life	7	10	9	12	20	24	29	31	45
	Dictionary and supplementary files	23	25	31	33	26	30	29	28	24
	Place names, maps and addresses	10	13	12	11	7	5	5	8	19
	Other	29	37	47	42	57	53	62	55	42
	Subtotals	529	621	721	763	871	927	1,028	1,001	877
Natural science and technology	General science and technology	60	73	74	73	61	58	68	68	68
	Patents	65	75	79	82	93	95	112	137	118
	Medicine, pharmaceuticals, biotechnology, biology	129	140	164	164	178	152	196	216	191
	Chemistry	94	97	111	101	106	106	121	121	96
	Physics	3	6	6	6	7	7	7	7	7
	Mathematics	3	4	4	4	3	3	3	3	4
	Electricity, electronics and information	81	115	114	130	128	128	134	138	36
	Machinery	11	14	16	18	15	19	21	22	14
	Construction (civil engineering, architecture)	13	18	17	18	19	18	22	24	18
	Space, earth and marine	20	21	22	28	31	32	35	32	12
	Atomic power	3	3	4	4	4	4	8	7	7
	Environment and pollution	45	50	46	48	55	51	55	53	21
	Energy and resources	24	26	33	41	48	61	62	61	17
	Agriculture	12	13	12	13	12	14	14	14	15
	Meteorology	13	13	12	12	12	5	4	5	9
	Metals and materials	20	32	39	38	38	33	38	38	31
	Food	8	9	9	8	12	12	15	13	7
	Fibers, lumber and pulp	5	5	5	5	4	4	4	4	5
	Other	22	24	28	23	19	17	21	22	14
	Subtotals	631	738	795	816	845	819	940	985	690

Source: Prepared from the "Database Directory," MITI

Subcategory		1989	1990	1991	1992	1993	1994	1995	1996	1997
Social Science and Humanities	General	10	11	8	9	10	6	12	13	12
	Education	17	15	12	12	12	10	11	9	5
	Sociology	6	8	11	7	7	6	6	7	6
	Vital statistics	20	26	28	32	34	39	40	43	50
	Law	1	1	2	1	2	2	2	2	4
	History and political science	2	2	2	2	4	5	5	6	2
	Arts (movies, music)	7	5	9	8	10	8	11	10	6
	Psychology	3	3	3	2	2	1	1	1	5
	Linguistics	3	2	3	2	2	2	2	2	4
	Philosophy	1	1	1	1	1	1	1	1	1
	Religion	9	9	8	8	8	7	6	6	1
	Other	2	6	6	6	5	7	8	7	4
	Subtotals	81	89	93	90	97	94	105	107	100
Business	General	62	77	95	93	109	110	105	118	118
	Marketing and products	102	109	130	132	120	121	133	139	116
	Economy (overseas)	108	71	86	73	71	68	71	70	48
	Economy (Japan)	76	82	86	89	87	92	84	79	101
	Corporate finance and profiles (overseas)	149	204	238	235	256	267	257	257	165
	Corporate finance and profiles (Japan)	66	72	78	88	88	92	82	79	80
	Accounting and management	10	10	13	15	16	17	31	29	19
	Finance, securities and foreign exchange	140	134	156	156	154	161	168	196	153
	Energy industry	38	8	8	15	15	13	17	19	5
	Communications and broadcasting	32	27	33	28	38	53	65	62	4
	Agriculture, forestry and fisheries	7	10	9	9	5	4	4	4	4
	Chemical industry	9	9	10	10	15	13	12	12	10
	Labor	8	6	7	6	9	13	13	17	11
	Education	-	-	-	-	-	-	-	-	0
	Architecture and construction	5	5	6	6	5	5	8	7	3
	Transportation	23	16	22	23	27	27	27	26	8
	Sales and services	7	7	15	15	15	16	15	13	1
	Distribution and real estate	8	10	9	9	7	5	4	5	5
	Other	31	39	61	57	69	83	78	71	24
	Subtotals	881	896	1,062	1,059	1,106	1,160	1,174	1,203	875
Others		6	10	15	71	61	61	61	54	56
Grand totals		2,128	2,354	2,686	2,799	2,980	3,061	3,308	3,350	2,598

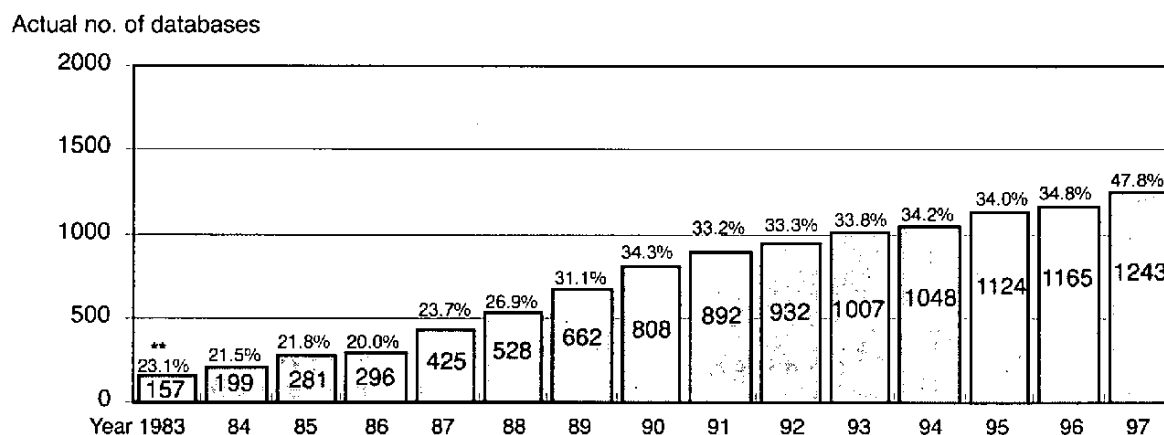
Source: Prepared from the "Database Directory," MITI



Note: In FY1987, a part of the business/industry classification was revised, and "Information supply service" was renamed "Database services."

Source: "Report of the Survey of Selected Service Industries," MITI

Fig. II-1 Changes in Annual Sales of the Database Service Industry



Year	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997
Actual no. of databases*	679	924	1289	1483	1795	1964	2128	2354	2686	2799	2980	3061	3308	3350	2598
No. of reporting companies	58	75	100	121	137	194	211	213	222	228	203	201	187	176	193

* The actual number of DBs in the table include those produced overseas.

** The ratio in the graph is the ratio of domestically produced DBs based upon the number of actual number of (all) DBs.

Source: Prepared from the "Database Directory," MITI

Fig. II-2 Changes in the Number of Databases Accessible in Japan (Based on Actual Numbers)

2.2 Distribution Status by Category

As stated above, with regard to the decrease in the number of databases, some aspects suggest that we should handle the figure this time as a singular figure, but when we look at the databases that can be used in different fields in Table II-3, we find that 877 are in general field (a decrease of 12.4% from the previous year), 690 are in the field of natural science and technology (a decrease of 29.9%), 100 are in social science and humanities (a decrease of 6.5%), 875 are in the business field (a decrease of 27.3%), 56 are in others (a increase of 3.7%). Thus, all fields other than "Other" declined.

When we look at the developments thus far, we find that while the component ratio of the business field has declined, the general field has been increasing, and in FY1997, they are about on the same level in terms of component ratio. However, smaller classifications of "newspapers/journals/news" and "people/agency information (who's who/organizations)" (in the general field) are used for business purposes to a significant degree, and so, some persons hold that these classifications should actually be added onto the business field. When the figures are revised according to this thinking, then, the business field comprises 51.6% of the total.

The component ratio of number of databases in small classifications are as follows: "newspapers, journals and news" (15.1% in component ratio), "medicine, pharmaceuticals, biotechnology, biology" (7.4%), "corporate finance and profiles (overseas)" (6.4%), "finance, securities and foreign exchange" (5.9%), "patents" (4.5%), "general business/industry" (4.5%), "marketing and products" (4.5%), "economy (Japan)" (3.9%), in that order.

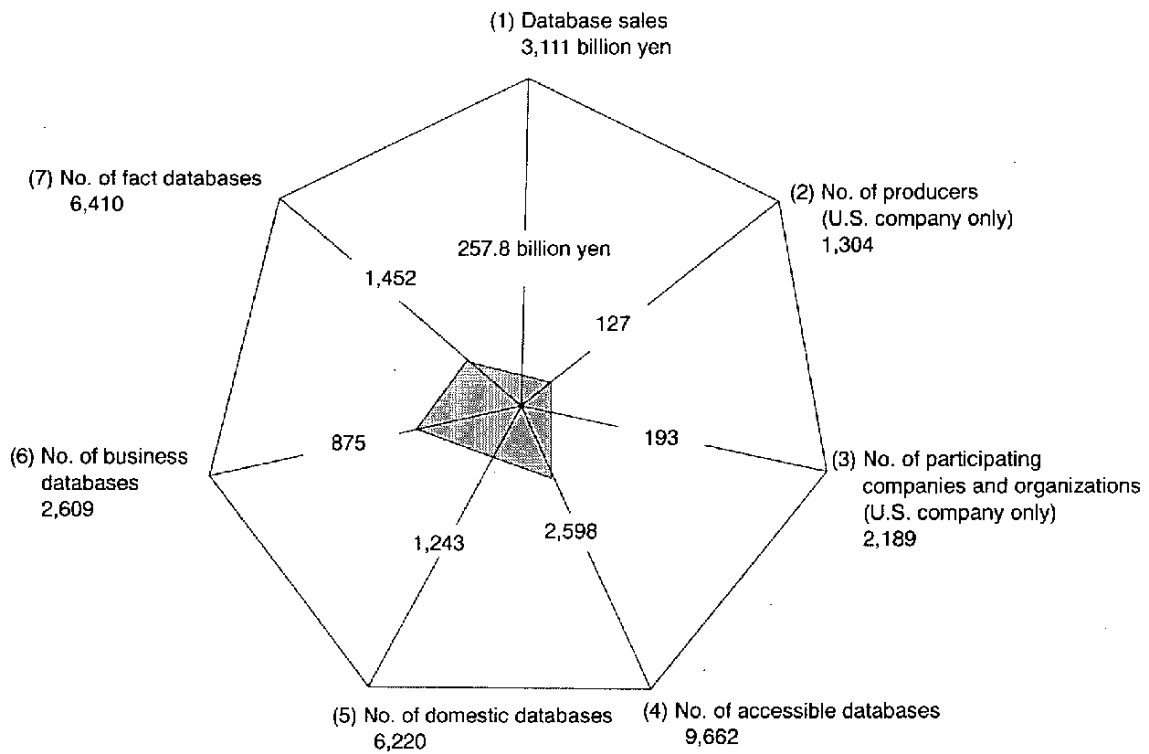
3. Comparison of Database Conditions in the United States and Japan

Fig. II-3 shows the size of the database industry and market in Japan and the United States. The U.S. is shown in the outside, while Japan is shown on the inside. Furthermore, comparison was made based on the seven parameters listed below.

- (1) Database sales
- (2) No. of producers
- (3) No. of participating companies and organizations
- (4) No. of accessible databases
- (5) No. of domestic databases
- (6) No. of business databases
- (7) No. of fact databases

Items (1) through (3) relate to the actual state of the database service industry, and are considered to be indicators of the strength of the database service industry. Items (4) through (7) indicate the distribution status in the respective countries. As we can see in Fig. II-3, the overwhelming superiority of the United States in both the power of the industry and distribution situation is patently clear.

Outer graph: U.S.
Inner graph: Japan



Note 1: Database sales for the United States indicate approximate figures calculated at the rate of ¥121.0 to the dollar based on data from SIMBA Information Inc. (including the Internet and CD-ROM), and represent worldwide sales of information service businesses based in the United States. Consequently, sales generated by Reuters, Reed Elsevier and so forth are excluded. Data for Japan was taken from the "Survey of Selected Service Industries" (1997 edition).

Note 2: Items (2) through (7) for the United States were compiled based on the paper by Martha E. Williams, excerpted from the January 1998 edition of Vol. 1 (On-line) and Vol.2 (CD-ROM, etc.) of the "Gale Directory of Databases". Data for Japan was taken from the "Database Directory" (1997 edition).

Note 3: Actual numbers are shown for items (4) through (7).

Fig. II-3 Graphical Comparison of Database Conditions in the United States and Japan (1997)

3.1 Comparison of Database Industry Strength

When we compare the capability of the database industry, the gap between Japan and the United States is even more overwhelming than the distribution situation.

First, with regard to the sales amount of database service, the gap between the two countries is has been expanding in these several years due to the high growth rate of the U.S. economy, and the

gap (in some indexes) became two-digit multiples in 1997. (Table II-4.) On the other hand, the number of companies entering and participating the market and number of producers in the United States declined recently, and so, even though there is still a gap of more than ten times, it has become smaller in comparison with 1996. However, despite the decrease in the number of companies entering and participating in the market in the United States, the number of databases there continues to rise. In Japan, even though the number of companies entering and participating the market continue to increase, the number of databases has been declining. When we consider this point, then, it is difficult to say that the gap in the power of the industry to provide database service has become smaller.

Compared to the U.S. where the foundation of the database industry has been firmly established for a long time, in the Japanese database industry, it is clearly difficult to establish a business by dealing exclusively in database services, as is clearly indicated by the large number of companies engaged in more than one business. Although a direct comparison cannot be made due to differences in the usage environment, including the balance between investment costs and demand and differences in communications costs, the fact that the difference between the two countries is not growing smaller is of the greatest interest. Since the database industry in the U.S. is constantly growing at a rate that exceeds that of Japan, and a growing difference in contents fields is resulting in a difference in the ability to use information, further promotion of databases in Japan is necessary.

Table II-4 Strength of the U.S Database Industry Relative to Japan (1997)
(Assigning a Value of 1 to Japan)

Criteria	1997 U.S.	1996 U.S.
(1) Database sales	12.1	9.6
(2) No. of producers	10.3	13.3
(3) No. of participating companies and organizations	11.3	14.1
(4) No. of accessible databases	3.7	2.8
(5) No. of domestic databases	5.0	5.5
(6) No. of business databases	3.0	2.3
(7) No. of fact databases	4.4	2.3

Note: Sources and calculation methods are the same as indicated in Fig. II-3.

3.2 Comparison of the Status of Database Distribution

Although the difference with respect to distribution status is not as large as that relating to industry strength, the differences between the U.S. and Japan for both have increased, in comparison with the previous year.

As stated early, even though the gap in the number of producers and number of companies entering and participating in the market has been shrinking, the gap in the number of databases has increased from 2.8 times to 3.7 times. While the domestically made databases are serving to

reduce the gaps slightly, the gap in terms of business databases and number of fact databases are large, and still growing.

III. Trends in the Database Service Industry

This chapter provides an introduction to the actual state of the database service industry in Japan based on tabulation of the "Survey on the status of Japanese database Services (Vendor Edition)" conducted each year by the Database Promotion Center (DPC).

This survey, October 1998, implemented a questionnaire survey on the number of commercial databases provided in FY1997, etc. among 191 business companies that are listed in "1997 Database Directory." There were valid responses from 109 business companies (a collection rate of 57.1%).

1. Type of Business of Database Service Business Companies

When we look at the database service businesses covered in this survey in terms of type of business, "information processing and information supply services" made up 42.2%, followed by "public service" making up 22.9%. "Public service" includes survey and research agencies and organs. These two types are followed by "newspapers and publishing companies" (15.6%), and "other services directed toward businesses" (12.8%) includes think tanks and ad agencies. While it is numerically small, "commerce" accounts for 3.7%, and so, we can see that a broad range of business types are participating in the database business.

According to the "Database Directory", many of the businesses of the database service industry of Japan are combination producers and distributor (FY 1997: 29.0%). It appears that these firms are engaged in the entire series of operations, from database production to processing, operation and supply, all deployed on an in-house basis. When businesses functioning as producers only, which account for 17.6%, are added to the above amount, the total becomes just under 50%. In addition, companies providing services as agencies are ranked second, accounting for 19.7% of the total.

2. Positioning of Database

Database service companies covering multiple business types were questioned about the positioning of their database businesses within their companies. 45.4% of those companies replied that it is currently their "major business". (Fig. III-1) On the other hand, 52.8% replied that it would be their "major business in the future". This, only a slight increase is expected as compared with the current situation.

In the previous survey (October 1997), 49.5% considered it to be the main business at the present time, while 53.3% considered it as such for the future. Thus, there is a slightly declining trend for both. It is not clear whether this is due to the current situation in which it is difficult for business companies to have a bright outlook socially and economically, or to some factors related to the database business itself. It cannot be denied, nevertheless, that the mind-set related to this

business itself has become somewhat toned down over the years.

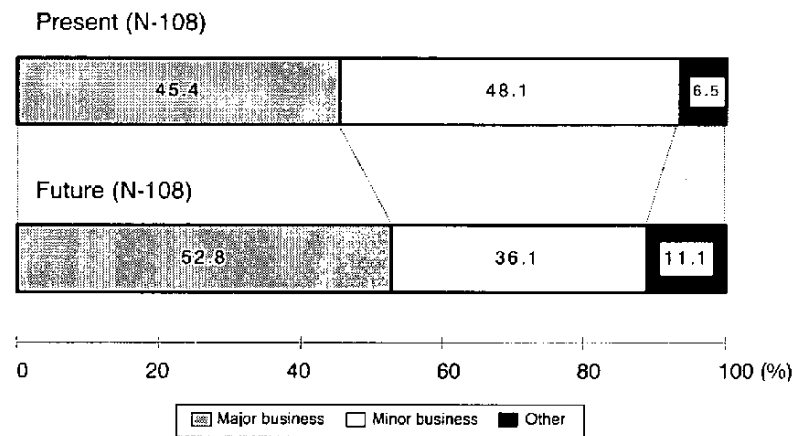


Fig. III-1 Positioning of Database Services

3. Sales of Database Services

3.1 Ratio of Database Sales to Company Gross Sales

If the question regarding whether it is the main business, referred to in the preceding paragraph, is used as the index to measure the subjective assessment of the database business operators regarding the business potential and future promise, then, the sales ratio becomes an important index for showing the objective situation at the present time.

As shown in Fig. III-2, the ratio (of database business) in relation to the total sales is 26.4% on the average, which is a big decrease from the results in the previous survey (31.4%). In looking at the distribution of database sales ratios, the most common reply was "Less than 1%" given by 29.2% of the replying companies. This was followed by "15-50%" at 15.3% and "10-15%" at 11.1%. The total number of companies that replied that the database sales ratio was less than 10% of gross sales accounted for 48.6% of all replying companies, indicating an increase of 5.7 points from the previous survey.

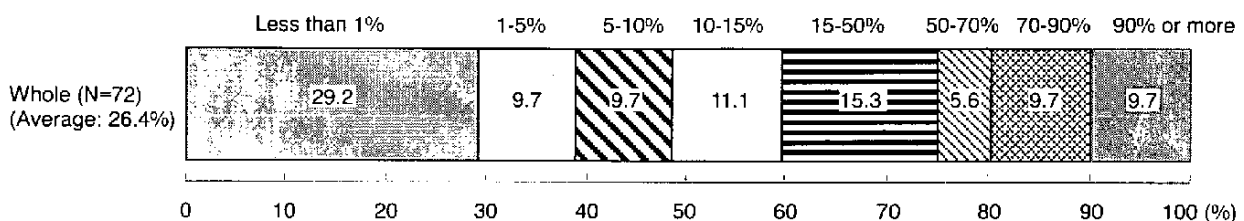


Fig. III-2 Distribution of the Ratio of Database Sales to Company Gross Sales

3.2 Ratios of Domestic and Overseas Database Sales to Total Sales

The ratio of sales of domestic databases to the total database sales was 88.6%, which shows only little difference from the last time (87.8%). The average for overseas-made databases is 11.4%, with 78.9% of vendors with the sales ratio of "less than 10%", and, so, there is a great deal of unevenness. Thus, we see that a limited number of vendors account for much of the sales. Ever since the survey was started in 1988, the proportion of sales generated by domestic databases has maintained a level of 85% or higher. Thus, there is no change in the fact that domestic database sales are the major source of sales for those companies recorded in the "Database Directory". Separate from the demand for overseas-made databases, the demand for domestic databases is basically growing, and can be said to contain considerable latent demand depending on the appeal of the service menu.

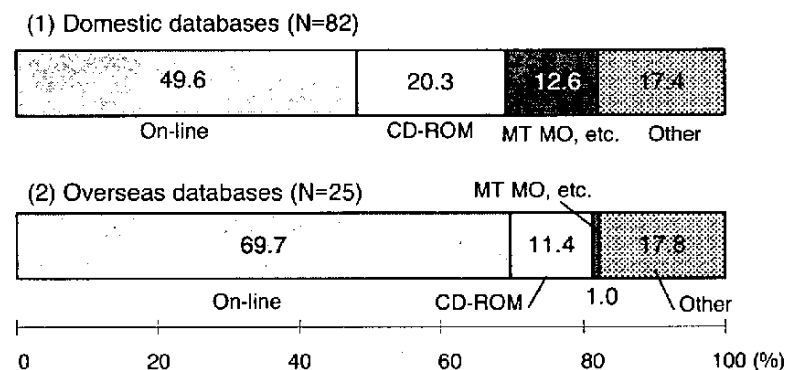


Fig. III-3 Ratio of Database Sales by Supply Form

3.3 Database Sales Ratio by Supply Form

As we can see in Fig. III-3, the domestic on-line database service has been moving up and down around 50% in the past several years, but this time, the figure declined by 2.5 points from the previous survey to 49.6%. On the other hand, CD-ROM increased significantly by 8.6 points in the last survey to 20.3%, but this time, it declined slightly. Still, it has maintained 20% range. These figures show that supply of a broad variety of CD-ROM products has helped expansion of the market. Similarly, both MT and MO increased by 3.0 points from the last time.

As for overseas-made databases, the ratio of on-line service has been higher than that among domestic databases over the years, and it has been moving in the range of 55% to 70% in the last several years, but this time, it rose by 8.2 points to 69.7% from the previous survey. CD-ROM's ratio has been rising gradually from year to year, and this time, it has climbed to a two-digit figure

of 11.4%.

3.4 Year-on-Year Changes of Database Sales

The average growth rate of database sales as compared with the previous year among 76 replying companies was 16.3%. (Fig. III-4). The growth rate this time (16.3%) was slightly higher than the figure last time (14.6%). And so, the trend of slower growth in the past several years has been turned around finally. While the ratio of vendors with a slower growth rate than in the previous year was larger this time than in the last survey (7.6% → 9.2%), the ratio of vendors with a growth rate of more than 10% increased (40.5% → 44.6%), which served to push up the overall figure. Thus, the gap and unevenness in the growth rate among business companies has become larger.

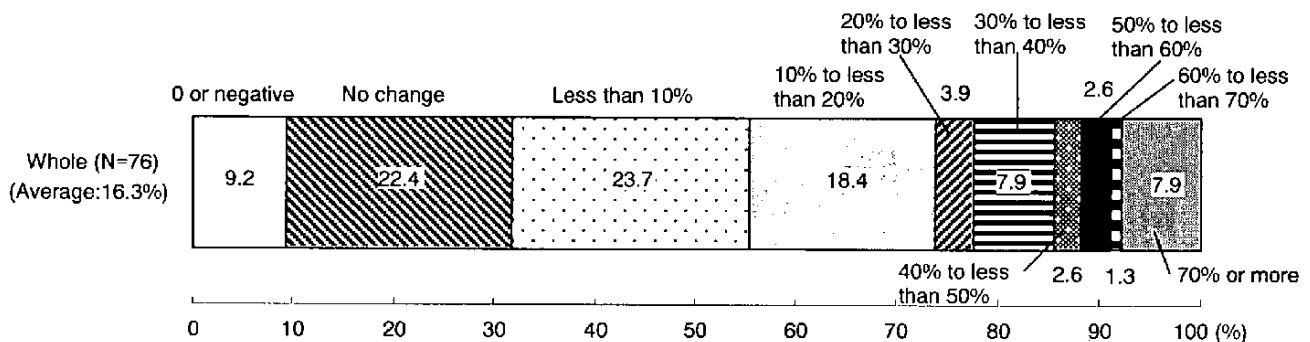


Fig. III-4 Distribution of Year-on-Year Changes in Database Sales

3.5 Estimated Average Annual Growth Rate of Database Sales for the Next 5 Years (Company Level)

When companies were asked to estimate the extent of database sales growth over the next five years, the average for 81 replying companies was an annual rate of 15.6%. (Fig. III-5). When we consider that figure declined by 5.5 points to 8.1% in the previous survey, we can say that the present forecasting mindset about the future opens up a brighter prospect. When we look at the spread of average growth rate, 33.3% or one-third of business companies expect a stable growth of "under 10%," which is the same as in the previous survey. However, one dramatic change is that the ratio of vendors who expect a drastic growth of "more than 20%" grew from 9.1% last time to 22.2% this time. This means that despite the severity of the business and economic environment, some vendors have a strong stance toward the future potential of the database business, in contrast to the results in the last survey.

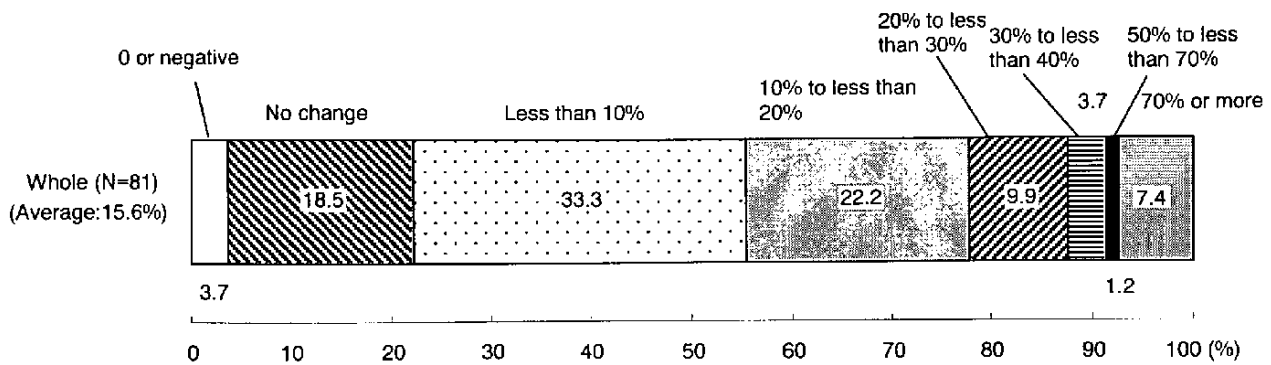


Fig. III-5 Distribution of Estimated Average Growth Rates of Database Sales Over the Next 5 Years (Company Level)

3.6 Estimated Average Annual Growth Rate of Database Sales for the Next 5 Years (Industry Level)

In this part survey, companies were asked to estimate database sales for the entire industry. The average of 74 replying companies was 18.1%, indicating a 4.1 points decrease from the results of the previous survey.(Fig. III-6). However, when we keep in mind that during several years up to two years ago, the industry was forecast to grow by more than 20% per year on the average, it is difficult to say that the expectation on the growth potential of the industry as a whole has recovered.

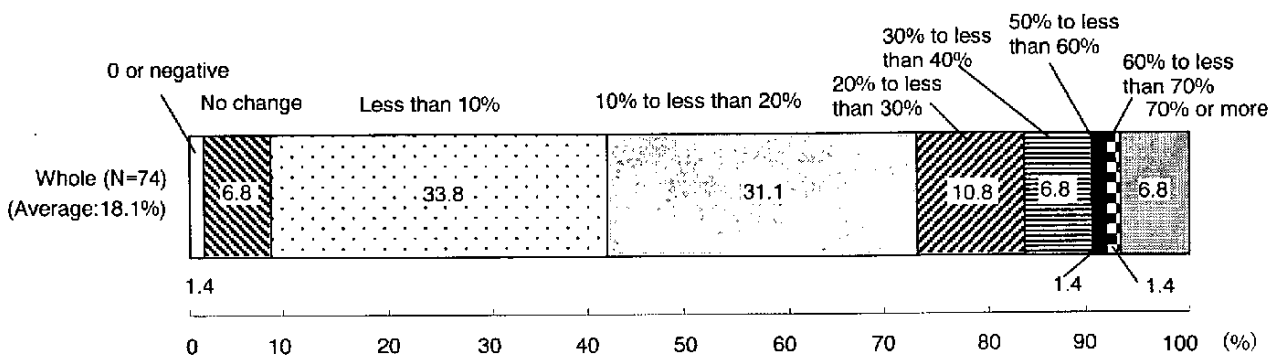


Fig. III-6 Distribution of Estimated Average Growth Rates of Database Sales Over the Next 5 Years (Industry Level)

4. Media with the Highest Expectations

This section describes three forms of media by which databases are supplied that are expected to exhibit the largest growth over the next five years. The results of replies relating to their growth rates are also analyzed.

4.1 Media with the Highest Expectations

The database supply medium which is expected to exhibit the largest growth as indicated by 93 replying companies is "The Internet", while the figure is slightly lower than the last time, it is still looked upon with a very high level of expectation (94.6%). (Fig. III-7).

This was followed by "CD-ROM" at 40.9%. However, since this only accounted for less than half the number given for "the Internet", the expectations being placed on "the Internet" are far above any other supply medium. The "personal-use portable information devices" has risen from the 5th rank last time to the 3rd rank in this survey. Expectations on the wider dissemination of mobile computer have been rising among business companies.

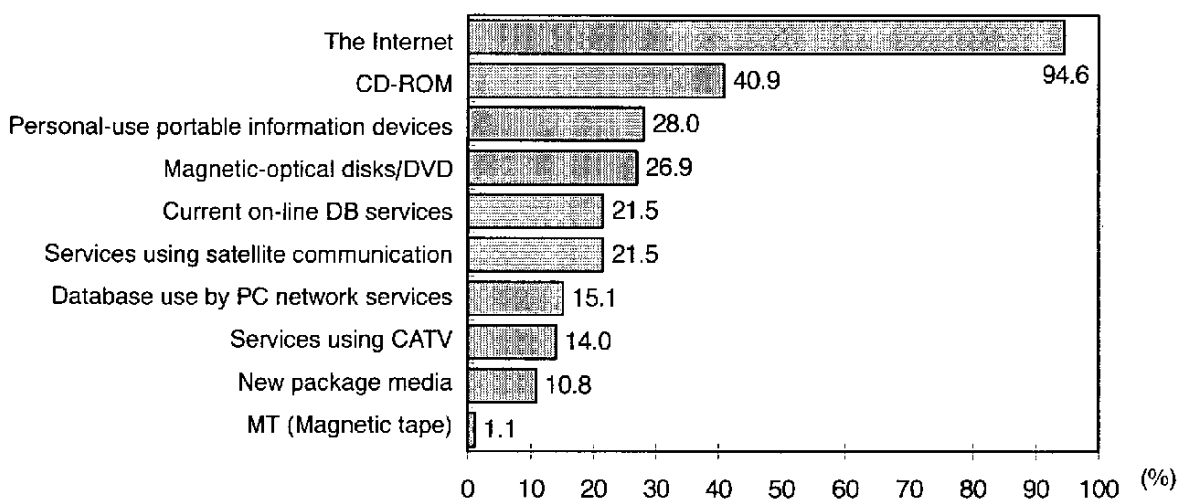


Fig. III-7 Media with the Highest Expectations for Growth Over the Next 5 Years
(N=93, multiple replies)

4.2 Predicated Growth Rates

When we look at the forecast on the average annual growth rate for various media, we see in Fig. III-8 that the on-line type media are in the upper ranks of expectations, namely, "services using CATV," "personal-use portable information devices," "the Internet," and "services using satellite communication," in that order.

When we compare the growth rates of these media over the years, we find the following trends in (the survey before the previous survey) → (previous survey) → (this survey): "services using

CATV” 39.0% → 42.5% → 70.5%, “personal-use portable information devices,” 48.2% → 40.0% → 68.3%, “the Internet” 66.3% → 44.9% → 47.5%, “services using satellite communication” 21.4% → 28.5% → 44.8%. Thus, the growth forecast on all the media except the Internet has been on the trend of rapid increase.

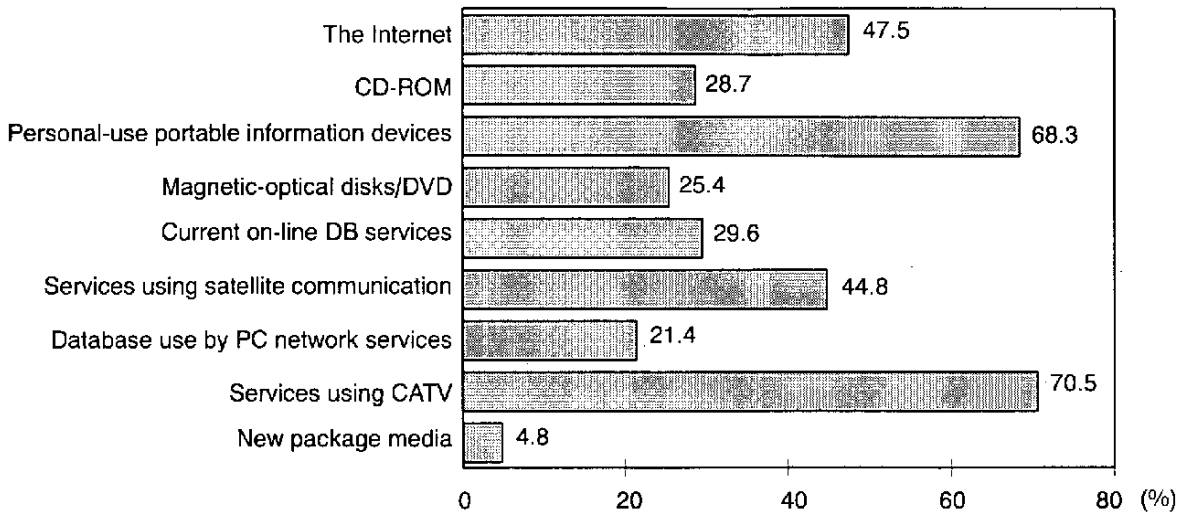


Fig. III-8 Estimated Annual Average Growth Rates of Media Expected to Demonstrate the Highest Growth over the Next 5 Years

4.3 Promising Supply Types of Data

Although there were only 29 replying companies, “Image” (55.2%) was indicated by a large number of companies as the data type which is considered to have potential as a database service of the future. This was followed by “Numerical data” (44.8%), “Character data” (44.8%). “Multimedia” was at a low level with 17.2%.

4.4 Future Areas of Apprehension and Concern

With regard to factors that are sources of uncertainty and anxiety for the development of database business in the future, 64.8% of all responding companies mentioned “worry about how the copyright for databases (intellectual property) will be protected” as the top item, which is the same pattern seen in the previous survey. The second concern was “the fear of public agencies exerting pressure upon private businesses by providing the data and information they collect to the public free of charge” (41.9%). These two were followed by “emergence of businesses (such as the Internet service providers) that provide some information service free of charge, as appendage to their main service, thereby causing a damage to businesses mainly engaged in providing data on a fee basis” (41.0%), and “inability to foresee how the Internet will develop in the future” (39.0%).

A common factor underlying these uncertainties and anxieties is the wide dissemination of the Internet. The fear that increased availability of all sorts of information on the Internet (free of charge) will pose a considerable threat to database service businesses. With the improvement of information supplied by the government and other public agencies via the Internet, "the fear of public agencies exerting pressure upon private businesses by providing the data and information they collect to the public free of charge" rose in rank from 4th position (33.7%) last time, to 2nd position with 41.9% this time. This fact is an indication of an important trend.

5. Distribution of Databases

In this survey, 83.6% of the 73 replying companies that are classified as producers supply databases on their own, while 46.6% are outsourcing distribution to other companies. Judgment from these data, there is also a strong tendency in Japan for many producers to also function as distributors. For the companies that rely on other companies for data services, the average number of companies they request for supply of data services declined by 3.3 companies considerably from the last survey (5.2 companies). When we look at the distribution, the largest number of companies (30.3%) responded that they request only "one company." (Fig. III-9)

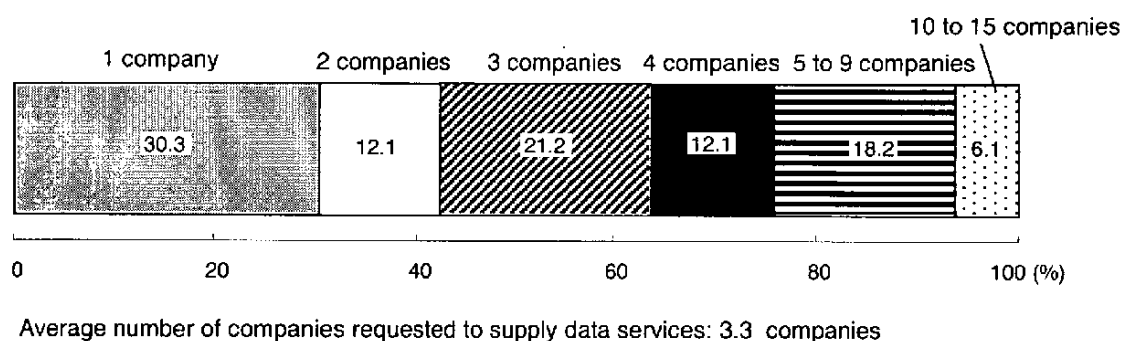


Fig. III-9 Number of Distributors that Producers Request to Provide Data Services (N = 33)

6. Problems in Database Construction

We asked producers to respond about problems they see in building a database, and their responses are shown in Fig. III-10. The awareness of problems related to high-cost was very high, and it relates to the top four items in their response. The highest increase from the last survey was achieved by "Difficulties in recovering the initial investment," which ranked third this time. This relates to the fourth item, namely, "Cannot set a prospect on the balance of revenues and expenses." These two items demonstrate that the producers are acutely aware of the great difficulties involved when a company builds a database and strives to make it profitable. Also, "the maintenance cost" is usually mentioned as the second item; so, we see that both the initial investment and the operational cost presents big problems in trying to make database service viable as a business.

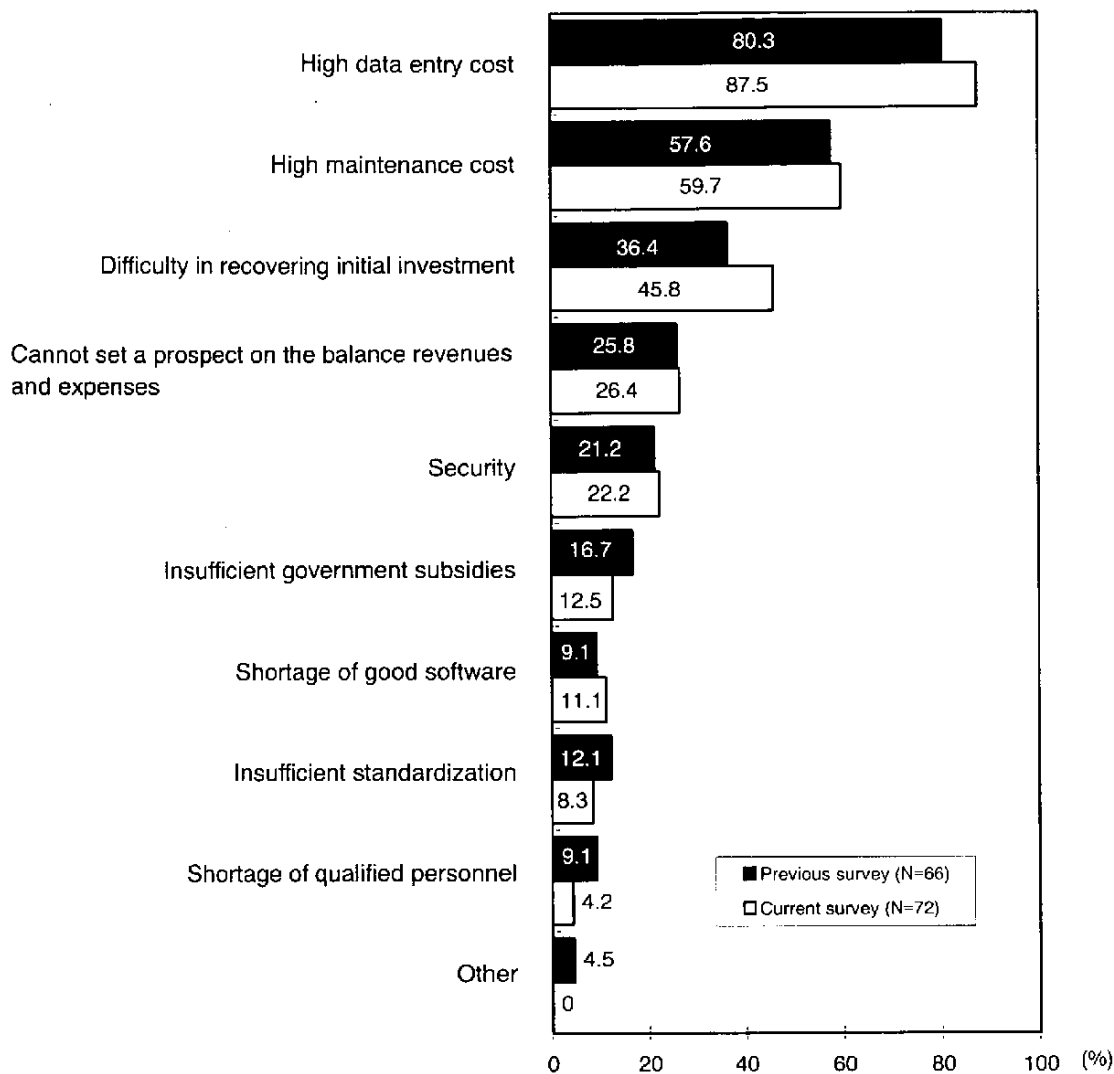


Fig. III-10 Awareness of Problems in Database Construction (multiple replies)

7. Utilization of Public Data

Public data refers to statistical data and documentary information (white papers, council reports, laws and ordinances, etc.) produced and published by government agencies and other public organizations. And as such, public data is highly reliable and has become a very important source of information. 53.3% of 75 producer companies responded that they "make use" of such public data. When we examine these companies in terms of business type, 58.3% of 24 companies which concurrently serve as producer and distributor said that they "use" such data. In contrast, 57.1% of 28 companies called producers that draw up databases themselves said that they "do not use" such data.

As for the reasons for use, the item “data is highly reliable” rose 9.3 points from the previous survey, and ranked at the top. (Fig. III-11) In contrast, the item “it is updated every year, or after a regular interval,” which ranked at the top last time, decreased by 11.9 points. Similarly, the item “this type of data, because of the scale of coverage, etc., cannot possibly be obtained independently,” also, decreased by 6.5 points from the previous survey.

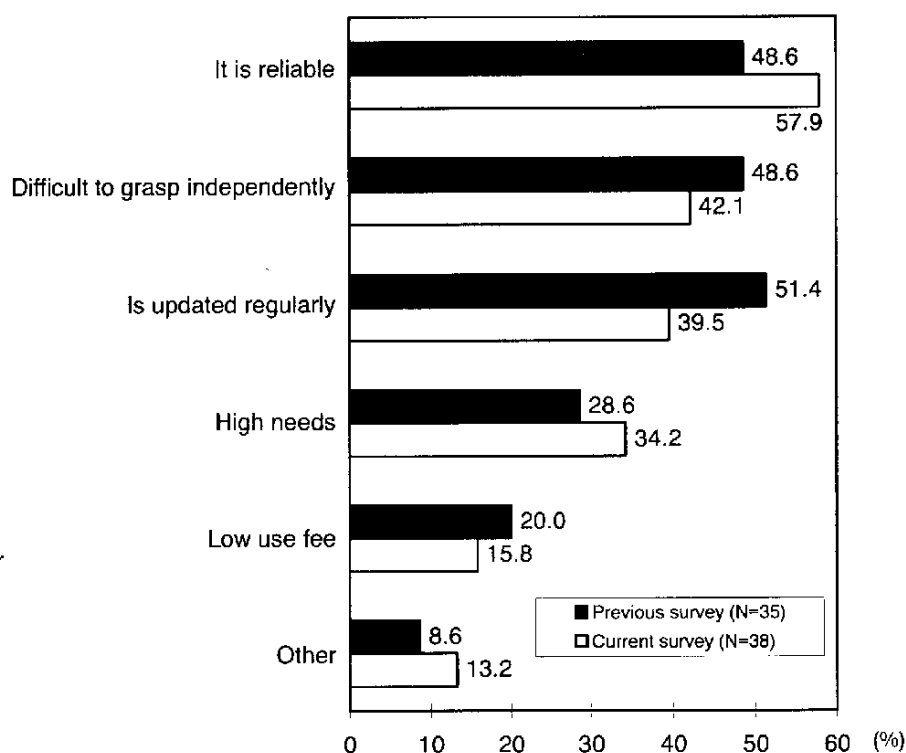


Fig. III-11 Reasons for Use Public Data (multiple replies)

What kinds of public data are they using? In the area of text data drawn up in characters, “Kanpo (Public Gazette)” continues to rank at the top, but “Patent Information” declined by 6.0 points, and “Collection of Legal Precedents, etc.” declined by 8.6 points, which is a matter of some concern. As for numerical data, all of the items mentioned in Fig. II-13 have increased in importance from the previous survey by 5 to 10 points. In particular, “Population, employment and labor” (an increase of 10.1 points) and “Related to business companies” (an increase of 10.4 points) showed a dramatic increase.

As for the problems faced in making use of public data, the item “the public data that we want to use is available only on paper, and not in a digital form” (47.1%), followed by “timing of public release and supply is delayed (data becomes old)” (44.1%). These two items account for most of the responses. (Fig. III-14).

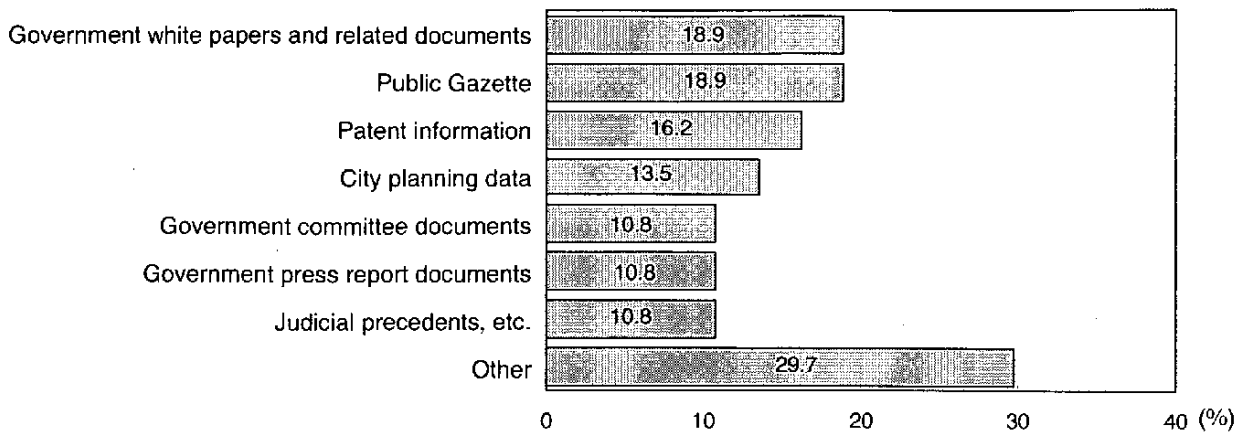


Fig. III-12 Currently Used Public Data [Character data] (N=37: multiple replies)

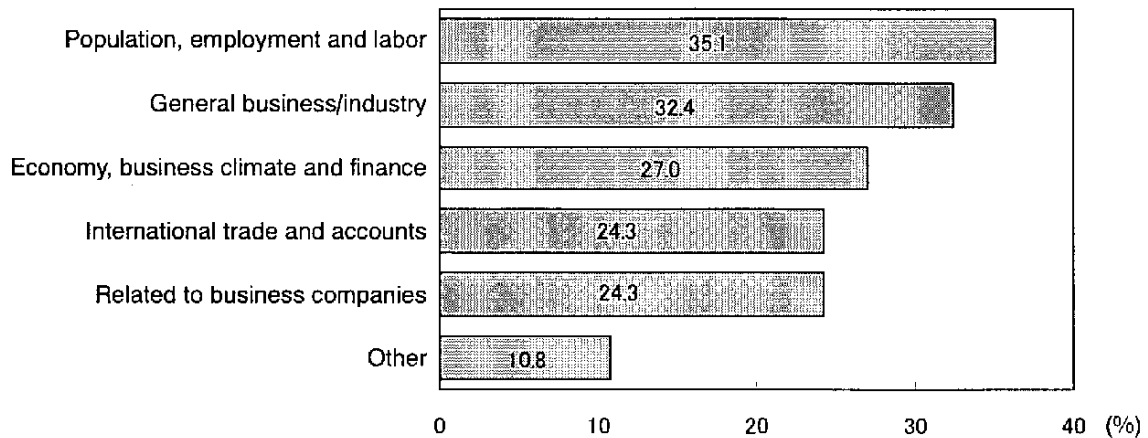


Fig. III-13 Currently Used Public Data [Numerical value data] (N=37: multiple replies)

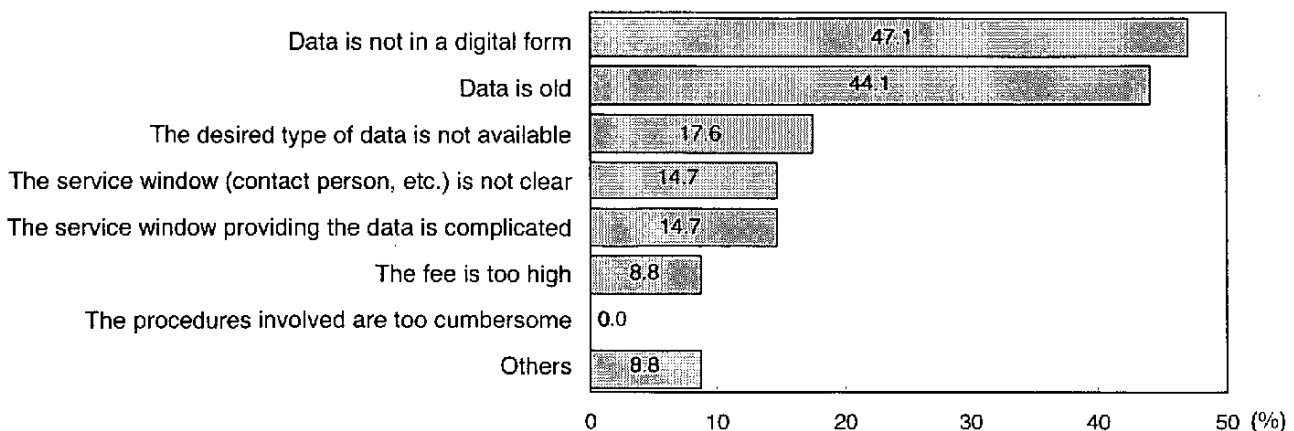


Fig. III-14 Problems in Making Use of Public Data (N=34: multiple replies)

8. Types of Data Supplied in Databases (Text, Image, Video)

8.1 Data Currently being Supplied

As shown in Fig. III-15, the overwhelming most common type of data currently being supplied on-line is "Text" data (91.4%). This is followed by "Numerical" data (53.4%) and "Image (still pictures, photographs, etc.)" data (37.9%). In comparison with the previous survey, "Numerical" showed the greatest increase from the previous survey (an increase of 7.9 points), while "Software" declined by 4.0%. The results were similar for data supplied off-line. The most common replies were, in order, "Text"(82.1%), "Numerical"(46.4%) and "Image(still pictures, photographs, etc.)" (39.3%). In comparison with the previous survey, large increases were registered by "Software (information search software, viewer, etc.)" (an increase of 11.4 points), followed by "Multimedia" (an increase of 4.9 points).

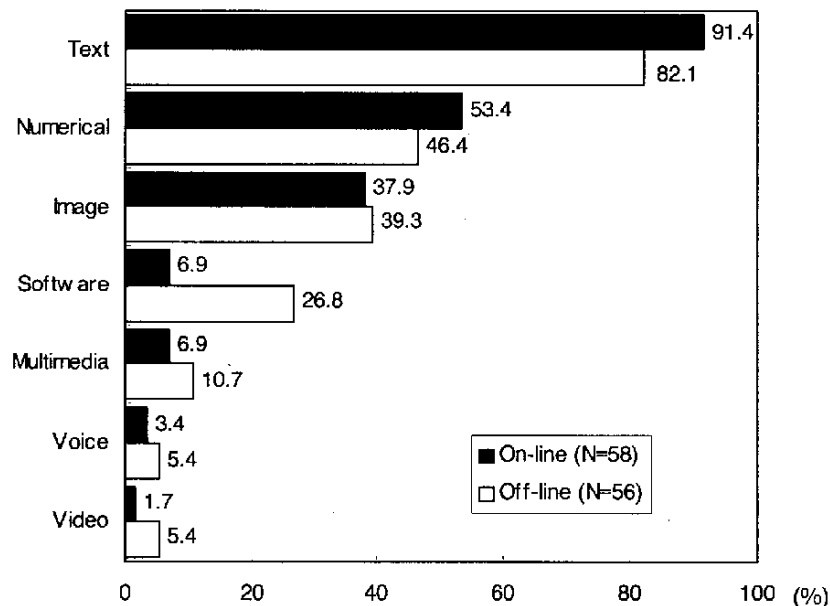


Fig. III-15 Type of Data Currently Supplied On-line/Off-line (multiple replies)

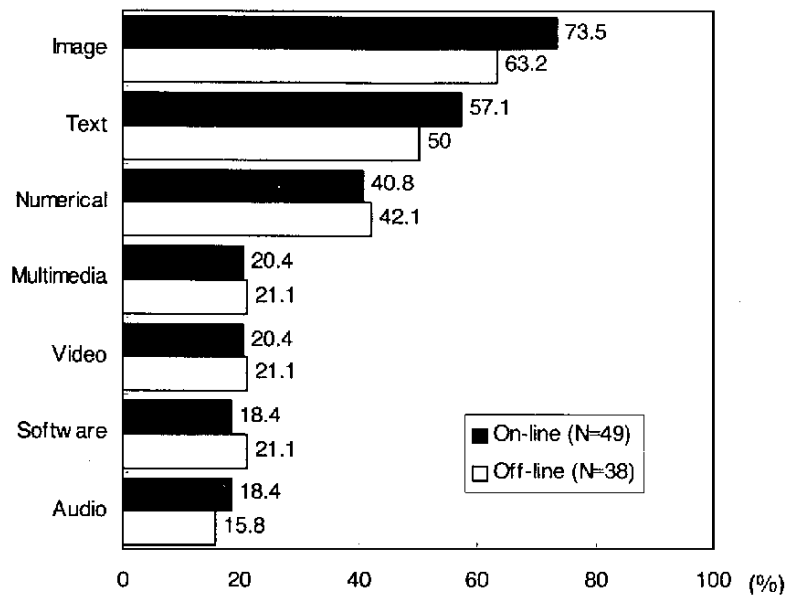


Fig. III-16 Types of Data that Respondents Want to Provide in the Future (multiple replies)

8.2 Data Scheduled to be Supplied in the Future

As for the types of data that the respondents want to provide or increase in the future, “graphic data (still pictures, images, photographs, etc.),” “text data,” and “numerical data” account for the bulk of the responses for both on-line and off-line. (Fig. III-16.) When we compare this with the results in the previous survey, we see that a large increase was registered for “numerical data” (an increase of 9.1 points), “graphic data” (an increase of 5.2 points), for on-line service. For off-line service, a large increase is seen for “video” (an increase of 14.2 points), and “audio data” (an increase of 8.9 points). In contrast, significant decreases for “multimedia” (a decrease of 11.3 points) for on-line service, and for “graphic data” (a decrease of 9.2 points) and “multimedia” (a decrease of 6.5 points) for off-line service.

8.3 Positioning of Multimedia

How is the position of “multimedia service” defined? As we can see in Fig. III-17, only 14.3% of the 14 responding companies replied that multimedia service “is a main type service,” which is a drastic decrease from the 54.5% in the last survey. In contrast, the ratio of companies that responded that it “is a partial type service” increased from 18.2% in the previous survey to 42.9%.

On the other hand, when respondents who do not provide any multimedia service now were asked what they will do in the future, the largest group (51.6%) said that they “cannot think about

providing such service for the time being,” which is basically the same as in the previous survey. This response increased by 4.2 points from last time.

Overall, the respondents’ motivation for providing multimedia service has declined in terms of the defining its position and relative importance and the intention to provide such service. A severe assessment of multimedia service is spreading among vendors based upon assessment of the amount of user needs, development costs, and the overall question of profitability and viability of such service as a business.

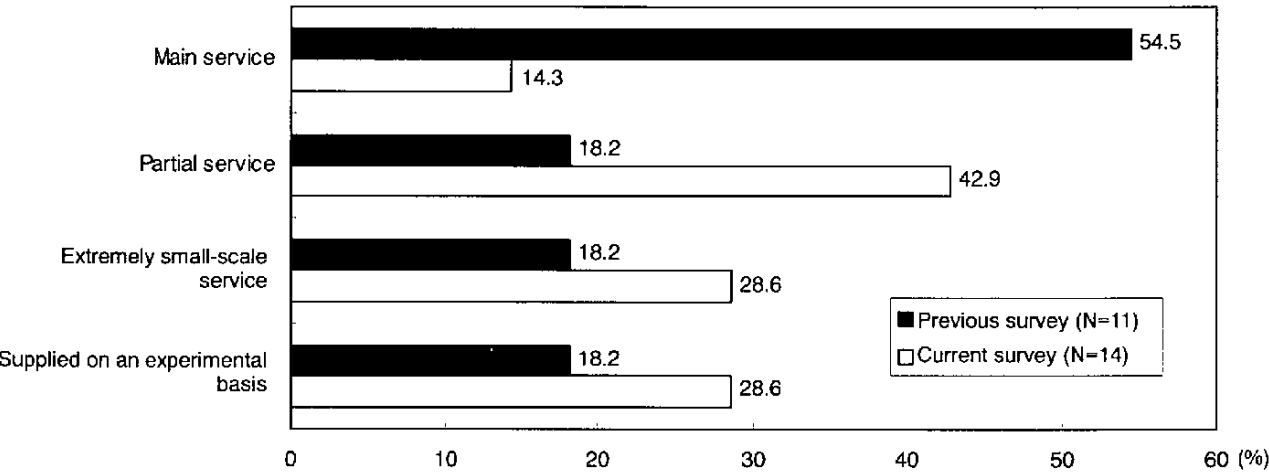


Fig. III-17 Positioning of Multimedia Service (multiple replies)

9. Status of Provision of Service on the Internet

As shown in Fig. III-18, 43.5% of 85 vendors surveyed stated that they “implement” services via the Internet. Last time, the figure was 42.3%, which represented a big increase of 14.5 points from the survey before that, and so, there was an impression that the Internet was making a big leap as a media for distributing database service. However, the increase this time was quite small. Still, when we include 21.2% of the vendors who are “planning to provide” such service, two-third of the vendors surveyed will be providing this kind of service over the Internet in the near future.

However, in comparison with the previous survey, those vendors who “want to consider this in the future” declined to 21.2%, while those who “are not thinking of doing so” grew to 14.1%. Thus, it cannot be denied that the intention to use the Internet has taken a backward step among some of the vendors. Nevertheless, the use of the Internet as a means for providing database service is bound to grow in the coming years, given the salient trend in the environment for informatization. This means that the relative superiority of the contents, and of the mode of supply of service, in making use of the distinctive characteristics of the Internet, will be the key point in the market competition in the future.

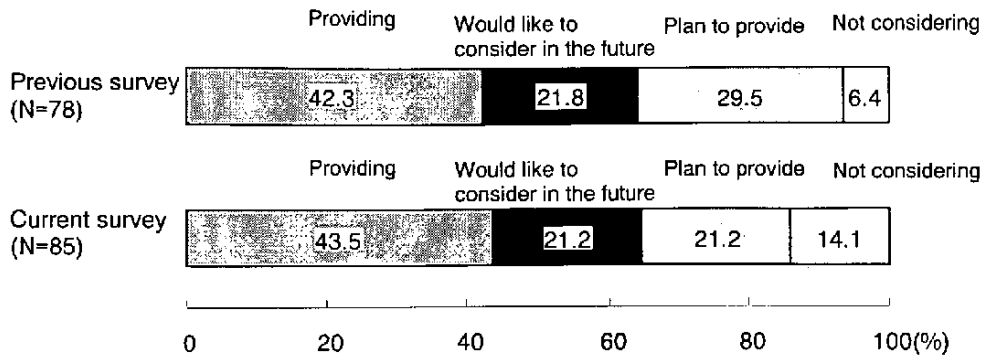


Fig. III-18 Implementation Status of Database Services via the Internet

Even though expansion of services provided via the Internet is regarded as certain, there are some concerns and problems that are specific to the Internet. When 36 vendor companies, providing their services via the Internet, were asked to respond about such concerns and problems, 55.6% mentioned the point that “the method of protecting the copyright (such as copy protect) is not well established.” (Fig. III-19) In the previous survey, the “worries about security” was the top item, but in this survey, the concerns about copyright protection surfaced as the biggest problem. This is probably due to the fact that with database service, information itself represents a commodity value.

When we compare responses given about problems by those companies that are already “implementing” database service on the Internet, on one hand, and those are only “planning or considering it,” on the other, we find that the greatest gap in perception of problems had to do with “cumbersome problem of collecting charges.” There was a gap of 35.1 points on this item. Unlike PC communication networks, which are based upon membership system, the Internet is used by an indefinite group of extremely large number of persons, and so, the question of levying and collecting charges appears to pose a big obstacle in starting services.

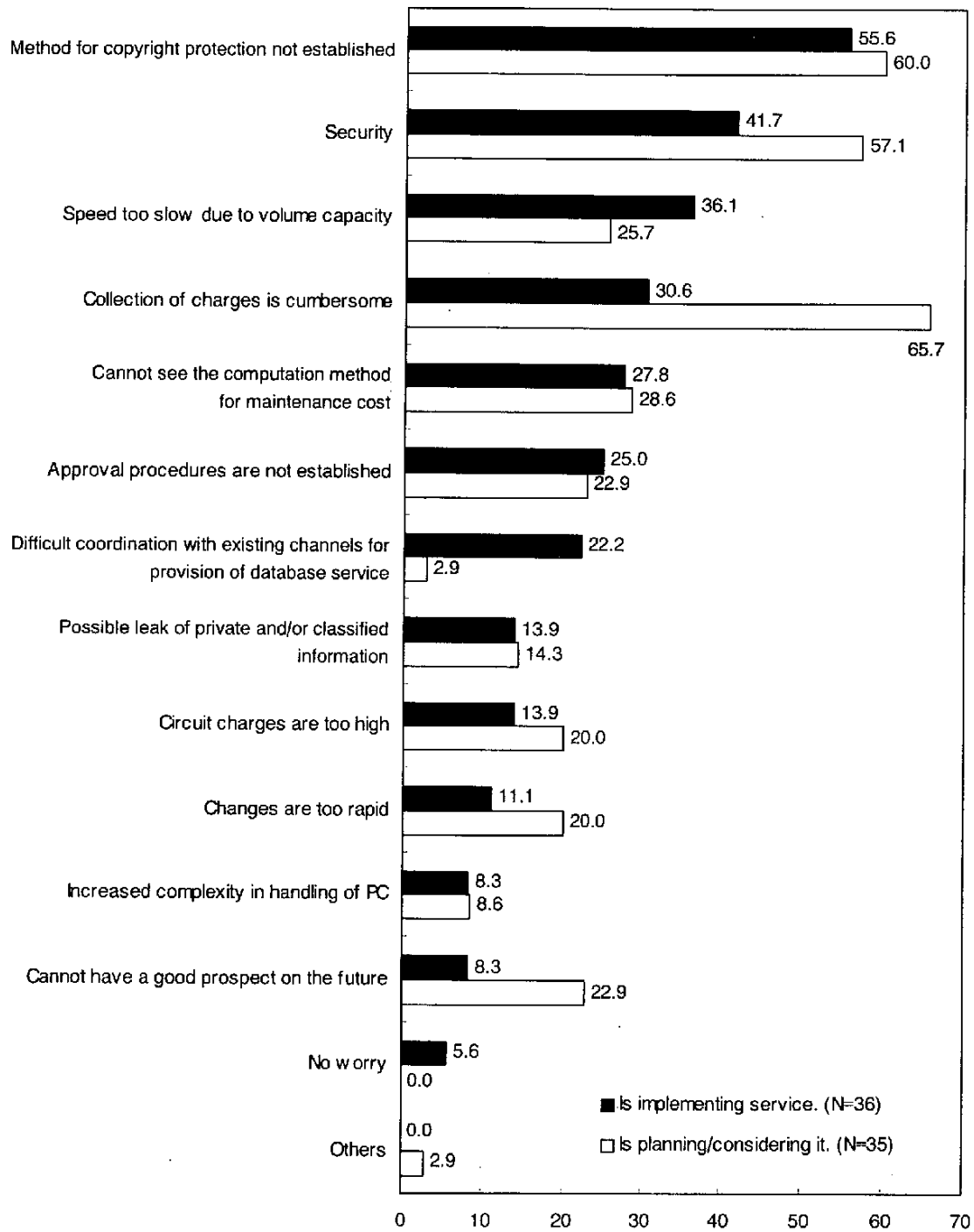


Fig. III-19 Some Concerns and Problems of Database Services via the Internet (multiple replies)

10. Database Supply by CD-ROM

10.1 Status of CD-ROM Supply

At the present time, 53.7% or 44 companies of the vendors provide databases in the form of CD-ROM. This item had been rising each year after the start of this survey (Fig. III-20), but this time, it registered a decrease for the first time. However, it is only a slight decrease of 3.1 points, and the 50% range, which was finally reached last time, is still maintained.

When we look at the picture by business mode, 59.1% of 22 producer-distributor companies and 56.0% of 25 producer companies stated that they provide databases in the form of CD-ROM.

As we can see in Fig. III-7, CD-ROM is evaluated very highly as a media with a good growth potential, and the rate of providing database services in this form is likely to continue to increase in the future.

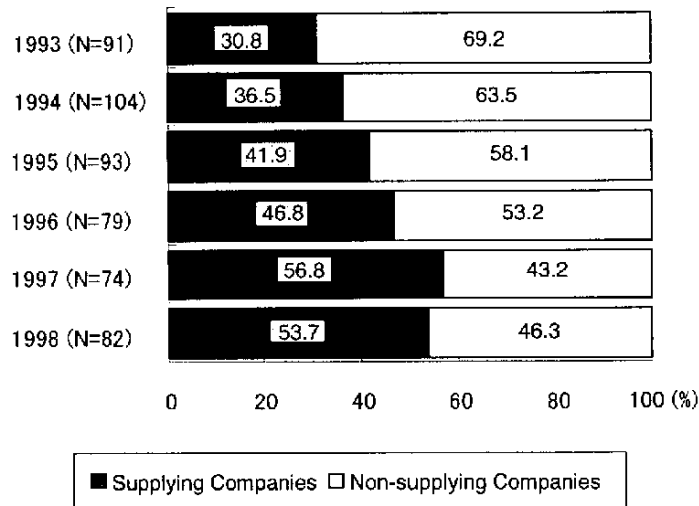


Fig. III-20 Proportion of Companies Supplying Databases by CD-ROM

10.2 Categories of CD-ROM Databases

Vendors supplying CD-ROM databases can be broadly classified as “business”, containing 25 companies, “general” containing 19 companies, “natural science and technology” containing 18 companies and “social science and humanities” containing 6 companies, “others” containing 6 companies. (Total 74 companies.)

When we compare the results with those obtained in the previous survey, the item “business” increased by 6 companies, “social science and humanities” increased by 3 companies, “others” increased by 2 companies, and both “general” and “natural science and technology” increased by one company each.

The cumulative total of titles that are provided is 300 titles, which is an increase of 41 titles from the previous survey. While the ratio of vendors providing CD-ROM has declined, the

number of titles supplied has grown. When we look at the large classifications, "general" account for 126 titles, "natural science and technology" 72 titles, "business" 61 titles, "others" 29 titles, "social science and humanities" 12 titles, in that order.

11. Present State of Overseas Database Supply

The Japan Database Industry Association (DINA) was commissioned by DPC in July 1998 to conduct their 12th survey targeted at DINA members, DPC supporting members and other organizations involved in database services. Survey forms were sent to 248 organizations, replies to which were obtained from 128 (response rate: 51.6%). 65 of the respondents were providing or planning to provide databases to overseas parties. The number of databases being supplied overseas from Japan has continued to increase over the past 11 years, and, as of July 1998, there were 833 types of databases being supplied overseas, presenting an increase of 12.7% from the previous year (Table III-1, Fig. III-21).

The distribution of these 833 databases by category consists of 93 in the "Science and technology" category (11.2%), 284 in the "Economics, business and finance" category (34.1%), 440 in the "General" category (52.8%), 12 in the "Economics, business and finance" and "General" categories (1.4%), 3 in the "Science and technology" and "Economics, business and finance" (0.4%), and 1 in the "Science and technology" and "General" category (0.1%).

In addition, in looking at the distribution of these databases according to language, there are 644 types in "Japanese" (79.7%), 99 in "English" (11.9%), one in "Other" languages (0.1%), 67 in "Japanese" and "English" (8.0%), and 2 in "Japanese", "English" and "Other" (0.2%).

With respect to supply form, 731 databases are supplied "On-line" (87.8%), 24 by "MT (magnetic tape)" (2.9%), 11 by "CD-ROM/CD-I" (1.3%), 31 by "On-line" and "MT (magnetic tape)" (3.7%), 8 by "On-line" and "CD-ROM/CD-I" (1.0%), 21 by "On-line", "MT (magnetic tape)" and "CD-ROM/CD-I" (2.5%), 7 by "MT (magnetic tape)" and "CD-ROM/CD-I" (0.8%)

Table III-1 Number of Domestic Databases Being Supplied Overseas

Time of Survey	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998
Item										
No. of databases and proportion supplied (%)	104 (15.7)	155 (19.2)	226 (25.3)	290 (31.1)	306 (30.4)	353 (33.7)	374 (33.3)	430 (36.9)	739 (59.5)	833 (49.3)

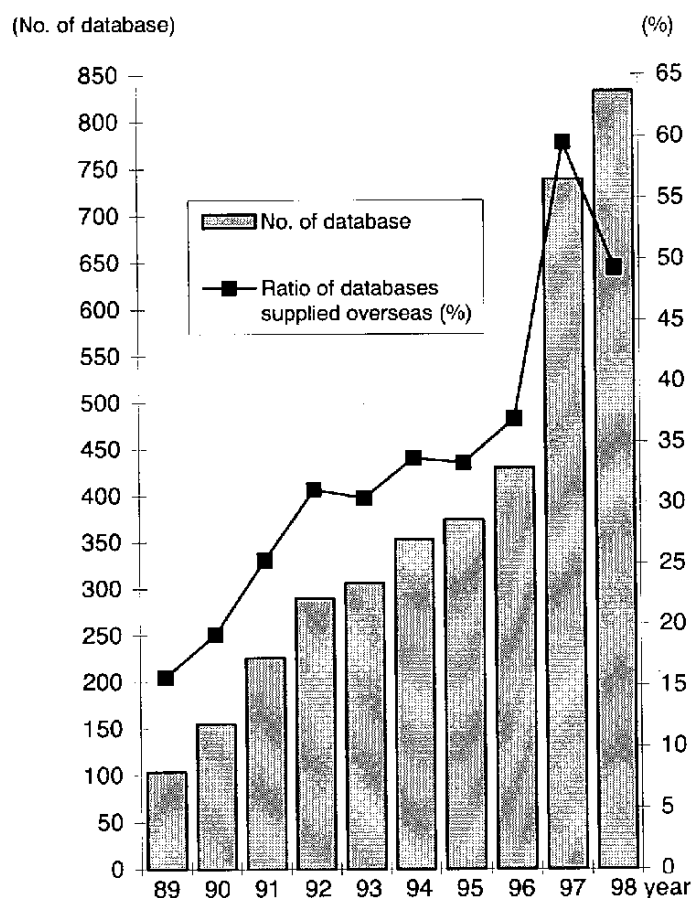


Fig. III-21 Growth of the Number of Databases Supplied Overseas

IV. Present State of Use of Commercial Databases

This chapter provides an introduction to the state of use of commercial databases and the awareness of their use on the part of users based on the results of the "Survey on the Status of Japanese Database Services (User Edition)" conducted by DPC in October 1998.

This survey was conducted using a questionnaire format targeted at 2,700 companies. Responses were obtained from 646 companies for a response rate of 23.9%. In tabulating and analyzing the results, classification standards for company size and industrial category were established in the manner shown below.

- (1) Classification standards by company size according to the number of employees (Table IV-1)
- (2) Classification standards by industrial category (Table IV-2)

1. Usage Results and Forecasts

1.1 Annual Spending on Commercial Database Usage

67.5% of the replying companies indicated that they are using commercial database. 3.1% had used commercial databases in the past, while 29.4% had never used commercial databases.

In comparison with the previous survey, the ratio of business companies that use database services rose 2.1 points, and so, when considered with the 1.9 points increase in the last survey, we can see the steady broadening of database service users.

The average use amount per user company in one year in FY1997 was ¥29.216 million, a decrease of 7.3% compared to the previous year. By size of user enterprise, the amount used by small and medium-sized companies rose by 38.4% from the previous year to ¥4.972 million, while that for large companies declined by 14.0% to ¥42.724 million, and public service organizations declined by 68.9% to ¥2.216 million. While the growth in the use by small and medium-sized companies was dramatic, the decreases registered by large companies and public service organizations exceeded that. As a result, the average amount of use overall declined.

Table IV-1 Classification Standards by Company Size According

Industrial Category	Medium/Small-Sized Companies	Large Companies	Public Services
Construction industry, Oil and chemical industries, Iron and steel, nonferrous metal and metal manufacturing, Machinery and equipment manufacturing industry, Other manufacturers	300 or less	More than 300	
Commerce	100 or less	More than 100	
Finance and insurance, Information processing and information supply service, Newspaper and publishing industry, Broadcasting and telecommunications industry, Other business services	50 or less	More than 50	
Public service			

The decrease in the average use amount does not necessarily mean a decrease in database use. That is, when the base of database use spreads with the increase in new users, etc., the average amount of use may still decline since the number of users with a small amount of use increase. In this case, too, because the use amount by small and medium-sized companies rose sharply, the increase in the number of users with a small amount of use appeared to have exerted a big impact on the overall average use amount.

According to the "Survey of Selected Service Industries" by the Ministry of International Trade and Industry, the sales amount of "database services" for 1997 increased dramatically by 9.5% from previous year to ¥257.8 billion, and so, when we consider this expanding trend of the market, it is natural to infer that the decline in the average use amount is due to the broadening of the base of users.

Table IV-2 Classification Standards by Industrial Category

Industrial Category		Types of industry included (industry type classifications established in the Standard Classification of Japanese Industry)
Secondary Industry	1 Construction industry	- Construction industry
	2 Oil and chemical industries	- Medical and pharmaceutical products manufacturing industry, oil industry, chemicals industry
	3 Iron and steel, nonferrous metal and metal products manufacturing	- Iron and steel industry, nonferrous metals industry, metal products manufacturing industry
	4 Machinery and equipment manufacturing industry	- Electrical machinery, transportation machinery, general machinery, and precision machinery manufacturing industry
	5 Other manufacturers	- Food products industry, textile/paper/pulp industry, glass and ceramics industry - Other manufacturing industries
Tertiary Industry	6 Commerce	- Wholesale trade, trading industry, retail industry, and food service industry
	7 Finance and insurance	- Financial industry, securities industry, insurance industry
	8 Information processing and information supply service	- Information processing services/software, information supply industry
	9 Newspaper and publishing industry	- Newspaper industry, publishing industry
	10 Broadcasting and telecommunications industry	- Broadcasting industry, telecommunications industry
	11 Other business services	- Real estate industry, transport/warehouse industry, power/gas industry, thinktanks, advertising industry, and other service industries
	12 Public service	Schools and other educational organs, hospitals and other medical care organs, survey/research agencies, trade unions and other organizations, central government and local government agencies
	13 Other	Agriculture/forestry/fisheries, mining industry, other

1.2 Usage Status by Division

When the rates of database usage by division on a monetary basis were examined in terms of the total usage for all industries categories (Table IV-3), those divisions with the highest rates of usage consisted of the "Survey division" (22.6%), "Research division" (19.8%). "Sales division" (13.9%)

and "Patent division" (12.5%). The ranks and percentages were the same as in the previous survey. In the secondary industry, the use ratio is high for "Research division" (30.5%) and "Patent division" (22.1%), which together account for more than 50%. These two are followed by "Sales division" with 14.6%, and "Survey division" with 10.5%. In particular, the use rate of 41.8% of the "Oil and chemical industries" in the "Research division" is very noticeable. On the other hand, in the tertiary industry, the use rate of the "Survey division" and "Sales division" are high. Those are followed by "Planning division" with 11.0%. By type of industry, the "Information processing and information supply service" in the "Survey division" is at the top with 37.7%. And in the tertiary industry, the use rate of the "Survey division" is high overall.

Table IV-3 Rates of Database Usage by Division for all Industries Categories

	Total of all industry types(%)
Number of responses	366 companies (100%)
Planning division	8.4
Survey division	22.6
Research division	19.8
Patent division	12.5
System division	3.9
Production division	1.8
Sales division	13.9
General affairs division	2.3
Accounting/finance division	4.8
Other divisions	10.0

2. Types and Contents of Frequently Used Commercial Databases

2.1 Frequently Used Systems and Databases

The top five service systems in terms of the amount spent on usage along with the top five most frequently used databases are as described below. (Table IV-4, Table IV-5).

The service system that is most used is "Nikkei Telecom," followed by "JOIS," "PATOLIS," "DIALOG," and "NIFTY SERVE," and there has not been any change in the order of the top five systems from the previous survey.

Systems mentioned other than those listed in Table IV-4 are "BIGLOVE," "REUTER MONITOR SERVICE," "MAIN," "JACIC NET", and "DOW JONES NEWS/RETRIEVAL."

When we look at the use pattern by the size of user companies, the rank order of systems used by large companies was the same as that overall. However, among small and medium-sized companies, "JOIS" ranks at the top, followed by "PATOLIS," "DIALOG," "Nikkei Telecom," and "NIFTY SERVE," in that order. So, "Nikkei Telecom" ranks much lower among them. Among public service organizations, the rank order of use is "JOIS," "Nikkei Telecom," "DIALOG," "NACSIS-IR," and "NIFTY SERVE." The fact that "NACSIS-IR" which ranks 11th overall, ranks

high here is noticeable.

By industry type, while "Nikkei Telecom" and "NIFTY SERVE" are used broadly among nearly all industries, "JOIS," "PATOLIS," and "DIALOG" are used at a high level in the secondary sector industries.

The database (file) that are most frequently used is "JICST File on Science and Technology Documents," followed by "Patents/Utility Model File," "Nihon Keizai Shimbun Article Databases" "COSMOS 2," and "TSR-BIGS." In comparison with the rank order in the previous survey within the 10th, only the second and third ranks reversed their ranks, with the rest remaining the same. Other than those listed in Table IV-5, high use is made of "ELMOR," "Mainichi Shimbun Articles Database," "Nikkei Overall Economic File," "Yomiuri Shimbun Article Database" and "BRANDY."

For reference purposes, "Ranking of on-line information service companies by No. of contracted users" according to "Nikkei New Media" (publishes by Nikkei Business Publications Inc.) are shown in Table IV-6, IV-7.

**Table IV-4 Frequency Used Systems on a Monetary Basis in Order of the Number of Replies
(N=415: multiple replies)**

Rank	Name of service system	No. of replies	Reply ratio (%)
1	Nikkei Telecom	204	49.2
2	JOIS	193	46.5
3	PATOLIS	158	38.1
4	DIALOG	142	34.2
5	NIFTY SERVE	112	27.0
6	STN International	86	20.7
7	G-Search	84	20.2
8	COSMOS	82	19.8
9	TSR	48	11.6
10	ELNET	40	9.6
11	NACSIS-IR	30	7.2
12	NICHIGAI-ASSIST	23	5.5
13	QUICK	22	5.3
14	BRANDY	20	4.8
14	NEEDS	20	4.8
:	:	:	:
:	:	:	:

Table IV-5 Databases with High Utilization Frequency (N=401:multiple replies)

Rank	Name	No. of replies	Reply ratio (%)
1	JICST File on Science and Technology Documents	170	42.4
2	Nihon Keizai Shimbun Article File	151	37.7
3	Patent/Utility Model File	150	37.4
4	COSMOS2(Teikoku Databank corporate information)	142	35.4
5	TSR-BIGS (Tokyo Shoko Research corporate information)	95	23.7
6	WPI	64	16.0
7	CA	63	15.7
8	Asahi Shimbun News Database	48	12.0
9	Nikkei Who's Who	48	12.0
10	Trade Mark File	39	9.7
11	Nikkei Financial File	34	8.5
12	WHO	31	7.7
13	REGISTRY	29	7.2
14	JICST "Ichushi Domestic Bibliographical File on Medicine"	28	7.0
14	MEDLINE	28	7.0
:	:	:	:
:	:	:	:

**Table IV-6 Ranking of On-line Information Service Companies (including Producers)
by No. of Contracted Users**

(Source: Nikkei New Media)

Supplying Companies and Organizations	Name of Services	Description	No. of passwords accessible from the Internet (*1)		No. of passwords including services provided on own network	
			As of Jan. 1, 1999	As of Jan. 1, 1998	As of Jan. 1, 1999	As of Jan. 1, 1998
Nihon Keizai Shimbun, Inc. (*1)	Nikkei Telecom 21, Nikkei Telecom	News, newspaper and magazine article, information related to enterprise, personnel, stock price, and statistics, etc.	100,000	30,000	150,000	50,000
Kinokuniya Co., Ltd. (*2)	BOOK/WEB	Book and CD contents information	70,000	36,000	70,000	36,000
TKC Corp.	ProFIT, LEX/DB, TPS1000, TPS9000, AUDIT96, PX1, etc.	Complete text DB tax revisions and other information, judicial precedents, ordinances, etc., management indicators, management planning, wage calculations, etc.	13,612	9,802	65,246	58,466
JICST	JOIS, STN-International	Science, technology and medical literature database, Database of scientific and scholarly information, etc.	16,686	16,500	16,686	16,500
Teikoku Databank, Ltd.	COSMOS NET, COSMOS	Corporate financial and director information, Corporate profile information, Corporate credit survey report, Corporate income report, etc.	0	0	9,348	7,747
Tohan Co., Ltd. (*3)	SUPER TONETS, Book Adventure Team	Bibliographical information	1,000	600	8,910	8,150
Kyodo News Markets Co., Ltd.	Kyodo real-time news, Kyodo Japan Business News Line	Financial information, Economic information, Newspaper and magazine information databases, etc.	0	0	4,400	4,400
Brandy International Co., Ltd.	BRANDY	Similar trademark searching, trademark bibliographical information searching, trademark public relations, etc.	0	0	1,800	1,700
Japan Construction Information Center (*4)	JACIC NET	Public works bidding and contract information, construction news, construction statistical information, etc.	0	0	1,684	1,686
Tokyo Kantei Corp.	Real estate information service	Apartment and land price information	0	0	550	400
Kokusai Information Service Co., Ltd.	KISPAT	Patent information, Enterprise information, market research information, etc.	0	0	120	100
Total for 11 on-line information service companies (producers)			201,298	92,902	328,744	185,149
AOL Japan (*5)	AOL	Business information, finance information, sports information, etc.	0	Not released	200,000	Not released

* 1. This time, only the number of passwords for Nikkei Telecom and Nikkei Telecom 21 was announced.

* 2. Only the number of passwords for BOOK/WEB was announced.

* 3. The number of passwords shows the number of bookstores that have introduced the service of SUPER TONETS or "Hon-no Tankentai."

* 4. Only the number of passwords for JACIS NET was announced.

* 5. The number of passwords for January 1998 has not been made public, and so, a comparison cannot be made with the portion for January 1999. So, it was handled separately.

Table IV-7 Numbers of Contracts Users of On-line Information Service Companies (Distributors)

(Source: Nikkei New Media)

Supplying Companies and Organizations	Name of Services	Description	No. of passwords accessible from the Internet (*1)		No. of passwords including services provided on own network	
			As of Jan. 1, 1999	As of Jan. 1, 1998	As of Jan. 1, 1999	As of Jan. 1, 1998
NIFTY (*1)	NIFTY SERVE	Newspaper article information, corporate information, new product information, sports information, medical information	2,670,000	2,550,000	2,670,000	2,550,000
NEC Corp. (*1)	BIGLOBE	Corporate information, newspaper article information, marketing information, economic information, semiconductory information, etc.	2,650,000	2,520,000	2,650,000	2,520,000
Nihon Keizai Shimbun, Inc. (*2)	Nikkei Telecom 21, Nikkei Telecom	News, newspaper and magazine articles, enterprise, personnel, stock prices/statistics information, etc.	100,000	30,000	150,000	50,000
G-Search Corp.	G-Search commercial DB, corporate multimedia DB service/Lite, corporate multimedia DB service/[Manager function type]	Newspaper article information, corporate information, magazine and book information, industrial, economic and management information, marketing and new product information, government and municipal office information, scientific and technical information, law, patents, weather, etc.	106,475	91,176	107,559	95,427
Kinokuniya Co., Ltd. (*3)	Book/Web	Book and CD contents information	70,000	36,000	70,000	36,000
TKC Corp.	ProFIT, LEX/DB, TPS1000, TPS9000, AUDIT96, PX1, Continuing MAS, Corporate defense DB, etc.	Tax revision information, complete text DB of judicial precedents, ordinances, etc., economic indicators, management planning, tax simulation, wage calculation, life insurance contract simulation, etc.	13,612	9,802	67,826	60,523
QUICK Corp.	QUICK-IS Level I/II, QUICK-21 Watch I/II, QUICK Indicator Board, etc.	Comprehensive economic information focusing primarily on securities and finance	0	0	46,000	46,000
Maruzen Co., Ltd. (*4)	Maruzen Internet shopping	Bibliographical information on books (both Japanese and imported books)	39,000	20,000	39,000	20,000
Bloomberg, L.P.	Bloomberg	Securities/financial/finance work information, analysis, current valuation, risk management	Not released	250	18,000	15,000
JICST	JOIS, STN-International	Science, technology and medical literature database, academic information literature database, etc.	16,686	16,500	16,686	16,500
Kyodo News Markets Co., Ltd.	Tel-rate, Kyodo real-time news, Kyodo Japan Business News Line, etc.	Financial information, economic information, newspaper and magazine information database, etc.	0	0	14,000	14,400
Kokusai Information Service Co., Ltd.	KISPAT, FT Profile, I/PLUS Direct, etc.	Patent information, corporate information, market survey information, etc.	12,000	10,800	12,500	11,353
KMK Digitex	DIALOG, DataStar, DIALOG Web, DIALOG Select, DataStar Web	Business information, patent information, corporate information, scientific and technical information and medical information databases, etc.	11,500	12,000	11,500	12,000

IV. Present State of Use of Commercial Databases

Supplying Companies and Organizations	Name of Services	Description	No. of passwords accessible from the Internet (*1)		No. of passwords including services provided on own network	
			As of Jan. 1, 1999	As of Jan. 1, 1998	As of Jan. 1, 1999	As of Jan. 1, 1998
Fujitsu Facom Information Processing Corp.	Internet information service "Inter-Grus", FENICS General Database "G-Search"	Map information, leaflet information, meteorological information, statistical information, corporate information, newspaper article information, magazine and book information, who's who information	3,657	450	10,120	10,120
Teikoku Databank, Ltd.	COSMOS NET, COSMOS	Corporate financial and director information, corporate profile information, corporate credit survey reports, corporate reported income, etc.	0	0	9,348	7,747
Tohan Co., Ltd. (*5)	SUPER TONETS, Book Adventure Team	Bibliographical information, etc.	1,000	600	8,910	8,150
Electronic Library Inc.	ELNET (ELMOR, ELSDI, ELDB, etc.)	Newspaper (59 domestic newspapers) and magazine (approx. 150 publications) article information, article image database	0	0	2,450	2,300
Brandy International Co., Ltd.	BRANDY	Similar trademark searching, trademark bibliographical information searching, trademark public relations, etc.	0	0	1,800	1,700
Japan Construction Information Center (*6)	JACIC NET	Public works bidding and contract information, construction news, construction statistical information, etc.	0	0	1,684	1,686
Tokyo Kantei Corp.	Real estate information service	Condominium and land price information	0	0	550	400
Total for 20 on-line information service companies (including distributors)(*7)			5,693,930	5,297,578	5,907,933	5,479,306
AOL Japan (*8)	AOL	Business information, finance information, sports information, etc.	0	Not released	200,000	Not released
Japan Information Processing Service Co., Ltd. (*9)	Inforstream, Orbit, JIP-TRADE, JIP-INFO	Pharmaceutical information, medical information, overseas patent information, securities and financial information, etc.	250	100	Not released	Not released
Reuters Japan Ltd.	Reuters First, Reuters First Web, Reuters Business Briefing, etc.	On-line providing of exchange rate, securities and other financial information using characters and images, financial databases, business information database covering various industries, etc.	Not released	Not released	485,000	435,000

* 1. The number of passwords for NIFTY SERVE and BIGLOBE show the number of persons who can use it.

* 2. This time, only the number of passwords for Nikkei Telecom and Nikkei Telecom 21 was announced.

* 3. Only the number of passwords for BOOK/WEB was announced.

* 4. Only the number of passwords for Maruzen Internet Shopping was made public.

* 5. Only the number of passwords shows the number of bookstores that have introduced the service of SUPER TONETS or "Hon-no Tankentai."

* 6. Only the number of passwords for JACIS NET was announced.

* 7. The computation was made with the portion not made public counted as zero.

* 8. The number of passwords for January 1998 has not been made public, and, a comparison cannot be made with the portion for January 1999. Thus, it was handled separately.

* 9. Because a portion of the number of passwords for January 1998 and January 1999 are not made public, they were handled separately.

* 10. Because the number of passwords here includes not only subscribers in Japan but in all the countries in the world, it was handled separately.

2.2 Categories of Frequently Used Databases

This section takes a look at the target categories of databases frequently used by users. (Fig. IV-1). With respect to domestic databases, the top category was "Corporate finance/profile" at 71.0% 2nd rank in the previous survey. This was followed by "Newspapers/journals/news" at 64.5% top rank in the previous survey, "Patents" at 45.8% (No.4), "Who's who/organization information" at 44.1%. "Corporate finance/profile" in the first rank, rose by 5.0 points from the previous survey, which shows the high level of the need.

On the other hand, with regard to overseas-made databases, high use is achieved for "Patents" 57.6%(No.1 rank in the previous survey), "Chemical" 48.5%, "Corporate finance/profile" 43.9% (No.4 rank last time), "Newspapers/journals/news" 42.9% (No.3 rank last time), "Medicine/pharmaceuticals/biotechnology/biology" 40.4% (No.2 rank last time). No.2 rank "Chemical" was added as a new item starting with this survey. It showed a high rate of use among overseas-made databases. There is a trend whereby the gap in the use rate between domestic and overseas-made databases becomes wider among those items that have a high use rate.

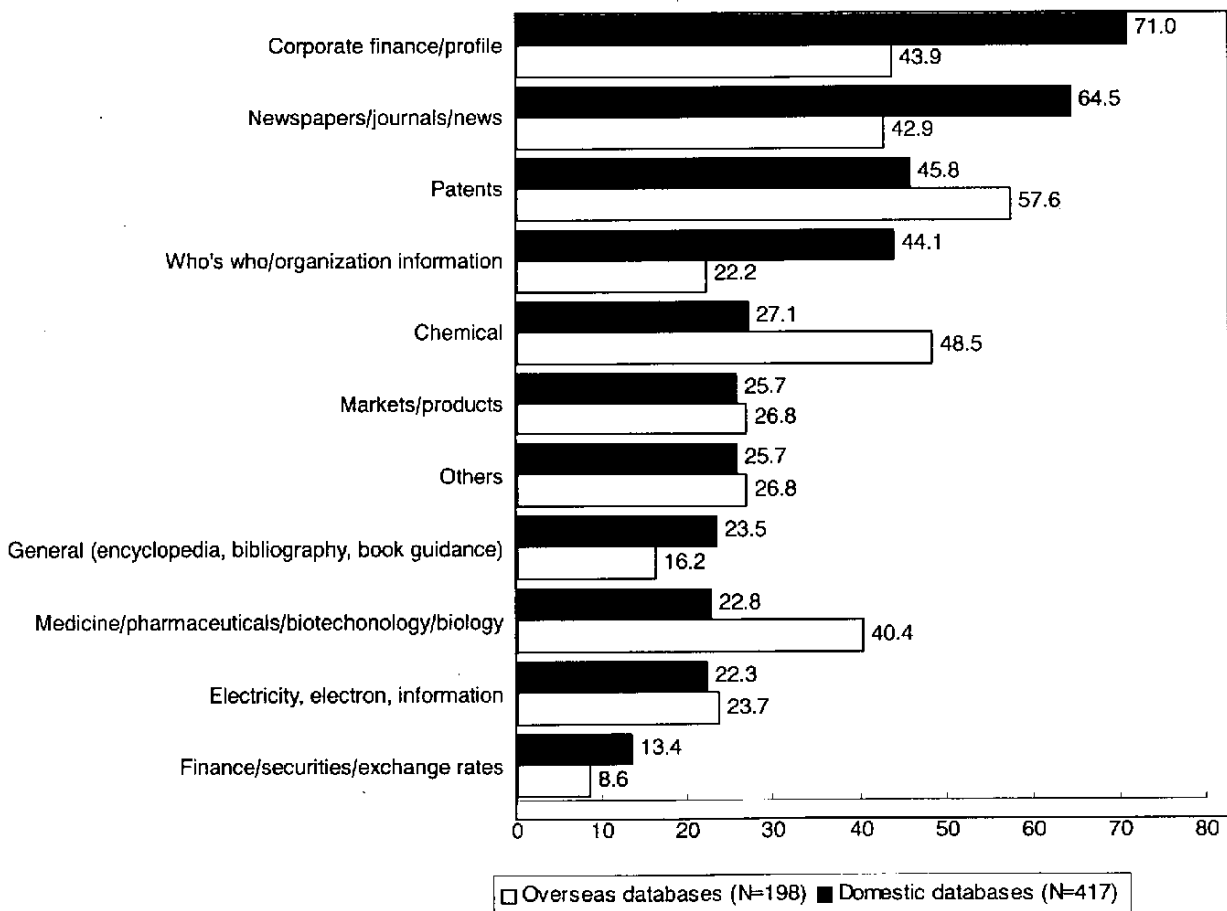


Fig. IV-1 Categories of Frequently Used Databases (multiple replies)

2.3 Types of Data Currently Used

The types of data currently used by users along with the types of data for which an increase is desired in the future were tabulated separately for on-line and off-line usage.

As Table IV-8 shows, for both on-line and off-line data, the use level is in the order of "text data," "numerical data," "image," and "multimedia." This is the same order as in the previous survey. Compared to the previous survey, the use rate grew for "image" on-line, an increase of 6.5 points. Because of the limitations in the capacity of lines, the use rate for on-line graphic data remained at about 40% level, but it has climbed this time to about 60%. On the other hand, "multimedia" increased by 2.1 points for off-line from the last survey, but decreased 0.7 points for on-line.

In response to the question about the types of service that users want to use or want to increase the use in the future, the rank order was "text data," "image," "numerical data," and "multimedia" for both on-line and off-line. When we compare the present situation and the future, we can see a high level of expectations that users have regarding "image" and "multimedia." In particular, the use intention for "image" exceeds one half for both on-line and off-line service, which demonstrates the high level of the needs. With regard to "multimedia," while the on-line use rate is declining at the present time, we can see that the use intention is at about the same level as that for off-line.

Table IV-8 Types of Data Currently Used and for which Greater Use is Desired in the Future (multiple replies)

	Currently Using				Desire to be Used Desire to Increase Use			
	On-line (N=402)		Off-line (CD-ROM, etc.) (N=192)		On-line (N=278)		Off-line (CD-ROM, etc.) (N=125)	
	No. of replies	Reply ratio (%)	No. of replies	Reply ratio (%)	No. of replies	Reply ratio (%)	No. of replies	Reply ratio (%)
Text data	395	98.3	161	83.9	183	65.8	74	59.2
Numerical data	193	48.0	77	40.1	133	47.8	54	43.2
Image (including animation)	74	18.4	61	31.8	144	51.8	70	56.0
Multimedia	14	3.5	13	6.8	93	33.5	42	33.6
Other	6	1.5	2	1.0	4	1.4	1	0.8

2.4 Utilization of Public Data

We surveyed the use of databases that handle public data (data produced and made public by public organs such as governmental agencies). As Table IV-9 shows, 284 companies "Currently Using" this type of data, which accounts for 65.1% of the companies that use a commercial database (436 companies). Compared to the previous survey, the figure increased by 8.6 points from 56.5%. Broadly, the data type can be classified into "text data" and "numerical data," and

“data in characters” ranks at the top of the type of data that users use now, and/or want to do so in the future.

When we look at the response of users who do not use public data at the present time regarding the types of data that they would like to use in the future, “Government reports (Gazette)” (47.7%) was at the top of “text data,” and “Corporate-related data” (46.4%) was at the top for “numerical data”, which is the same pattern that we saw last time. “Patent information” which ranks at the top of “text data” in the present use, ranks relatively low at 18.9% when it comes to future use. This is the lowest item other than “others.” And so, we can see that the use needs for this “Patent information” may be reaching a point of saturation.

Table IV-9 Utilization of Databases Handling Public Data (multiple replies)

		Currently Using (N=284)		Desire to Use in Future (N=222)	
		No. of replies	Reply ratio (%)	No. of replies	Reply ratio (%)
Text Data	Government white papers and related documents	69	24.3	91	41.0
	Government committee reference materials	45	15.8	60	27.0
	Government press conference reference materials	44	15.5	54	24.3
	Government reports (Gazette)	58	20.4	106	47.7
	Judicial precedents	29	10.2	70	31.5
	City planning data (including map information)	20	7.0	59	26.6
	Patent information	194	68.3	42	18.9
	Others	2	0.7	2	0.9
Total		252	88.7	198	89.2
Numerical Data	Population, employment and labor	51	18.0	68	30.6
	Domestic economy, business climate and finance	62	21.8	81	36.5
	International trade and settlement	34	12.0	61	27.5
	General business and industry	82	28.9	90	40.5
	Corporate-related data	121	42.6	103	46.4
	Others	6	2.1	1	0.5
Total		161	56.7	164	73.9

3. Database Utilization Forms

The forms in which databases are used were divided into the four categories shown below to investigate the rate of use of each form on a monetary basis.

- (1) On-line database services excluding PC network services
- (2) PC network services
- (3) Off-line CD-ROM services
- (4) Other off-line services

As shown in Table IV-10, in actual results, the use of (1) is high just as it has been in the previous years, but in comparison with the previous survey, the component ratio of the use rate

decreased by for both domestic and overseas-made on-line database services other than PC network service by 2.7 points and 5.6 points, respectively. On the other hand, with regard to (2), use of the domestic database increased by 1.3 points, while overseas-made increased by 4.7 points.

To be sure, over the past several years, the component ratios of (1) and (2) have been going up and down, and as a future trend, it is not likely that the ratio of both of these will change drastically. When we look at the users' plans, the component ratios are the same as those for the past results.

With regard to off-line service, for domestic services, both CD-ROM and "Others" have grown gradually, and among overseas-made databases, "Others" decreased slightly, while CD-ROM increased slightly. In terms of future plans, CD-ROM will increase for both domestic and overseas services, while "Others" will tend to decrease.

Table IV-10 Commercial Database Utilization Rates

	1997 Results (%)		1998 Forecast (%)	
	Domestic (N=367)	Overseas (N=176)	Domestic (N=359)	Overseas (N=172)
On-line excluding personal computer network services	61.0	79.0	62.9	78.0
On-line by Personal Computer network services	26.8	10.8	25.2	11.5
Off-line network services: CD-ROM	6.9	8.0	7.2	8.5
On-line network services: other	5.2	2.3	4.7	2.0

4. Issues on Pricing and Utilization

4.1 Pricing Issues

Those companies who indicated that their overall impression of commercial database charges was "Expensive" accounted for 64.9% of the total, while 35.1% evaluated them as "Reasonable" and 0.0% evaluated them as "Inexpensive".

When we look at the trends in users' opinion of charges in the past several years, those who thought the charge was "too high" was about 60%, and those who thought it "reasonable" was about 40% in the past years, but in the previous survey, "too high" rose to 70%, and "reasonable" declined to 30%, which indicates an increasing severity in users' view toward information charges. Thus, in this time, these percentage are returning to gradually convention rate.

Among business companies that use commercial database at the present time, 53.7% of users consider the use charge for domestic databases to be "too high" and 44.6% consider it to be "reasonable," while for overseas-made databases, 59.6% think it is "too high," and 36.8% consider it "reasonable." Among those companies that do not use commercial databases now, but was using them before, 64.8% consider the charge "too high," and 34.1% consider it "reasonable" for domestic databases, and 16.0% consider the charge of overseas-made databases "too high," and 84.0% consider it "reasonable." Since there were only a few responses cumulatively from

companies that used databases before, a simple judgment cannot be made, but it appears that high charge was not a big reason for companies ceasing to use databases.

When we look at the database charges by type of item/field of database, among business companies that are using databases now, use charge is "too high" for "corporate finance/profile" (71.9%), "patent" (68.0%), "medicine/pharmaceuticals/biotechnology/biology" (62.2%) for domestic databases in that order. For overseas-made databases, it was "patent" (75.2%), "chemical" (65.5%), and "corporate finance/profile" (63.8%) in that order.

When we look at the matter by category/classification, for domestic databases, "business" (60.3%) is consider to be "too high" more often than "natural science" (57.1%). For overseas-made databases, on the other hand, "natural science" (65.4%) is consider to be "too high" more than for "business" (64.8%).

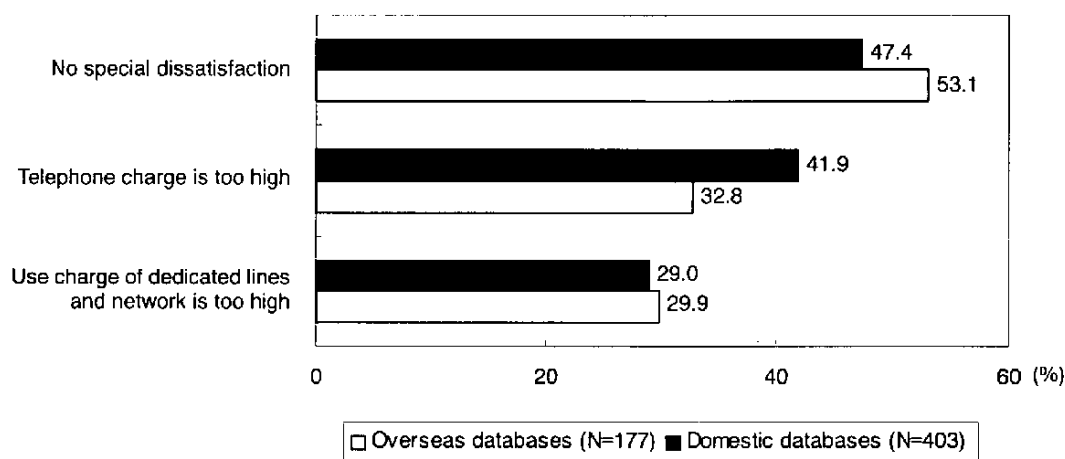


Fig. IV-2 Feedback Regarding (Database) Communication Charge (multiple replies)

4.2 Impressions of Recorded Information

As for feedback on information recorded in databases, with regard to domestic databases, "updating of database takes too much time" and "updating frequency of information is too low" ranked at the top, which shows that users' needs for having the latest information at all times is quite high. (Fig. IV-3.) On the other hand, for overseas-made databases, these items were not mentioned at the top, which suggests that the freshness of information in domestic databases is lower than that for overseas-made databases.

For overseas-made databases, "no special dissatisfaction" came to the top as in the previous survey, which is partly due to the fact that both users and type of information used are relatively stable for overseas-made databases. This was followed by "existence of the desired information is not clear", "full-text is not recorded" and "information is inaccurate at times" at about the same level. Thus, we can say that the greatest needs of users in relation to overseas-made databases are the location and availability of information, and accuracy of information.

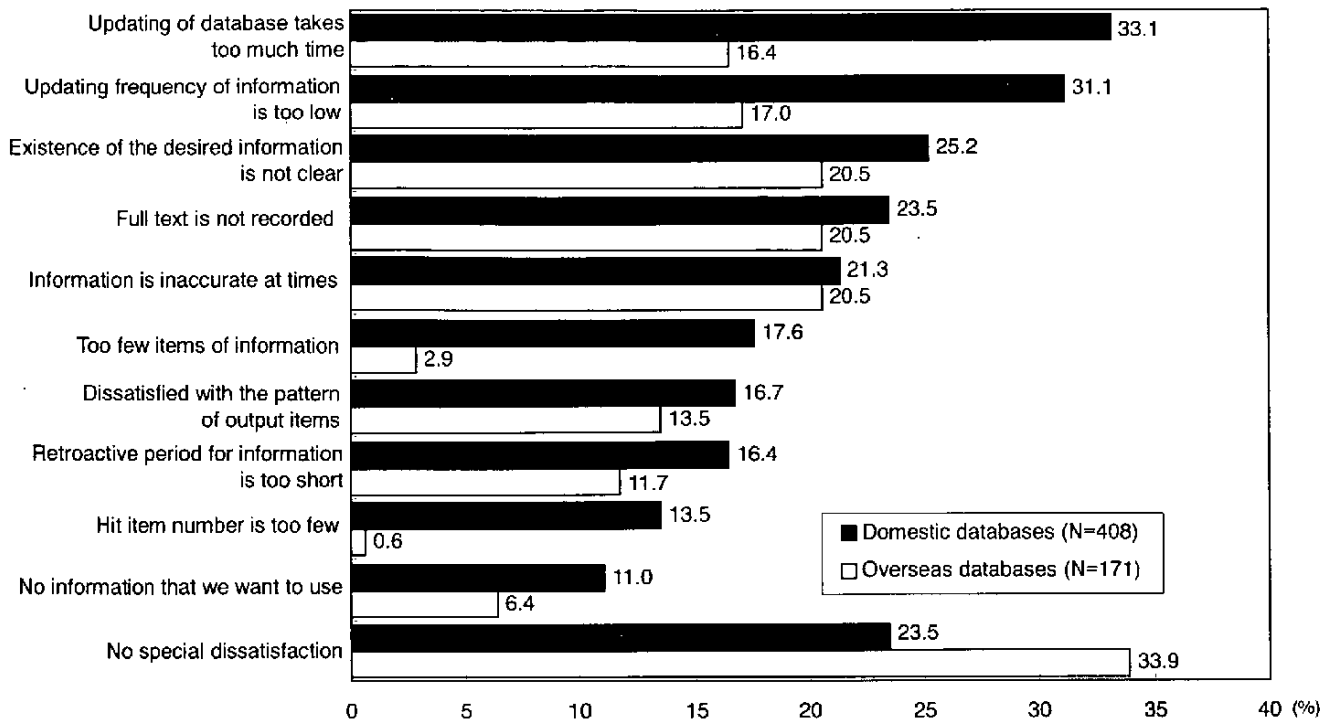


Fig. IV-3 Feedback on Recorded Information (multiple replies)

5. User of the Database

Here, we will look at the survey findings on the method of use of databases in a company. The response that "the person who needs the specific information searches for it himself" was the most frequently given response with 64.4%, follow by "database search department is asked to do the search" with 35.4%, and "rely on others only for highly specialized type of search" with 21.1%. The rate of "the person who needs the specific information searches for it himself" has been rising each year. As the background of this we can see that the number of personal computers used at offices or the number of access point by network has been increasingly, the information environment at the work places has become more personalized. This kind of improved user environment has been a fair wind for the type of database use method.

6. Plans for Use in the Future

6.1 Direction for Future Use

A survey was carried out on users' view on the desirable direction for using commercial databases in the future. The survey findings among both large companies and small and medium-sized companies mentioned "shift to service with cheaper charge" as the top item, with over 60% of each group giving this response (Fig. IV-4). In the survey before last, this item ranked third in both these groups (36.9% among large companies and 35.8% among small and medium-sized companies), but a big increase was seen in the previous survey (scoring 57.3% among large companies and 62.3% among small and medium-sized companies), and became the top item. This strongly suggested the increased cost-consciousness among business companies; and there was no change in that respect in this survey. However, both large and small and medium-sized companies are not so aggressive about "reduction of use charge," and so, they grasp the question of use of database in a positive manner, and persist in seeking the best cost performance. As the range of service options increase, naturally, they will be oriented to cheaper service with good quality.

Now, in this survey, there were no noticeable differences in the response rates between large companies and small and medium-sized companies on this point.

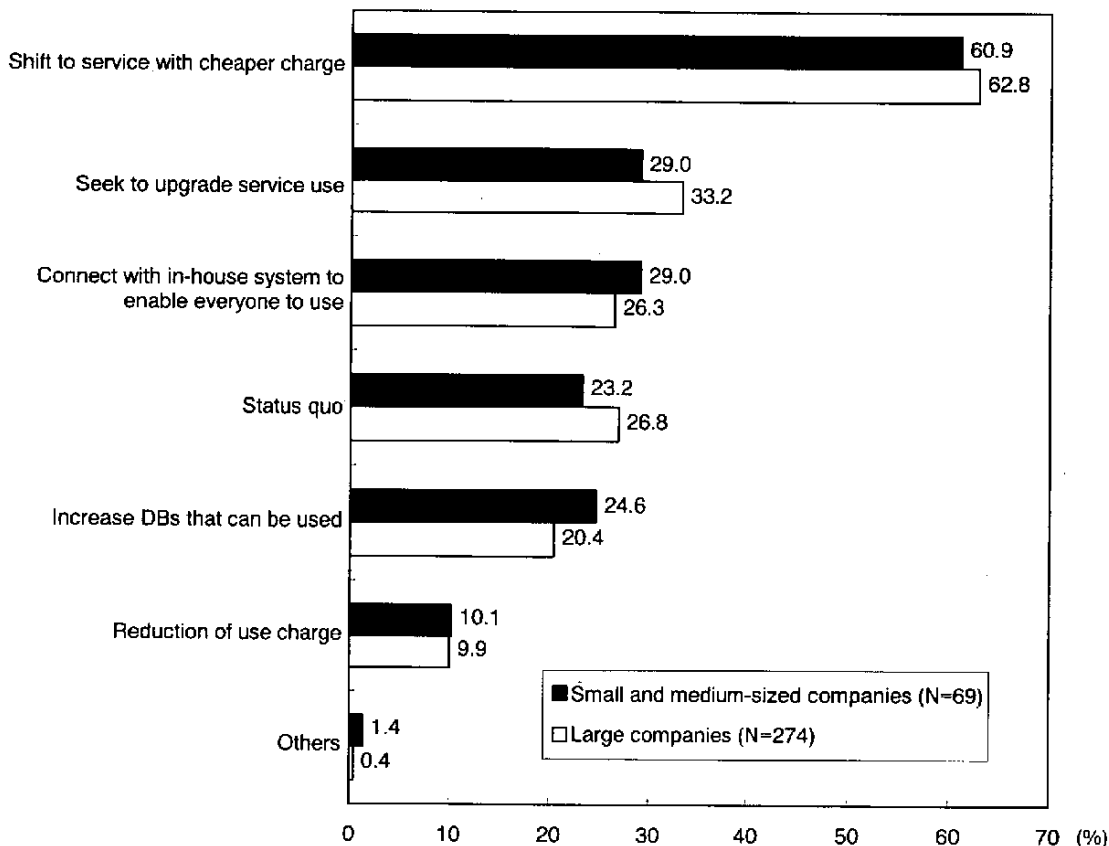


Fig. IV-4 Database Use Methods that User Want to Implement in the Future (multiple replies)

6.2 Database Service that Users Want to Use in the Future

Table IV-11 shows the responses of 346 companies that now use database service as well as 54 companies that do not use database now, but intend to do so in the future, regarding the database fields that they want to use in the future.

The priority needs for future use of database among the companies that use it now are "corporate finance/profile" with 62.7%, "newspapers/journals/news" with 52.9%, and "patents" with 47.7% in that order. In comparison with the previous survey, the only change in the upper ranking items was that "markets/products" (No.4 rank) and "who's who/organization information" (No.5 rank) exchanged their places.

Next, among companies that plan to use databases in the future, "corporate finance/profile" came first with 57.4%, followed by "newspapers/journals/news" with 46.3%, "patents" and "markets/products" with 35.2% each, in that order. The higher rank items, and their rank order, are the same as that among business companies that already use database service. In comparison with the findings in the previous survey, a dramatic rise was seen for "patents," which rose by 16.9 points, from No.7 rank to No.3 rank.

We also had the responding companies write down the kinds of databases that they would like to use in the future. Items mentioned in the side of functions were: "a system where all the databases can be used with gateway connection," "a service in which search can be made among a multiple number of databases in a cross-cutting manner," "a system where you can search without worrying about the connection domain," "a system where you can collect the necessary information by the agent function from all the databases automatically," and "a system where you can search for entire texts, download them, and freely process them."

Table IV-11 Databases Fields that Users Want to Use in the Future (multiple replies)

	Database in use (N=346)	Want to use in future (N=54)
		(%)
Corporate finance/profile	62.7	57.4
Newspapers/journals/news	52.9	46.3
Patents	47.7	35.2
Markets/products	43.1	35.2
Who's who/organization information	40.5	29.6
Overall (encyclopedia/bibliography/book guidance)	31.8	29.6
Administration/law/politics	28.6	29.6
Chemicals	24.9	11.1
Electricity/electron/information	21.7	27.8
Medicine/pharmaceuticals/biotechnology/biology	21.1	11.1
Macro-economics	15.9	9.3
Finance/securities/exchange rates	15.6	20.4
Energy/natural resources	15.3	11.1
Consumer and daily life related information	14.2	16.7

7. Use of Databases via PC Network Services

Business companies that use database services through PC network service was 62.5% of the 642 replying companies, which is a decrease of 3.9 points from the last time. When look at this by company size, the ratio is 58.3% among small and medium-sized companies (a 1.0 point decrease from the previous survey) and 69.2% (a 6.0 point decrease) among large companies.

8. Utilization of the Internet

When companies were asked whether or not they are using the Internet, 91.1% of the 639 replying companies indicated that they are "currently using", 6.3% replied "not currently using but desire to use in the future", and 2.7% indicated that "no need to use in the future or do not know".

The percentage of the companies that now use the Internet was 69.2% in the survey before the last one, and 85.0% in the last survey, which shows that the use has grown significantly in the past several years. We can see that the use of the Internet has become widely disseminated among business companies at large in this period.

By type of industry, there is no large unevenness, but the rate of use is somewhat lower in the "finance and insurance industry" (79.4%), "commerce" (80.0%), "other manufacturing industry" (80.6%). In contrast, the response "there is no need to use in the future, or unclear" is high in "commerce" (10.0%, and 13.6% last time), and "financial and insurance industry" (8.8%, 18.8% last time). However, the figures have declined in all cases from the previous survey, and so, the unevenness among various industries is likely to be dissolved in the future.

As for use purpose for the Internet, among 613 responding companies, the top items were "information acquisition from home pages" with 91.7% and "E-mail" with 89.6%, followed by "transmitting information by creating our own home page" and "file transfer." With regard to "commercial database searching," 25.6% of the companies that now use the Internet do so (an increase of 4.7 points from the previous survey), but only 8.8% of those companies that plan to use the Internet want to do so (a decrease of 8.2 points from the previous survey)(Fig. IV-5).

When respondents were asked about "Services via the Internet considered to be promising the top reply among 584 replying companies was "News and other text information services using electric mail" at 61.0%. This was followed by "Information searching services using WWW, Telnet, etc." at 51.4% and "Multiple information service combining character, voice, still picture, and moving picture through WWW, etc." at 45.2% (Fig. IV-6).

When we surveyed about the points that were of concern about use of the Internet, the top item was "worries about security such as penetration from outside" with 81.5%, as was the case last time. (Fig. IV-7) This was followed by "risk of leakage of private information and classified information" with 52.1%. Thus, we see that the question of privacy, along with that of security, present the greatest concerns in relation to the use of the Internet.

In particular, for services on the Internet that are considered highly promising in the future, the

risks of security and leakage of information can be expected to increase. Thus, in order to develop sophisticated services, it will be necessary to devise complete security measures and adequate measures to protect privacy, in order to eliminate worries on the part of users.

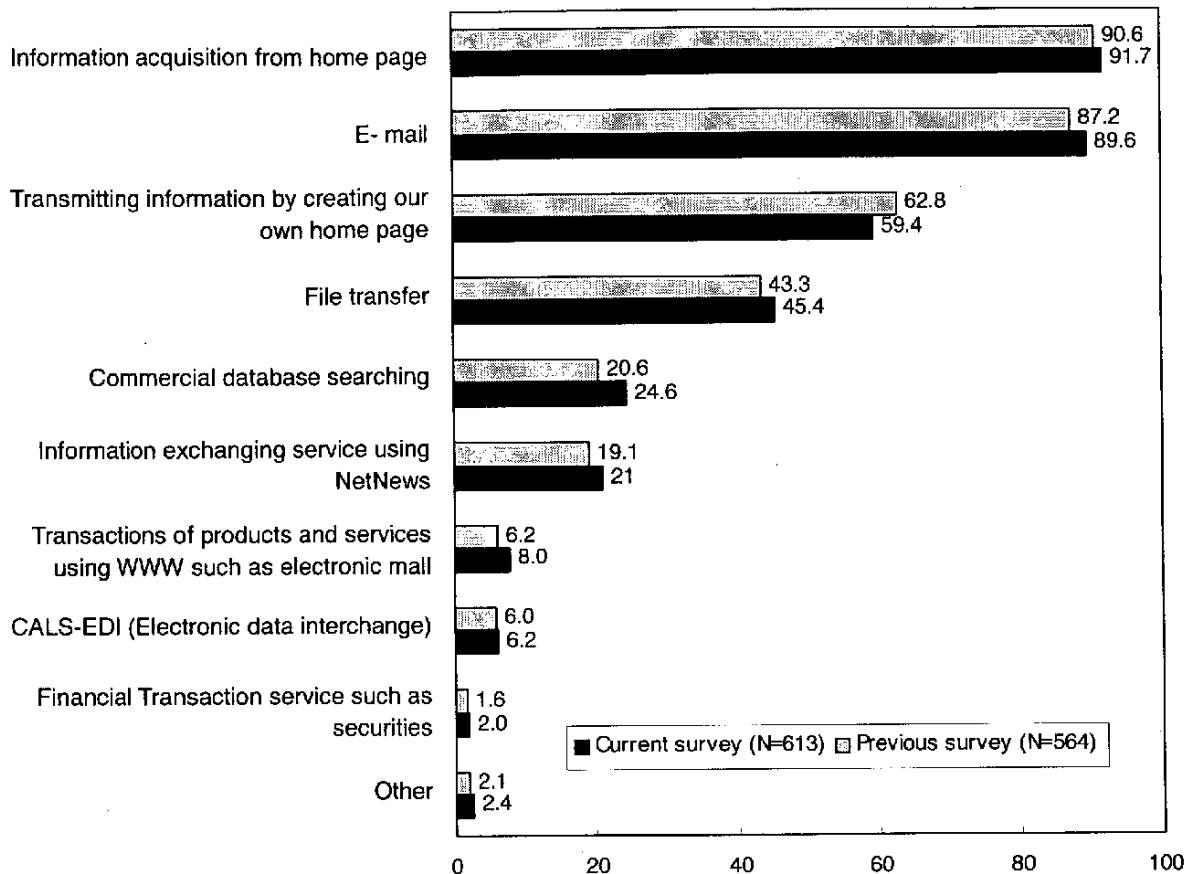


Fig. IV-5 Comparison of Use Purpose for the Internet with Findings of the Previous Survey (among Companies that Use it Now and those who Want to Do So in the Future)

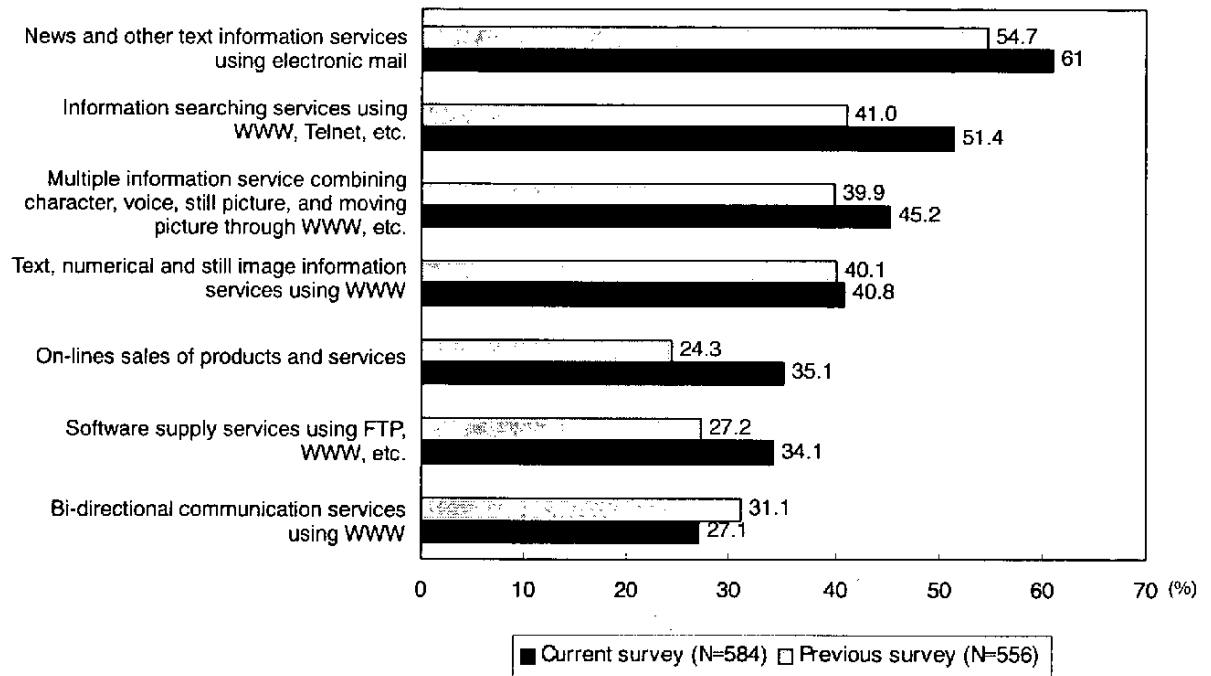


Fig. IV-6 Comparison of the Services via Internet that Are Believed to Be Promising, with the Findings in the Previous Survey (multiple replies)

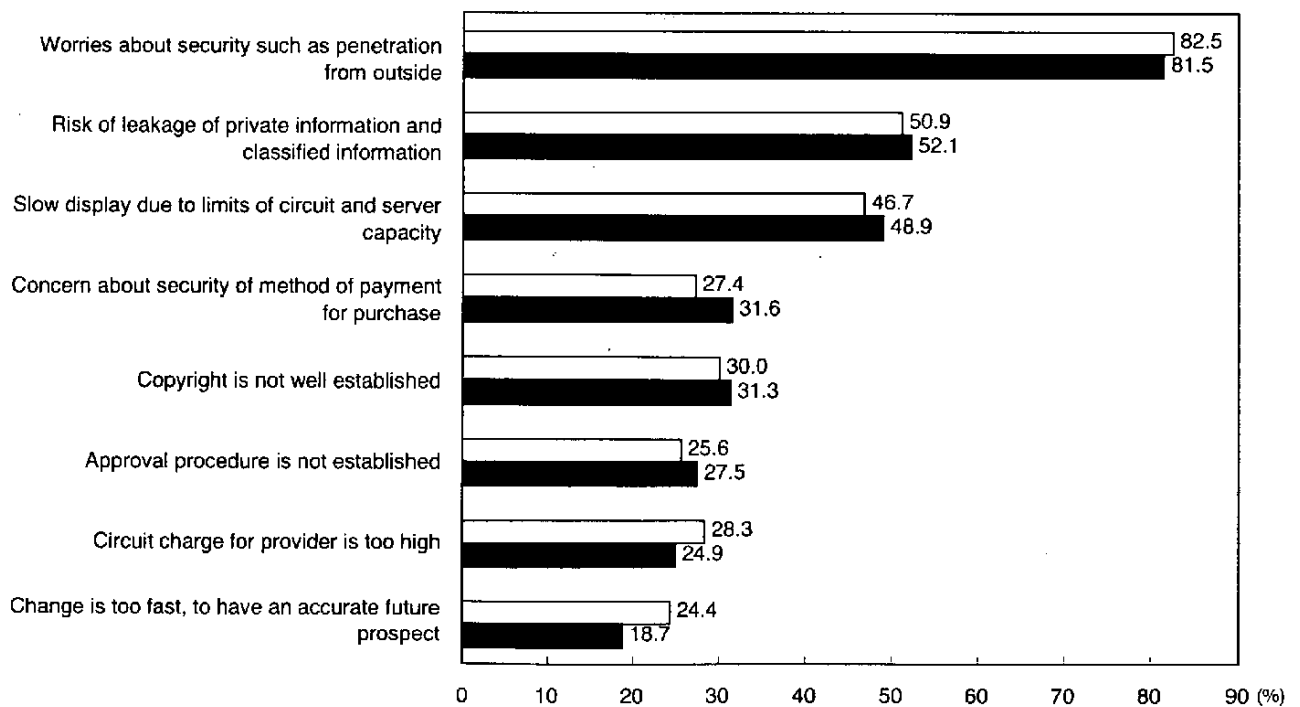


Fig. IV-7 Comparison with the Previous Survey on Concerns about the Internet Use (multiple replies)

9. On Use of CD-ROM

For off-line use of commercial databases, one of the major media in database service is CD-ROM. Of the 640 responding companies, 38.8% were using a commercial database in the form of CD-ROM. This represents a 3.7 point increase from the result in the previous survey, and we see that the use rate of CD-ROM has been rising steadily by 3 to 5 points in each of the past several years.

When we asked those companies that do not use commercial database service via CD-ROM about their plan for future use, 34.6% of 381 responding companies stated that they "have a plan to do so."

9.1 Information Fields in which Companies Use CD-ROM

Fig. IV-8 shows the fields with a high use rate of CD-ROM type database. The highest use rate is seen for "dictionary/encyclopedia/directory," followed by "science and technology/patent" in that order. In the previous survey, "science and technology/patent" exceeded "dictionary/encyclopedia/directory," and ranked at the top. However, in the latest survey, the order was reversed. While the use rates for "dictionary/encyclopedia/directory" or "bibliography/book and publication information" are not high for on-line service, they are most used in CD-ROM, which shows the strong characteristics of CD-ROM well.

The average number of CD-ROM titles used per company is 7.8, an increase of 1.4 titles from the previous survey. When we look at the situation in terms of company size, small and medium-sized companies use 4.3 titles, while large companies use 8.0 titles on average, nearly twice. By type of industry, "broadcasting and telecommunications industry" uses an overwhelmingly high number of 29.0 titles, followed by the "financial and insurance industry" with 16.0 titles, "newspaper and publishing industry" with 13.8 titles. Thus, we can see an unevenness in the number of titles used among different industries. In the tertiary sector industries, the average is 9.6 titles per company, which is more than 6.0 titles for companies in the secondary sector, while public services use 8.8 titles per agency on the average.

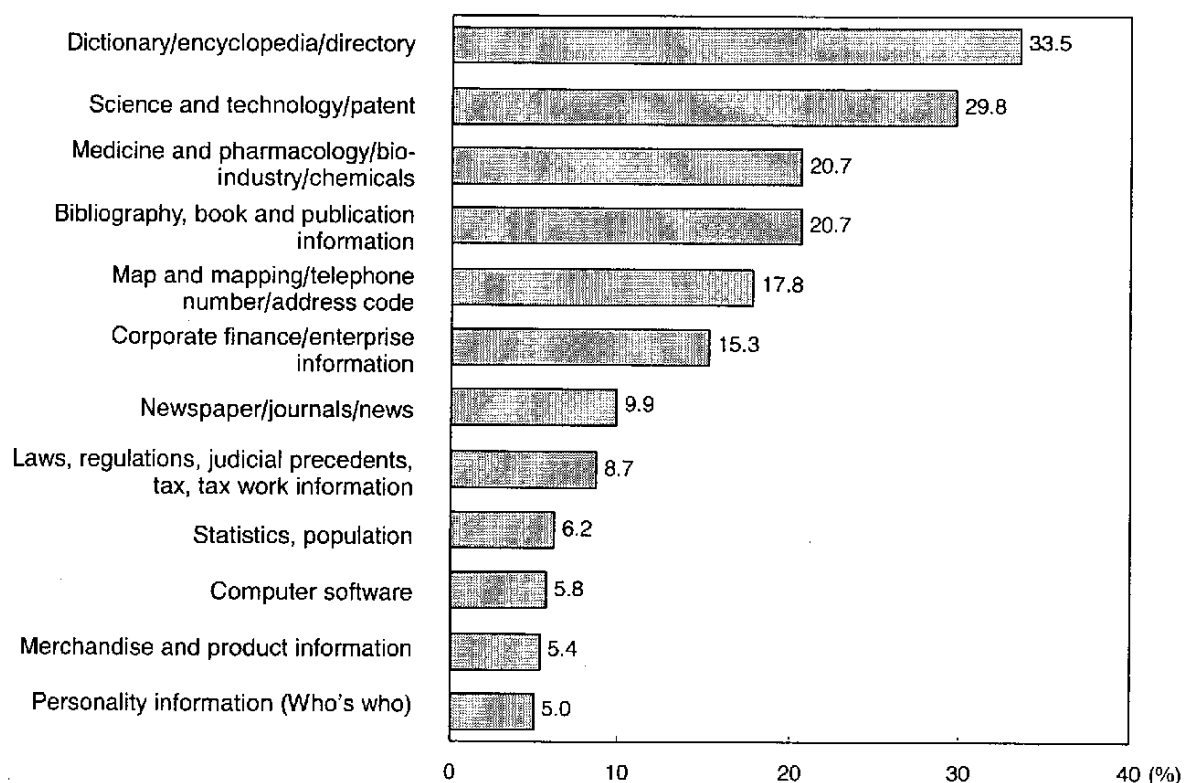


Fig. IV-8 CD-ROM Database Fields that Are Used Often at the Present Time (N=242: multiple replies)

9.2 Reasons why CD-ROM is Used

With regard to the reasons for using CD-ROMS, the top response among 240 replying companies was "Space-saving compared to micro data and prints" at 55.8%. This is followed by "it has a lump-sum, fixed price" with 49.6% and "no communication cost is necessary" with 46.7%. In the past, "no communication cost is necessary" exceeded "it has a lump-sum, fixed price," but the gap between the two items narrowed each year. In the previous survey, these two items reversed their ranking, although the difference was small. This time, the gap increased to 2.9 points. This is probably due to the decline in the communication charge so that users do not feel as much burden for communication cost in using on-line service, which, in turn, has cut down the cost merit of CD-ROM.

Other reasons mentioned are: "it is easy to draw up and exercise budget control," "appropriate for training in information search," "only CD-ROM provides the needed information," "its use as a reserve for on-line search," "can gain detailed data," and "provides a large volume of information, which would be time- and cost- consuming to obtain on-line."

9.3 Inconvenient Points Related to Use of CD-ROM

As for points that are perceived as inconvenient in relation to use of CD-ROM, the largest score was for "there is a problem with frequency of updating of information" with 60.5%, an increase of 7.7 points from the previous survey. It is leaving other items far behind. (Fig. IV-9.)

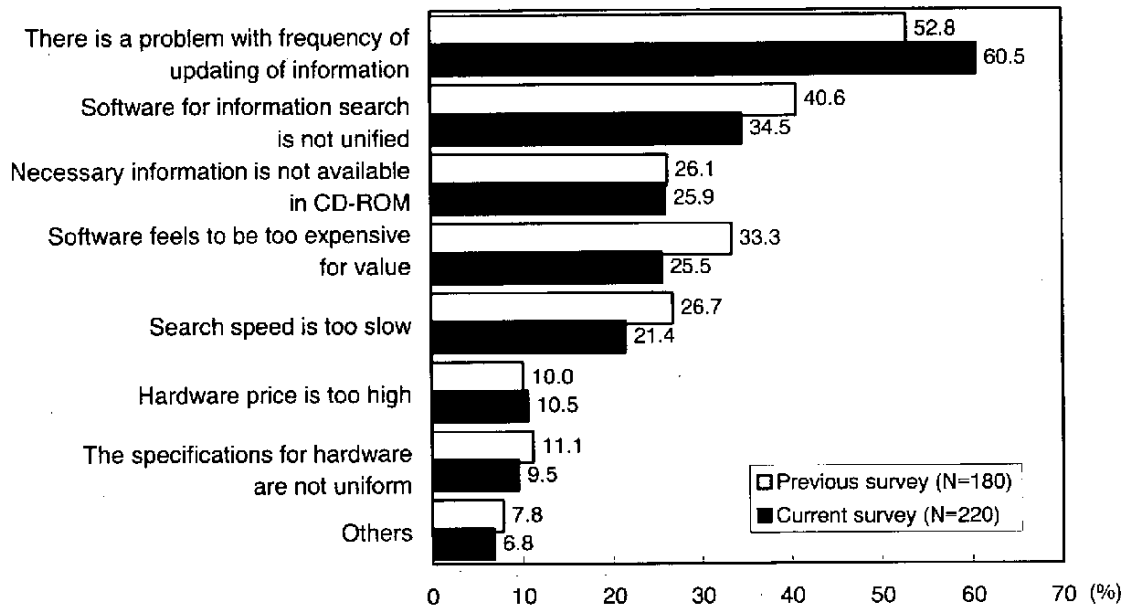


Fig.IV-9 Points of Inconvenience in Use of CD-ROM (multiple replies)

V. State of Personal and Home Utilization

The Database Promotion Center has been implementing the "Questionnaire Survey on the Status of Use of Commercial Database by Individuals and Households" since 1994. This time, the Center implemented the survey between November 9 to 20, 1998. Based upon the findings of this survey, we will consider the present situation of individual use.

The 20,000 survey samples were selected randomly from the registered members of NTT NaviSpace Corporation. "MY DIRECTORY" as of end of October 1998, and the survey was implemented by sending the questionnaire and request for cooperation via E-mail. The responses were collected by the questionnaire site opened by Nikkei Research Inc. on the Internet. Valid responses were received from 2,524 persons.

1. Composition of Respondents

Because the survey was directed toward Internet users, the respondents as a group varies considerably from the composition of the general population. Below, we will examine the characteristics of the survey respondents.

In terms of gender breakdown, 78.8% of 2,524 respondents were men, while 21.2% were women. By age, persons in the early 30's were the largest group with 23.1%, followed by 20.7% in the late 30's. Combined, those who are in 30's exceed 40%. This group is followed by 27.7% in the 20's (9.6% in the early 20's and 18.1% in late 20's), and 20.2% in 40's, and 6.7% in 50's and over.

By occupation, the largest group (30.8%) are salaried employees in technical position, and salaried employees, including executives, overall made up 61.1% of the total. This is followed by students (7.7%), self-employed and free professionals made up 7.3%, and full-time housewives and public employees each accounted for 5.3%.

2. Status of Individual Use

2.1 Use of Commercial Databases and Use of Individual Contract

Out of 2,524 respondents with valid responses, 28.1% (708 respondents) stated that they "have used a commercial database before," which is a slight decrease from the previous survey 31.6%. 505 persons who stated that they use it now, and they comprised 71.3% of all persons with some prior use experience, and 20.0% of all respondents. (Fig. V-1).

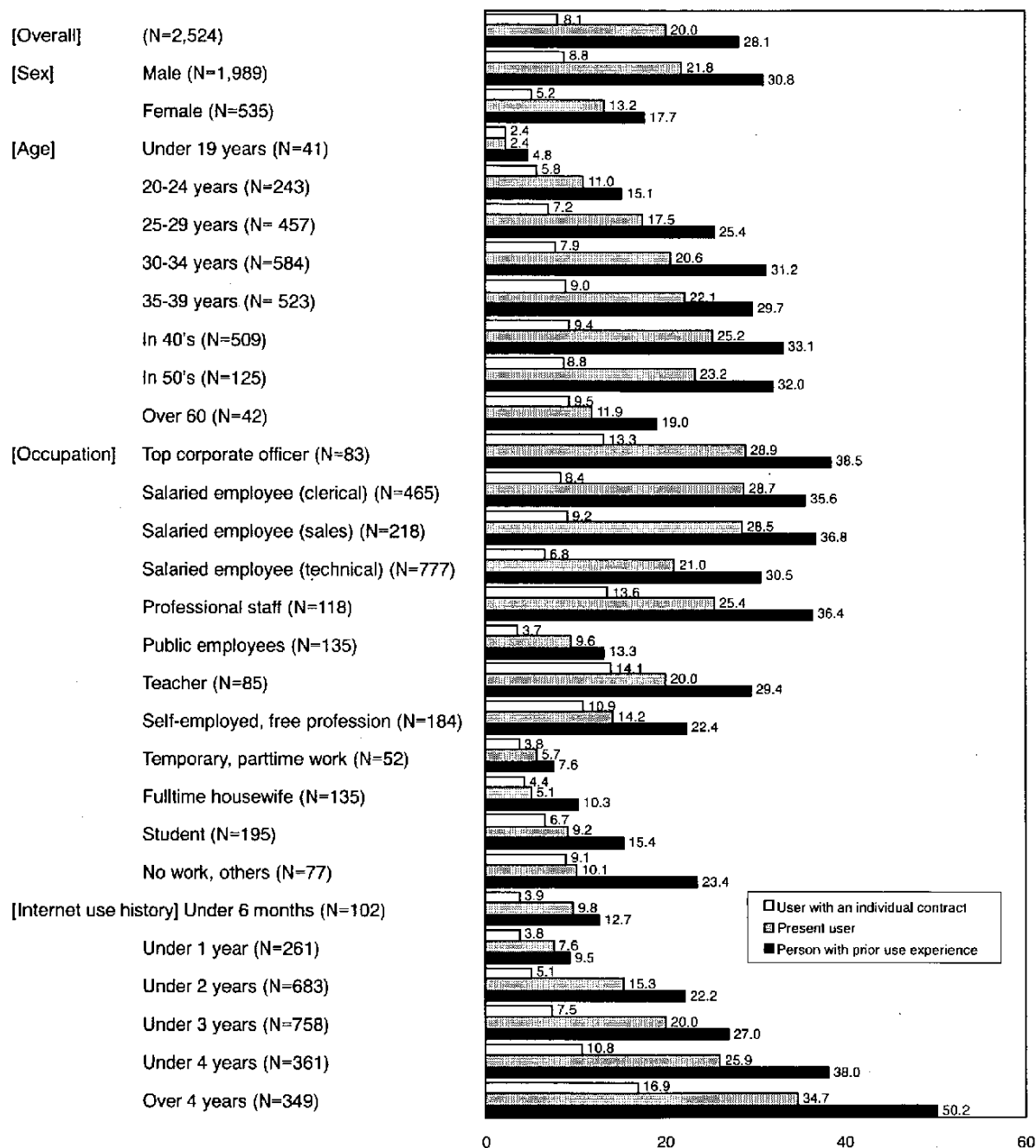


Fig. V-1 Status of Use of Commercial Database by Respondent Characteristics

Of 505 persons who use it now, 123 persons or 24.4% "use only the commercial database for which they have an individual contract," and 24 persons or 4.8% use mainly "the commercial database with an individual contract." In addition, there are those "who use both the commercial database with an individual contract and the database contracted by the company to the same extent" (10 persons), and those "who use mainly the commercial database contracted by the company, but also the one with an individual contract" (47 persons). When all these groups are added, those "who use a commercial database with an individual contract (individual contract users) number 204 persons or 40.4% of all present users, and 8.1% of all respondents.

The situation of use of commercial database shows that the longer the users' history of use of the Internet, the greater is the likelihood of use of a commercial database. 50.2% of those who have used a commercial database before with "more than four years" of the Internet use history use a commercial database, which is more than 5 times the use rate of those "with between 6 months and 1 year" of Internet use history. And, 34% of those who use a commercial database now "with more than four years", which is about four times the use rate of "with between 6 months and 1 year", use a commercial database. In the previous survey, too, those with prior experience of use was 18.5% among the strata with "under 1 year of Internet use," and 48.9% among those with "over 4 years of Internet use." Thus, the results were similar. With regard to users with an individual contract, while only 4% or so of those with "under 6 months" and "under 1 year" of use history use a commercial database, the rate increases to 16.9% for those with "over 4 years" of use history. In the future, with the increased dissemination of the Internet, users of commercial database is likely to increase, and the ranks of users with an individual contract may increase as well. (Fig. V-1)

2.2 Use Time and Use Charge

We asked these users with an individual contract (204 persons) in what form they use a commercial database.

As for use time per week, the largest group use a commercial database "under 30 minutes" per week (69.6%) followed by "under 1 hour" (16.2%). Heavy users with "more than 3 hours" of use account for only 4.9%. The average amount of use time was 43.8 minutes. Similarly, the amount of cost incurred in one week was "under ¥1,000" for 69.1% of users, "between ¥1000-¥3000" for 22.1%, so that those who spend less than ¥3,000 accounted for over 90% of all respondents. Only a handful of users spend more than ¥3,000. The average cost was ¥1,329.4 per week.

2.3 Means of Using a Commercial Database

With regard to a question related to the means of use of a commercial database (multiple responses accepted), "access via the Internet" increased from 51.9% in the previous survey to 57.4%, superseding "access via PC network service" (53.4%). When we asked all of the 2,524

respondents about the present use of this type of service via the Internet and future use intention, 37.7% said that they "want to use a commercial database in the future," which far exceeded those who are "using it now" (21.6%). Thus, in terms of use of a commercial database, the role of the Internet is likely to expand significantly in the future.

The "direct access to on-line database" increased from 11.2% last time to 17.2% this time, but this method falls far behind both "Internet" and "PC network service." Also, use via "CD-ROM (including electronic books, etc.)" remained at about the same level as the last time at 10.8%.

2.4 Information Fields Used

Among the fields of information covered by the commercial database that people have used with an individual contract, upper ranking items were "news" (60.8%), "enterprise information" (52.9%), and "article search" (48.0%). These are followed by "book information," "maps," "other hobbies (information on leisure, entertainment, sports)," "weather information," "finance, stock, market information," "quiz, game, fortune telling," "resort, tourist spot information," and "shopping and seat reservation," in that order, with each commanding a score of over 20%.

In addition, use of more than 10% was registered by "natural science and technology," "theater and movie guide," "CD/video software information," "personnel information (who's who), education and culture," "business index and economic statistics," "social science and humanities," and "real estate information."

When we asked the respondents to select three information fields that they use the most, "enterprise information" (29.4%) gathered the most responses exceeding "news" (27.0%). Also, "information on other hobbies (entertainment, etc.)" (12.3%) and "finance, stocks, and market information" (11.3%) rose in ranking. Conversely, "maps" and "weather information" declined in ranking.

As for the specific database that respondents have used often, "Nikkei Shimbun Article Database" came at the top with 37.3%, followed by "Asahi Shimbun Article Database" (34.3%), "COSMOS2 Enterprise Information (Teikoku Databank)" (29.4%) in that order. Other article databases have a relatively large number of users as well. When we look at the ones used often (up to three), the top is again "Nikkei Shimbun Article Database" (22.1%), but, here, "COSMOS2 Enterprise information (Teikoku Databank)" (16.2%) exceeds "Asahi Shimbun Article Database" (13.2%), ranking No.2 (Table V-1).

Table V-1 Commercial Databases Used Often
(multiple replies: individual contract users: N=204)

Rank	Database	Component ratio (%)
1(1)	Nikkei Shimbun Article Database	22.1 (37.3)
2(9)	COSMOS2 (Teikoku Data Bank Enterprise Information)	16.2 (29.4)
3(2)	Asahi Shimbun Article Database	13.2 (34.3)
4(3)	Mainichi Shimbun Article Database	10.3 (27.9)
5(5)	Yomiuri Shimbun Article Database	7.4 (22.5)
5(4)	TSR-BIGS (Tokyo Shoko Research Enterprise Information)	7.4 (17.6)
5(-)	Other domestic newspapers' articles	7.4 (17.2)
8(8)	Other domestic science, technology, medicine and pharmaceutical information	6.4 (9.8)
9(7)	WHO (Nichigai Associates)	5.9 (11.3)
10(11)	MEDLINE	3.9 (3.9)

* The figures in the parentheses are an order in last time, and percentage of "to have used" in this time.

3. Evaluation of Commercial Databases

3.1 Evaluation of the Cost and Contents

As for the total cost to the users with an individual contract (total cost including connection charge, circuit use charge, membership fee), the evaluation "somewhat dissatisfied" was the most frequent response with 31.9%. When "dissatisfied" is added, then, 49.1% who were dissatisfied to some extent far exceeded the combined total of 30.4% who were "satisfied" or "somewhat satisfied." In contrast, the evaluation of the contents was evaluated as "somewhat satisfied" by 49.5%, the largest group. When those who were "satisfied" are added, 55.4% or over half were satisfied, while those who were "dissatisfied" and "somewhat dissatisfied" were far less at 22.6%.

As for the overall evaluation of commercial database (with its cost and contents combined), 36.8% were "somewhat satisfied" and 4.4% were "satisfied," so that 41.2% were satisfied to some degree, and these persons exceeded 27.9% who were "dissatisfied" or "somewhat dissatisfied." It appears that satisfaction with the contents offset the dissatisfaction with the total cost, and as a result, they were "somewhat satisfied overall." (Fig. V-2)

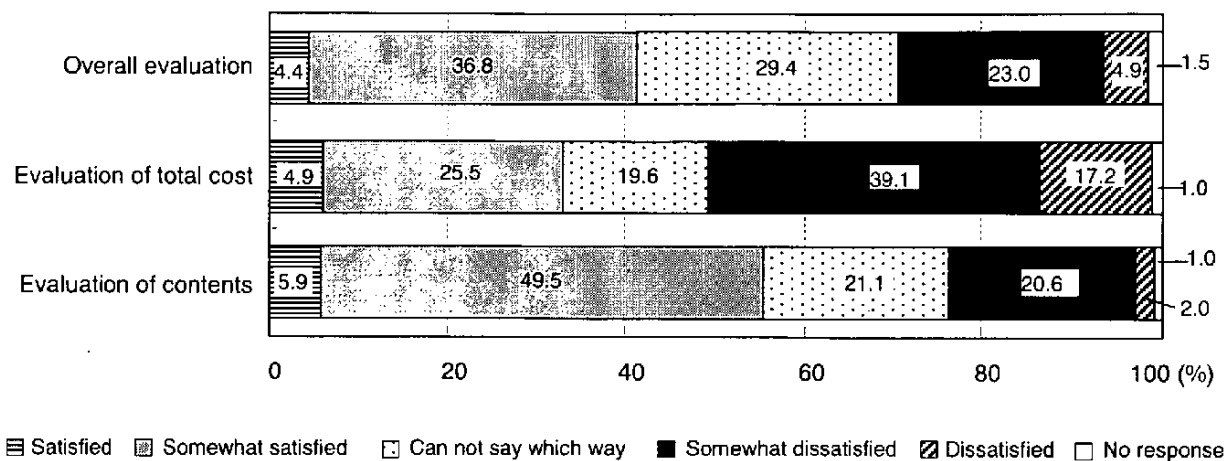


Fig. V-2 Evaluation of Commercial Database (Users with an Individual Contract: N=204 persons)

3.2 Dissatisfactions and Requests for Improvement

In terms of specific points of dissatisfaction regarding use of a commercial database on the part of users with an individual contract, the top item was the "use charge" (74.5%). While this represents a decrease from the 77.2% figure in the last survey, this point continues to score overwhelmingly high. "upgrading of the contents of database" (29.9%) came in second, exceeding "high circuit use charge" (27.5%). The score for "upgrading of the contents of database" rose from 15.9% in the survey before last, to 24.9% in the last survey, and to 29.9% in this survey, in a steady pace. And, we can anticipate this demand for improved contents to increase in the coming years as well.

4. The Future of Commercial Database

4.1 Use Intention for the Future

Up to now, we examined the use of commercial databases and their evaluation mainly on the basis of responses given by users with an individual contract. Now, let us look at the future uses of commercial databases.

When we look at the use intention of all respondents about use of commercial database based upon an individual contract, 2.0% said that they "want to use it actively," and 39.1% said that they "want to use it to a certain extent." Thus, somewhat over 40% expressed some intention to use it. Only 18.4% said that they "do not want to use it at all." Compared to the present ratio of 8.1% for users with an individual contract, the future intention is at a fairly high level.

While women's using intention is somewhat lower than that for men, it stands at 32.9%, that is, one out of three women respondents replied that they "want to use it." By age grouping, the use intention among those under 19 years of age was 26.8%, and that among those between 25 and 39

years was at about 38%, both under the overall average. However, the using intention is not noticeable low even among these groups. By occupation, the using intention is low among "full-time housewives," but it was still at 23.7%. Thus, we see here that expectations on commercial databases are not confined just to certain strata or to those with special needs.

4.2 Information Fields that Respondents Want to Use in the Future

When we asked users with an individual contract, which of the specific information fields they would like to use in the future on commercial databases, the upper ranking items were "news," "article search," and "enterprise information," in that order. This rank order does not vary much from the existing use situation. This indicates that the needs of the present users with an individual contract are in these information fields, and that the results of actual use of these information fields have received a positive evaluation.

The information fields for which the future use intention is significantly higher than the present use level are "maps," "resort, tourist spot information," "book information," "information on other hobbies," "information related to medical institutions and health," and "CD/video software information." These appear to be areas where growth can be expected in the future.

As for future use intention of users with no prior experience, the highest interest was shown for "information on other hobbies," followed by "maps," "news," "resort and tourist spot information," "information related to medical institutions and health," and "book information," in that order. Among all respondents (2,524 persons), the rank order reflects the views of those with no prior experience. The top field selected was "information on other hobbies" with 30.2%. This is followed by "maps" (28.1%), "news" (27.9%), "book information" (25.7%), and "resort and tourist spot information" (25.2%) in that order. "article search" (24.2%) and "enterprise information" (23.5%) ended up with a lower score than for users intentions.

VI. Present State of In-house Databases

Databases developed by business companies or various types of organizations for use within the organizations concerned are called "in-house databases."

Normally, a database management system (DBMS) is used for management of an in-house database. In the recent period, however, there are an increasing number of cases in which information is shared in common through WWW (World Wide Web) server software and group ware. Here, we will include all cases where data that is systematized to some extent are shared within an organization, regardless of whether DBMS is used or not.

To begin with, we will summarize the response measures undertaken for in-house databases in relation to the problem of the year 2000, for which the deadline is approaching very fast. After that, we will take up the fields of the Intranet, groupware, data warehouse, mobile/remote computing.

1. Database Retention Rates

According to the "1998 Survey on the status of Japanese Database Services (user edition)", implemented by the Database Promotion Center, 430 out of 636 companies and organizations that responded to the questions related to in-house database have an in-house database (Fig. VI-1). This figure represents an increase from 63.8% in 1996 survey and 65.9% in 1997 survey. However, since the rate was 68.8% in 1994 survey, we cannot necessarily say that the rate of possessing in-house database has been rising. On the contrary, we can say that the rate has been stagnating.

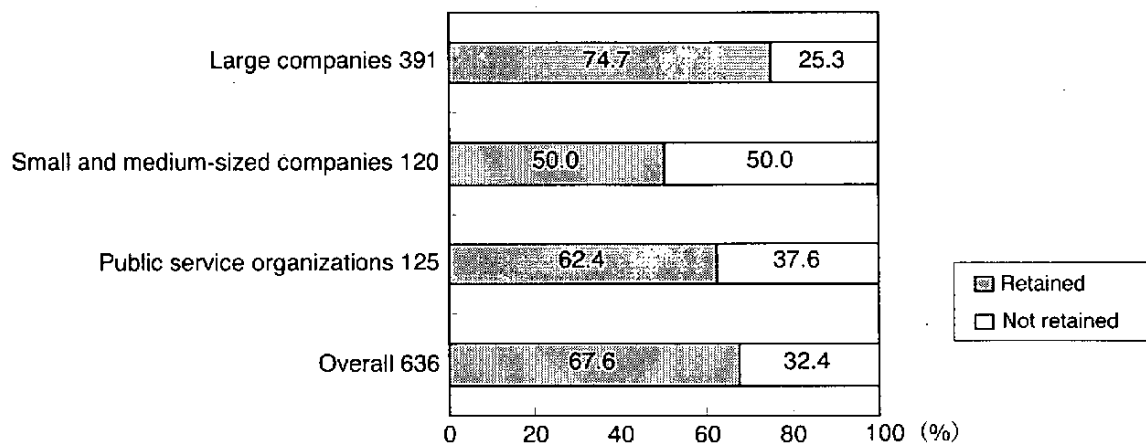


Fig. VI-1 Retention Status of In-house Database

1.1 No Change in the Ratio of Possessing In-house Database Based upon the Company Size

When looked at in terms of the size of the enterprise/organization involved, there has not been a big change in the rate of possession of in-house database in the past 5 years at least. It appears that in-house database has completed one round of dissemination already, and the rate of possession has reached a certain saturation point.

The rate of possession of in-house database for large companies was 74.7%, or about three-fourths. This is about the same level as 75.6% in 1997 survey, 74.3% in 1995 survey, and 74.2% in 1994 survey.

The rate of possession among "small and medium-sized companies" was 50.0%, which is comparable to 48.9% in 1996 and 49.2% in 1994. The rate was 37.1% in 1997, but this should probably be regarded as an anomalous figure due to some type of one sidedness in the responses.

Among "public service" (schools and other education agencies, hospital and other medical care institutions, survey and research organizations, unions and various types of organizations, and central and local government agencies) registered a rate of possession of 62.4%. The rate is on the same level as 62.7% in 1996 survey. The figure was 66.7% in 1997, 65.0% in 1995, and 68.9% in 1994.

1.2 The Rate of Possession is High for the Financial and Insurance Industry

When we look at the rate of possession of in-house database by type of industry, the "financial and insurance industries" (financial industry, securities industry, and insurance industry) came at the top this time with 81.8%.

This was followed by "oil and chemical industries" (medical and pharmaceutical products manufacturing industry, oil industry, and chemical industry) with 81.0%, "newspaper and publishing industries" 77.8%, "machinery and equipment manufacturing industry" (electrical machinery, transportation machinery, general machinery, precision machinery manufacturing industries) 76.8%, "iron and steel industry, nonferrous metals industry, metal products manufacturing industry) 70.8%, "other service industries" (real estate, transport/warehouse, power/gas, thinktanks, advertising, and other service industries) 70.6%. Then, come "other manufacturing industry" 67.6%, "construction industry" 64.4%, "broadcasting and telecommunications industries" 55.6%. Since there are big ups and downs in the rate of possession by industry each year, we will not attempt a comparison with the past surveys here.

2. Rate of Possession by Content Type

When we look at the rate of possession of in-house database by content type, the highest ratio overall goes to "customer management" with 47.6%. (Fig. VI-2) This is followed by "sales

management" 42.5%, "personnel management" 39.9%, "accounting/financial management" 38.6%, and "inventory control" 29.7%.

The top five items have not changed since 1995. Other items have not changed in a big way in rate of possession.

By type of industry, the rate of possession of "customer management" database is highest, by far, in the "financial and insurance industries" with 82.6%. Since it was 85.0% in 1997 survey, and 84.2% in 1996 survey, this year's figure is about on the same level. Also, the rate of possession of "personnel management" database in the "construction industry" is noticeably high at 89.3%. This, too, follows the same level as in the previous years (95.7% in 1997 survey and 81.0% in 1996 survey). Other high rates of possession were seen for "sales management" (73.7%) "customer management" (68.4%), and "inventory control" (68.4%) in the "commerce", "customer management" (67.2%) in the "information processing and information supply industry", and "inventory control" (64.7%) in the "iron and steel, nonferrous metals, metal products manufacturing industries".

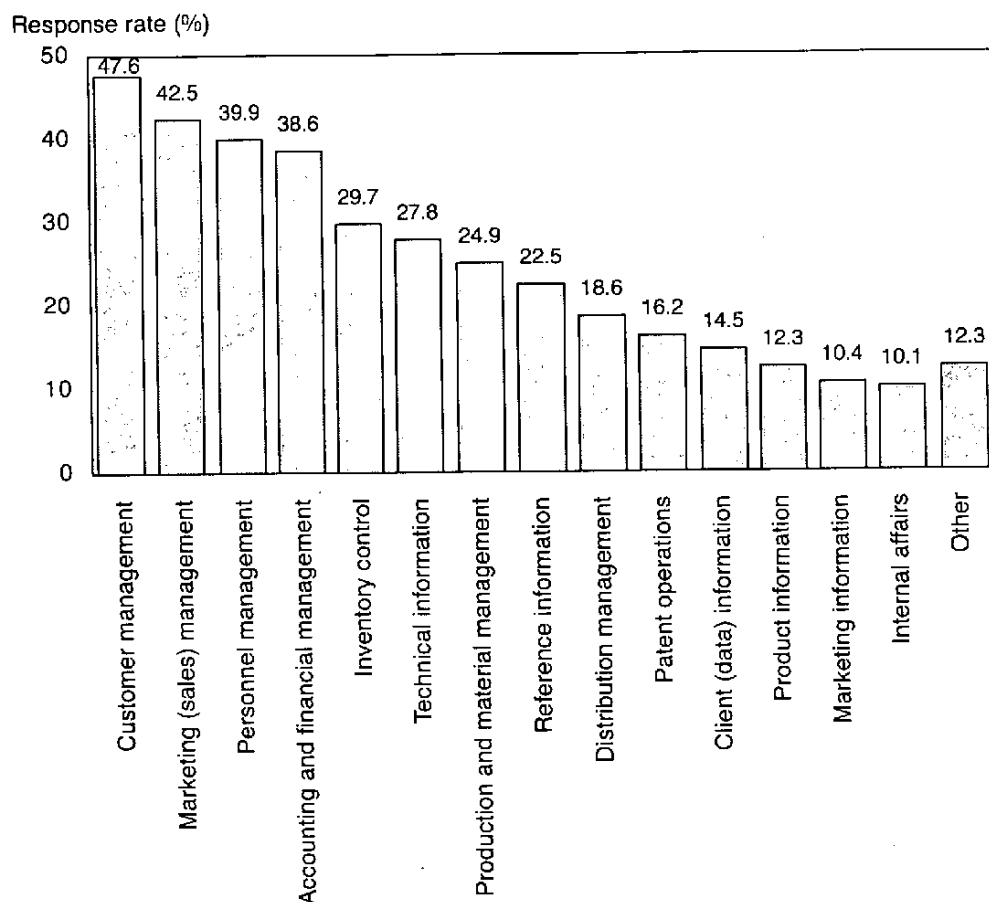


Fig. VI-2 Contents of In-house Databases (multiple replies)

Then, let us examine the year in which the in-house databases in possession as of October 1998 were built, by type of content. In the past three years, there were many companies and groups that built databases on “developments within the company (internal affairs)” 25.7% of companies and organizations built this in-house database in FY1996, 20.0% did so in FY1997, and 22.9% in FY1998 (Fig. VI-3). Thus, of all companies and groups that possess this in-house database, 68.6% built them in FY1996 or thereafter.

Other types of in-house databases built recently by companies and organizations are “marketing information” and “client information.”

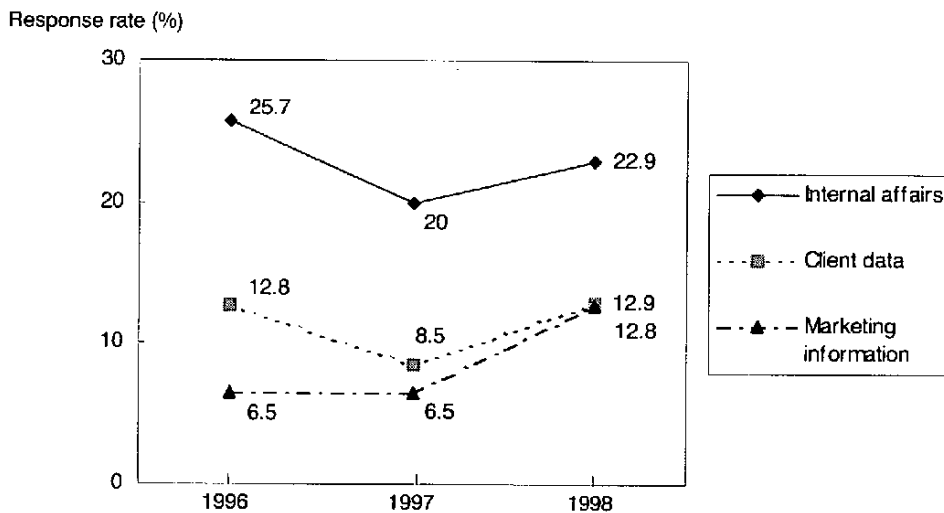


Fig. VI-3 Contents of Recently Constructed In-house Databases (Top 3)

The internal department that uses in-house databases the most is “sales division.” Overall, 59.6% use such a database. This follows the pattern in the recent years, and when we consider that the rate of possession of customer management database and sales management database is high, this can be considered a natural result.

This was followed by “administration division” 48.2%, “accounting and finance division” 45.6%, “planning division” 35.9%, and “production division” 32.0%, in that order. Up to the 1997 survey, “research and investigation division” had long been in the top 5, but this time, it is 31.3% and retreated to No.6 position. In its place, “accounting and finance division” came into No.3 position.

3. Database Building Form

3.1 Rate of Introduction of Groupware by Small and Medium-sized Companies Reach 40 %

63.5% of all companies and organizations built in-house databases in the form of groupware. This is an increase of 11.3 points from 52.2% in 1997 survey.

The rate of introduction among large companies was considerably high at 72.4%. Since 16.7% of large companies “plan to introduce” it, 89.1% either introduced it already or plan to do so. However, the rate of increase is higher among small and medium-sized companies. The rate of introduction among them stood at 24.1% in 1997 survey, but it reached 38.9% in this survey. This rate approaches the comparable rate among public service organizations with 40.5%. (Fig. VI-4).

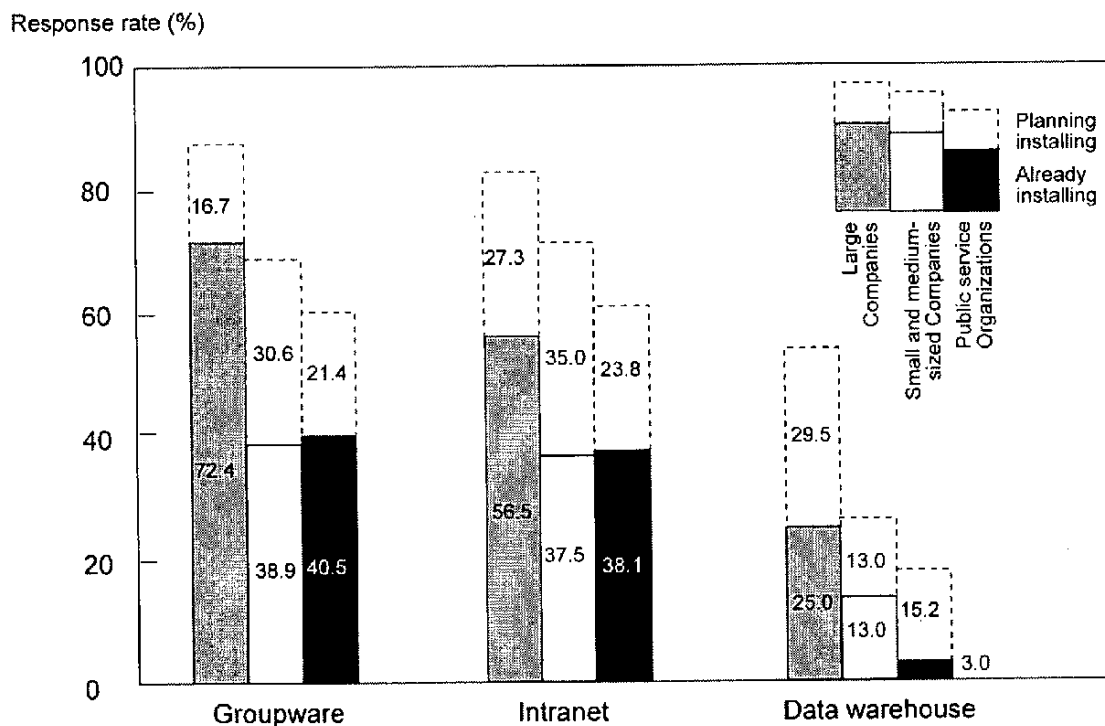


Fig. VI-4 Construction and Installation Status of In-house Database

3.2 Small and Medium-sized Companies Actively Introduce Intranet also

51.3% of all companies and organizations have constructed an Intranet. This is an increase of 9.4 points from 41.9% figure in 1997 survey.

The rate of introduction of an Intranet among large companies increased more than ten points from 45.9% in 1997 survey to 56.5%. However, the ratio of large companies that responded they “plan to introduce it” declined dramatically by 27.3% from 1997 figure of 40.9%. The total of large companies that “introduced it” and that “plan to introduce it” declined from 86.8% in 1997 survey to 83.8% this time.

The rate of introduction of Intranets among small and medium-sized companies has arisen sharply, from 22.6% in 1997 survey to 37.5% this time. On the other hand, the rate of introduction among public service organizations declined from 40.0% to 38.1%.

3.3 Data Warehouse Introduced by 25% of Large Companies

20.3% of all companies and organizations have built in-house database in the form of data warehouse. While this is an increase from the figure of 15.0% in 1997 survey, it does not have as much thrust for growth as groupware or Intranets.

The rate of introduction was 25.0% among large companies, and 13.0% among small and medium-sized companies. Those are 18.6% and 8.7% each in 1997 survey. The motivation for introducing it has been declining among small and medium-sized companies somewhat. The combined total of those who have "introduced it" and those who "plan to introduce it" declined from 34.8% in 1997 to 26.0% this time.

4. Replace VAN with the Internet

4.1 Rate of Introduction of In-house LAN Exceeds 90%

93.1% of all companies and organizations surveyed use an in-house LAN as a means of access to the in-house database. This is a 4.7 points increase from 88.4% in 1997 survey, and it has hit the big 90% range.

By size, the figures were 94.9% among large companies, 89.8% among small and medium-sized companies, and 88.6% among public service organizations. The growth rate among small and medium-sized companies was especially notable. The figure (for small and medium-sized companies) was only 71.8% in 1997 survey. (Fig. VI-5.)

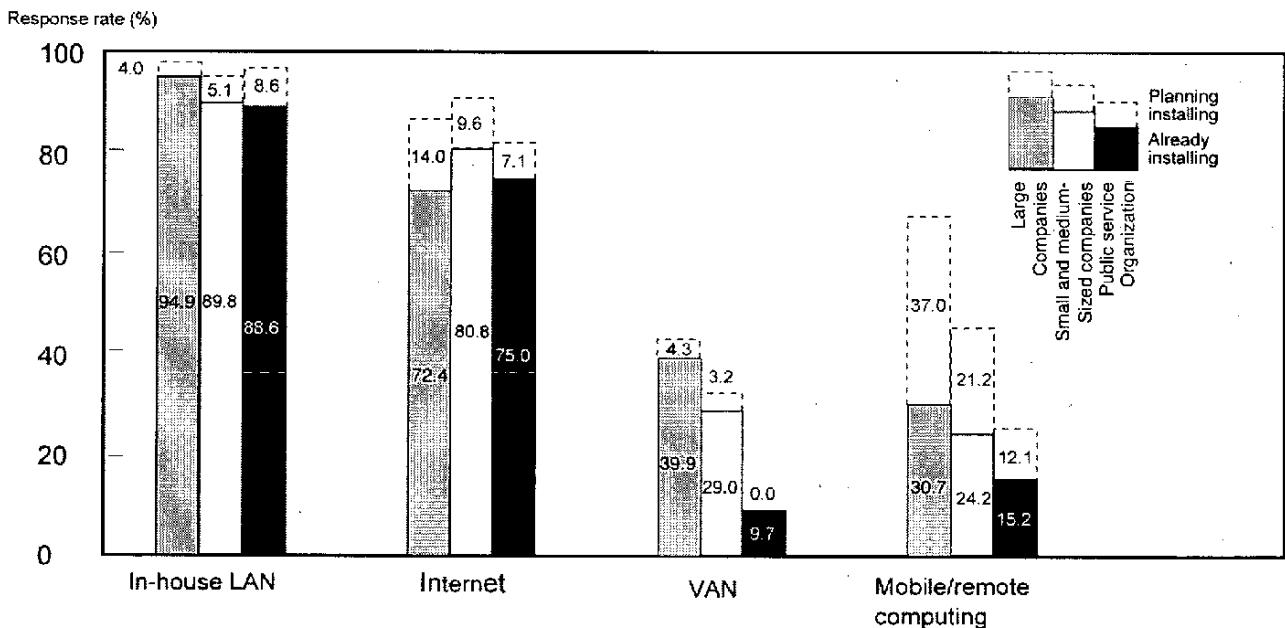


Fig. VI-5 Access Environment of In-house Database

4.2 The Internet Surpasses 70%

The ratio of companies and organizations that use the Internet as a means of access to an in-house database was 74.2% overall. This is an increase of 11.9 points from 62.3% in 1997 survey. Here, too, the growth in the ratio of small and medium-sized companies introducing this type of service is quite salient. It increased in a sweeping fashion from 48.5% in 1997 survey to 80.8% this time, surpassing the rate of 72.4% for large companies and 75.0% for public service organizations.

However, this figure on its surface appears to be too high. It is reasonable for us to infer that many of the respondents simply answered whether or not they use the Internet as such, quite apart from any relationship to a in-house database.

4.3 Small and Medium-sized Companies are Actively Involved with Mobile/Remote Computing

27.8% of all companies and organizations surveyed prepare for mobile computing or remote computing to secure access to the in-house database from outside. This is an increase of 9.3 points from the figure 18.5% in 1997 survey.

5. Connection with Networks Outside the Company

29.1% of all companies and organizations connect their in-house database with an outside network. This figure has been increasing steadily, from 13.1% in 1995 survey, to 17.9% in 1996 survey, and 23.9% in 1997 survey.

By industry type, the connection rate is highest in the "broadcasting and telecommunications industries" at 60.0%, followed by "newspaper and publishing industries" 50.0% and "public service" 42.7%. This is followed by "commerce" 31.6%, "information processing/information supply industry" 31.0%, and "other services" 30.6%. The rate of connection among large companies was 26.9%. On the other hand, the ratio for small and medium-sized companies rose from 14.0% in 1997 survey to 22.4% in the latest survey.

As for the party with which companies and organizations exchange data through a network outside of the company, "Affiliated company/subsidiary company" was mentioned by the largest number of respondents by far, with 52.4%. This is followed by "Sales agents/retailers" 22.7%, "Material (part/material vendors)" 21.9%, "Distribution agents" 12.9%.

6. The Rate of Possession of Home Page is 75%

In response to the question regarding home pages, 24.4% of companies and organizations said that they "do not make public their home pages." This means that 75.6% of companies and organizations open their home pages. This figure is higher than the figure for introducing the use

of Internet, 74.2%.

By size of user, 80.6% of large companies open up their home pages. (Fig.VI-6) As for small and medium-sized companies, 47.7% have a home page. Here, we can see that there is a big difference based upon the size of the enterprise. 85.1% of public service organizations open up their home page, and the rate of possession of a home page exceeds the comparable figure for large companies.

High rates of possession of home pages exist in "broadcasting and telecommunications industries" 100%, "newspaper and publishing industries" 94.1%, and "machinery and equipment manufacturing industry" 83.6%.

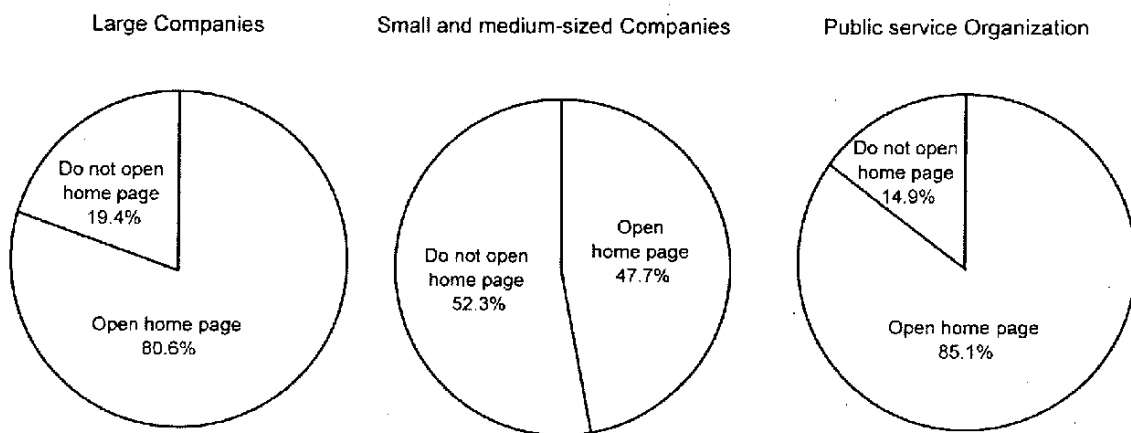


Fig. VI-6 Ratio of Opening Up Home Page on WWW

7. Quickly Approaching Problem of the Year 2000

Items related to the problem of the year 2000 were included in the 1999 edition of the "Survey on the status of Japanese Database Services (User Edition)," and a survey was carried out on the status of measures taken by domestic companies and organizations to deal with the problem.

There were five options for responses: "Measures completed," "No measures necessary," "Measures under implementation," "Measures under planning," and "No measures planned." The combined total of "Measures completed" and "No measures necessary" represent the ratio of companies and organizations that have completed the measures in response to the problem of the year 2000. Similarly, "Measures under planning" and "No measures planned" represent the ratio of those who have not started to implement the necessary measures.

Here, we sorted out the contents of in-house databases into 15 classifications. With regard to 11 of these classifications, more than one half of the companies and organizations concerned have already completed the necessary measures to deal with the problem of the year 2000. When we look at the situation by the content type, the high rate of completed measures is reported for

“developments within the company (internal affairs)” with 87.9% and “reference data information” 66.7%. Common to these two classifications is that they have a high ratio of response that “No measures necessary.” (Table VI-1)

On the other hand, for databases covering main types of work such as “customer management,” “sales (business) management,” “personnel management,” “accounting and financial management,” and “inventory control” were said to have the completion rate between 40 to 60% or so. In particular, “inventory control database” reported an especially low rate of 43.4%. Databases for “physical distribution management” reported a completion rate of 41.0%, which makes it the lowest rate of completion at this time. With regard to these types of databases, the response rate for “Measures under implementation” ranges from 30 to 50%, which shows that these are the areas where companies are tackling to implement the necessary measures at the present time.

Table VI-1 Status of Measures to Deal with the Problem of the Year 2000 for In-house Databases

Content of in-house database	(Replies ratio (%))						
	Measures completed	No measures necessary	Measures under implementation	Measures under planning	No measures planned	Total of measures completed	Total for measures not started
Development within the company	57.6	30.3	12.1	0.0	0.0	87.9	0.0
Reference data information	43.6	23.1	15.4	12.8	5.1	66.7	17.9
Customer management	51.2	11.0	30.5	6.1	1.2	62.2	7.3
Technical information	43.2	18.9	21.1	12.6	4.2	62.1	16.8
Product information	41.0	20.5	23.1	12.8	2.6	61.5	15.4
Patent work	42.3	19.2	15.4	17.3	5.8	61.5	23.1
Personnel management	54.3	7.1	32.3	5.5	0.0	61.4	5.5
Client (data) information	41.5	17.0	30.2	9.4	1.9	58.5	11.3
Sales (business) management	46.6	9.5	37.8	5.4	0.7	56.1	6.1
Accounting/financial management	45.7	5.4	40.3	7.0	0.8	51.1	7.8
Production/materials management	45.1	3.7	43.9	7.3	0.0	48.8	7.3
Marketing information	27.3	21.2	45.5	6.1	0.0	48.5	6.1
Inventory control	41.4	2.0	46.5	9.1	1.0	43.4	10.1
Physical distribution management	37.7	3.3	50.8	8.2	0.0	41.0	8.2
Others	38.5	25.6	10.3	20.5	5.1	64.1	25.6

Appendix

Table 1 Japanese Databases Accessible Overseas (1999: Producers)

Subject	Language	Vendor Status	Medium	Providing
①: Science and Technology	J: Japanese	P: Producer	I: Internet	①: Worldwide
②: Economics, Business and Finance	E: English	D: Distributor	O: On-line	②: North America
③: General/Others	O: Others	A: Agent	M: Magnetic Tape or Diskette	③: Europe
		T: Telecommunications Center	C: CD-ROM/CD-I/DVD, etc.	④: Asia and Australia
				⑤: Others

* Please look at the home page of DPC as for the latest directory. (URL:<http://www.dpc.or.jp>)

Company	Database	Description	Subject	Language	Status	Medium	Main Countries
Asahi Shimbun Publishing Company(ASAHI SHIMBUN)	AERA Article Database	Articles from weekly journal AERA	③	J	P	O/M/C	②③④
	Asahi News Service	Distributing to Mead Database, FT Profile and Microsoft Network via New York Times Syndication Sales	③	E	P	O	①
	Asahi News Service	Distributing directly to C.W.N. (Chamber World Network)	③	E	P	O	①
	Asahi News Service(ANS)	Articles from 'Asahi Evening News'	③	E	P	O/M/C	②③④
	HIASK	Articles from Asahi Shimbun(Morning and Evening Editions) of 18 districts	③	J	P	O/M/C	②③④
Association of Agriculture and Forestry Statistics	Agriculture, Forestry & Fisheries Statistics	Statistics Data including Agricultural Census	②	J	P/D	M/C	④
AXESS INTERNATIONAL NETWORK INC.(AXESS)	DRS	Collection of 40,000 records on tours, such as C.I.Q., towns, hotels, air ports, weathers information	③	J	P	O	②③④
Brandy International Incorporated(Bii)	BRANDY	On-line database service for searching domestic existing trademarks. Full-text is also available	①	J	P/D	O	
	Alpha-BRANDY	On-line service for multiple search using trademark public data from the Japan Patent Office	①	J	P/D	O	
Database Promotion Center, Japan(DPC)	Database Directory	Electronic version of the 'Database Directory' compiled by MITI	③	J	P	M	①
	Japanese Databases Retrieval	Japanese databases available overseas	③	E	P	I/O	①
Dun & Bradstreet Japan Ltd.(D&B)	Business Information Report	Credit information on Japanese companies	②	E	P/D	I/O	①
	Japan 250,000	CD-ROM including 250,000 Japanese Companies	②	E	P/D	C	①
	WorldBase	Short Form Japanese Company Information	②	E	P/D	O/M/C	①

Company	Database	Description	Subject	Language	Status	Medium	Main Countries
EDUCA Inc.(EDUCA)	Japanese Language Thesaurus	Directory of basic vocabularies in Japanese and English with examples	③	J/E	P	M	②
Electronic Devices Information Service Co.,Ltd.(ELISNET)	ELISNET	Various information on electronic devices, especially semiconductors	①	J/E	P/D	O/M/C	
ELECTRONIC LIBRARY Inc.(EL)	ELNET	59 newspapers and some 150 magazines (in Japanese). Articles are transmitted in their original from to user's fax machine	③	J	P/D	O	②③④
Financial Information Services Japan K.K. (Moody's Japan K.K.)	Company Data Direct	Internet-accessible, subscription service that provide 23,000 companies database in the world real-time EDGAR filing Annual report	②	E	P/D	I	④
	Company Data	"As-reported" Financial statement on more than 10,000 us companies. Data can be download to spread sheet (Excel) format	②	E	P/D	C	④
	International Company Data	"As-reported" Financial on over 13,000 non-U.S. based companies in 100 countries	②	E	P/D	C	④
Gfk Japan Ltd.	ACSISS-E	On-line daily POS database of home appliances and durable consumers' goods obtained from 2,100 retailers in Japan	②	J	P/D	O/M	②③④
	ACSISS-E	On-line daily POS database of home appliances and durable consumers' goods.	②	E	P/D	M	③
IBJ-NIKKO INFORMATION SYSTEMS, LTD.(INIS)	I.N.Economic Statistics Database	Information on statistics of economy, industry, and money	②	E	P	O	②③
Japan Association for International Chemical Information(JAICI)	Chem-J	Bibliographies of chemical literature published by Japanese chemical societies	①	E	P/D	M	②③
	NQRS	Numerical data of Nuclear Quadruple Resonance Spectrum(NQRS)	①	E	P/D	C	②③
Japan Construction Information Center(JACIC)	Infor JACIC	Open Bid Announcements and Information for Construction Materials	②	J/E	P/D	O	①
Japan External Trade Organization(JETRO)	CYBER SHOWCASE	Visual products database	②	J/E	P	O	①
	Governmental Procurement	Governmental Procurement on Official Gazette	②	J/E	P	O	①
	Information on mail order	Information on mail order	②	J	P	O	①
	Japan Market Report Database	Guide of Japanese Market	②	E	P	O	①

Company	Database	Description	Subject	Language	Status	Medium	Main Countries
Japan External Trade Organization(JETRO)	Japan Trade Directory	List of Traders in Japan	②	E	P	C	①
	Potential Imports	List of Importers	②	E	P	O	①
	TTPP	Technology Tie-up Promotion Program	②	J/E	P	O	①
Japan Packaging Machinery Manufacturers Association(JPMA)	Japan Packaging Machine Guide	Packaging machinery and related equipment manufactured by JPMA members	①	J/E	P/D	C	①
JAPAN PATENT DATA SERVICE, CO.	JP-NET	Japanese Patents	①	J	P/D	O/C	②③④
Japan Patent Information Organization(Japio)	Design	Published bibliographic data of design applications to the Japanese Patent Office which are registered from 1965 ; Examination procedure records from 1964 ; Trial decision procedure records from 1982 and registration records from 1965.	①	J	P/D	O	②③④
	Japio	Published bibliographic data and abstracts in English of unexamined patent applications (filed by only Japanese applicants from 1976.)	①	E	P	M	②③
	PAJ/CD-ROM	Published bibliographic data and abstracts in English with representative drawing (filed by only Japanese applicants from 1976-1997); Back File : From 1976 to 1993 in 69 technical fields basis, Front File : From 1994 in numerical order.	①	E	P/D	C	②③④
	Patent	Published bibliographic data of all patent applications to the Japanese Patent Office from 1955 ; Patent abstracts and representative drawings of first publications since 1971 ; Examination procedure records from 1964 ; Trial decision procedure records from 1982 and registration records from 1967.	①	J	P/D	O	②③④
	Trademark	Bibliographic data and specimens of trademark and service mark applications which are filed or valid to the Japanese Patent Office ; Examination procedure records from 1964 ; Trial decision procedure records from 1982 and registration records from 1897.	①	J	P/D	O	②③④

Company	Database	Description	Subject	Language	Status	Medium	Main Countries
Japan Patent Information Organization(Japio)	Utility Model	Published bibliographic data of all utility model applications to the Japanese Patent Office from 1960 ; Utility model summaries and representative drawings of first publication since 1980 ; Examination procedure records from 1964 ; Trial decision procedure records from 1982 and registration records from 1972.	①	J	P/D	O	②③④
Japan Science and Technology Corporation, Information Center for Science and Technology(JICST)/JOIS	JCATALOG(JICST Holding List File)	Machine-readable catalog of JICST library collection	③	J	P/D	O	②③④
	JCLEARING(JICST File on Current Science and Technology Research in Japan)	Description on research projects planned or ongoing in Japanese public research institutions, based on questionnaire survey	①	J	P/D	O	②③④
	JCST(JICST File on Science and Technology)	Bibliographic information, with abstracts, on 670,000 articles in the fields of science and technology, collected from scholarly journals, proceedings, technical notes, public literature, and others in 50 countries	①	J	P/D	O	
	JICST Chemical Substance Name	Database of Chemical terms numbers molecular formulas, registry information compiled by JICST	①	J	P/D	O	
	JICST QUICK FILE	Database of files and bibliographic data of JICST's Collection without abstracts on keywords	①	J	P/D	O	
	JICST-E(JICST File on Science, Technology, and Medicine in Japan)	Bibliographic information, with abstracts, of literature in the fields of science, technology, and medicine in JICST File on Science and Technology and JICST File on Medical Science, translated into English	①	E	P/D	O	
	JMEDICINE(JICST File on Medical Science in Japan)	Bibliographic information, with abstracts, of articles in the fields of health science published in Japan, compiled from 'Igakyo Chuo Zasshi'(abstract journal of medicine published since 1903) and JICST Domestic Medical File offered since 1981	①	J	P/D	O	
Japan Science and Technology Corporation, Information Center for Science and Technology(JICST)/STN	JGRIP	Description of research projects planned or ongoing in Japanese public research institutions	①	E	P/D	O	
	JICST-E plus	Bibliographic information, partially with abstracts, of Japanese literature in the fields of science, technology, and medicine, translated into English	①	E	P/D	O	②③④⑤
Japan Technical Information Service(JATIS)	Database for Electronic Structure	Electronic structure by first principles approach in web environment	①	J/E	P	I	①

Company	Database	Description	Subject	Language	Status	Medium	Main Countries
Japan Technical Information Service(JATIS)	Database for Diffusion	All basic diffusion data for inorganic and metallic materials at high temperature	①	J/E	P	I	①
KAHOKU SHIMPO PUBLISHING CO.	KD	Database of articles	③	J	P	O	①
K.K. Kyodo News	Kyodo Real time News(JLS)	24 hour real-time financial & economic news	②	J	P	O	①
Market Information center for Perishable Food(MICPF)	Market Information service for Perishable Food	Wholesale Market Information of Fruits Vegetables, Meats and Cut Flowers	②	J	P	I/M/C	④
Marketing Intelligence Corporation(MiC)	MAI Alcohol	Comprehensive coverage of alcohol sales	②	J/E	P	M	①
	MPI Pet food	POS and store audit data	②	J/E	P	M	①
	SCI Consumer	Nationwide household data on daily purchases of FMCGS	②	J/E	P	M	①
	SDI Annual Report	Sales trend data of OTC drug market	②	J/E	P	M	①
	SLI Consumer	Extensive data on women's products	②	J/E	P	M	①
	SRI Retail	POS and store audit data covering all FMCGS	②	J/E	P	M	①
MARUZEN CO.,LTD.	CHOICE	Bibliographic information on Japanese and Foreign books	③	J/E	P/D	I/O	①
Media Research Center, Inc.(MRC)	MEDIA DATA JAPAN, MAGAZINE EDITION	Advertising rates and data of consumer and business magazines	③	J	P/D	M	
	MEDIA DATA JAPAN, NEWSPAPER EDITION	Advertising rates and data of consumer and business newspapers	③	J	P/D	M	
	NAVI(quarterly journal)	Quarterly Journal specialized software by DATAWARE TECHNOLOGIES, Equivalent in ISO 9660 and HIS(multi-operating system)	③	J	P/D	C	
	SERIALS JAPAN	Data of serials(magazines, newspapers and others) published in Japan. The first half edition of 1997 has 21,362 titles, publishers' data, subscription rates, distributors, advertising rates and contents	③	J	P/D	O/M	
Metro Inc.	FAMILIS	Personal names, addresses, telephone numbers, ages, etc. extracted from various directories and survey data	③	J	P	M	②
National Diet Library(NDL)	JAPAN/MARC	Machine-readable catalog of books and periodicals published in Japan	③	J	P	M	②

Company	Database	Description	Subject	Language	Status	Medium	Main Countries
National Diet Library(NDL)	JAPAN/MARC on Disc(J-BISC)	Machine-readable catalog of books and periodicals published in Japan	③	J	P	C	①
	NDL CD-ROM LINE Japanese Periodicals Index	Bibliographic information of articles in Japanese periodicals	③	J	P	C	①
New Glass Forum(NGF)	International Glass Database 「INTERGLAD」	Fact data on the relation between composition and properties of glass	①	J/E	P/D	I/C	①
Nichigai Associates, Inc. (Nichigai)	NICHIGAI/WEB SERVICE BOOKPLUS	Contains bibliographic informations of 1610000 Japanese publications after 1925. As for publications after 1986, also provides contents and outlines.	③	J	P/D	I	①
	NICHIGAI/WEB SERVICE Journal Index	Index to articles of 163 popular magazines after 1981	③	J	P/D	I	①
	NICHIGAI/WEB SERVICE PRIZE	Information on 2,700 Japanese prizes in various areas, with 200,000 prizewinners data.	③	J	P/D	I	①
	NICHIGAI/WEB SERVICE Writer's WHO's WHO	Provides profile data of 90,000 writers and journalists, with 250,000 bibliographic information of their works	③	J	P/D	I	①
	NICHIGAI/WEB SERVICE Computer/Technical Terms	Over 95,000 words(J→E, E→J) and over 127,000 usages	③	J	P/D	I	①
	Web WHO	Profile data of 400,000 famous people in various field, with bibliographic information of their publications	③	J	P/D	I	①
	Web Partial WHO Politics/Administration	Provides profile data of 51,000 people who engaged in politics and administration, with 240,000 bibliographic information of their publications	③	J	P/D	I	①
	Web Partial WHO Social/Education/Medical	Provides profile data of 38,000 people who engaged in social activity, education, and medical care, with 180,000 bibliographic information of their publications	③	J	P/D	I	①
	Web Partial WHO Economic/Industry	Provides profile data of 106,000 people who engaged in economic and industry, with 480,000 bibliographic information of their publications	③	J	P/D	I	①
	Web Partial WHO Scholars	Provides profile data of 100,000 scholars, with 450,000 bibliographic information of their publications	③	J	P/D	I	①

Company	Database	Description	Subject	Language	Status	Medium	Main Countries
Nichigai Associates, Inc. (Nichigai)	Web Partial WHO Writers	Provides profile data of 55,000 writers and journalists, with 250,000 bibliographic information of their works	③	J	P/D	I	①
	Web Partial WHO Artists/Designers/ Photographers	Provides profile data of 30,000 artists, designers and photographers, with 30,000 bibliographic information of their publications	③	J	P/D	I	①
	Web Partial WHO Entertainers/Musicians/ Athletes	Provides profile data of 66,000 entertainers, musicians and athletes, with 660,000 bibliographic information of their publications	③	J	P/D	I	①
	NICHIGAI ASSIST WHO	Profile data of 400,000 famous people in various field, with bibliographic information of their publications	③	J	P/D	O/M/C	①
	NICHIGAI ASSIST Historical WHO Japan	Provides profile of 62,000 historical Japanese personages, covered from ancient to early modern times, also provides guide to biographical dictionaries	③	J	P/D	O/M/C	①
	NICHIGAI ASSIST Historical WHO Foreign	Provides profile of 32,000 historical foreign personages, covered from ancient to 19th century, also provides guide to biographical dictionaries	③	J	P/D	O/M/C	①
	NICHIGAI ASSIST BOOKPLUS	Contains bibliographic informations of 1,610,000 Japanese publications after 1925	③	J	P/D	O/M/C	①
	NICHIGAI ASSIST BOOK/MONTHLY	Provides monthly information of new Japanese publications in low-price	③	J	P/D	O/M/C	①
	NICHIGAI ASSIST MAGAZINE	Index to articles of 7,000 journals in various field, from general to economic and business	③	J	P/D	O/M/C	①
	NICHIGAI ASSIST Journal Index	Index to articles, of 163 popular magazines after 1981	③	J	P/D	O/M/C	①
	NICHIGAI ASSIST PRIZE	Information on 2,700 Japanese prizes in various areas, with 200,000 prizewinners data.	③	J	P/D	O/M/C	①
NIHON KEIZAI SHIMBUN, INC.(NIKKEI)	Commodity Market Data	Price data and demand/supply data of major commodities market conditions(daily, weekly and monthly)	②	J/E	P/D	O/M	③
	Consumer Radar	Originally obtained data on the attitudes and reality of consumer behavior toward financial issues	②	J	P/D	O/M/C	②④
	Consumer Statistics Data	7,000 series of statistical data on consumer price from the General Affairs Agency	②	J/E	P/D	O	②④

Company	Database	Description	Subject	Language	Status	Medium	Main Countries
NIHON KEIZAI SHIMBUN, INC. (NIKKEI)	Corporate Action Related Data	Data related to new stock issuing such as patterns of fund raising, increase and decrease of capital, stock split, and other information on fund raising for listed companies	②	J/E	P/D	O/M	②④
	Corporate Profile	Description of Japanese major companies. Data elements such as name of CEOs, address, telephone number, year established, outline of business, major stock holders, summarized financial data, sales by line of business, are included	②	J/E	P/D	O/M/C	②④
	Daily Exchange Rate & Interest Rate Data	Daily data of foreign and domestic exchanges	②	J/E	P/D	O/M	②④
	Earnings Estimate for Listed Companies	Estimated and actual data of balance of settlements of accounts at the end of fiscal year, interim closing, and consolidated financial statements for listed companies	②	J/E	P/D	O/M	②④
	Economic Data by Size	Economic statistical data by size of small-to-medium sized companies based on data from the Small and Medium Enterprises Agency and the Smaller Business Finance Corporation	②	J/E	P/D	O/M	②④
	Energy Data	Demand/supply data and cost data on petroleum, coal, electric, gas, and nuclear power, as well as general economic statistical data	②	J/E	P/D	O/M	②④
	Financial Statement for Banks	Balance of settlements of accounts for banks since 1974	②	J/E	P/D	O/M/C	②④
	Financial Statement for Insurance Companies	Balance of settlements of accounts for non-life insurance companies submitted to the Ministry of Finance since 1983	②	J/E	P/D	O/M/C	②④
	Financial Statement for Listed Companies	Balance of settlements of accounts at the end of fiscal year, interim closing, and consolidated financial statements, since 1964, for listed companies other than banks, securities houses, and insurance companies	②	J/E	P/D	O/M/C	②④
	Financial Statement for Security Houses	Balance of settlements of accounts for security houses submitted to the Ministry of Finance	②	J/E	P/D	O/M/C	②④
	Financial Statement for Unlisted Companies	Financial report information submitted to the Ministry of Finance by unlisted major companies since 1977	②	J/E	P/D	O/M/C	②④

Company	Database	Description	Subject	Language	Status	Medium	Main Countries
NIHON KEIZAI SHIMBUN, INC.(NIKKEI)	Flash Financial Report for Listed Companies	Balance of settlements of accounts at the end of fiscal year, interim closing, and consolidated financial statements for listed companies other than banks security houses, and insurance companies, as disclosed	②	J/E	P/D	O/M	②④
	Futures Data	Trading and price data of forward buying stock and bond	②	J/E	P/D	O/M	②④
	Industrial Data	Statistical data on various industry obtained from MITI and industrial associations	②	J/E	P/D	O/M	②④
	International Trade Statistics	International trade statistics of commodities and countries based on the Ministry of Finance data	②	J/E	P/D	O	②④
	Japanese Economic Model	Quarterly model of short-term forecast for Japanese economy, integrating the whole aspects of Japanese economy including energy and finance. Monthly 'Standard Forecasts' with updated information is provided, capable of customized simulation	②	J/E	P/D	O	②④
	Major Market Indices Data	Nikkei stock price average data, stock price average data for Nikkei 500 major stocks, volume of margin transactions for three exchanges, and others	②	J/E	P/D	O/M	②④
	Marketing Report for Unlisted Companies	Marketing report information submitted to the Ministry of Finance by unlisted major companies since 1977	②	J/E	P/D	O	②④
	News Flash	Real-time daily news from all over the world, categorized by subject	③	J/E	P/D	O	②④
	Newspapers and Magazines for Text Search	Articles from newspapers including four Nikkei publications	③	J/E	P/D	O	②④
	Nikkei Macro Economic Statistics	15,000 major national statistics of Japanese economy including statistics of earnings, production, corporate management, finance, international trade, international balance of payments, labor, commodity prices, and consumption	②	J/E	P/D	O/M	②④
	Nikkei Monetary Databank	Major economic statistical data including money supply, interest rates, capital circulation, and other general financial statistics	②	J/E	P/D	O/M	②④
	Option Data	Trading and price data, volume, and positions of options and stock price index options	②	J/E	P/D	O/M	②④

Company	Database	Description	Subject	Language	Status	Medium	Main Countries
NIHON KEIZAI SHIMBUN, INC.(NIKKEI)	Personnel Data Bank	Personnel data of executives of major companies and managing staff of government employees. Data elements such as title, place of employment, birth date, educational history, graduate data are included	②	J	P/D	O/M	②④
	Portfolio Related Data Service	Various indices on risks and returns in Japanese and US stock market investment with portfolio evaluation and optimization system	②	J/E	P/D	O	②④
	POS Data	POS data of 1,600,000 items including foods, household appliances, and others obtained from 670 stores	②	J	P/D	O	②④
	Regional Databank	Regional data including area, population, housing, land price, number of establishments by industry, and shipments for 3,400 cities, towns, and villages	②	J/E	P/D	O	②④
	Regional Economic and Financial File	Regional market data including industry, finance, local public finance, consumption, commodity price, labor, and commerce for the metropolises and districts	②	J/E	P/D	O	②④
	Statistical Data of Prices	Wholesale price indices, import price indices, and input-output indices from the Bank of Japan	②	J/E	P/D	O	②④
	Statistics on Construction	Statistics on orders received, starting works, cost of construction, and other construction related statistical data	②	J/E	P/D	O/M	②④
	Statistics on Corporations	Estimated statistical data based on 'Statistics on Corporations', published by the Ministry of Finance, updated quarterly	②	J/E	P/D	O/M	②④
	Statistics on Products, Shipments, and Inventory	Statistics on products, shipments, and inventory based on MITI's data	②	J/E	P/D	O/M	②④
	Stock Bond Data	Stock data of listed companies and over-the-counter trading in national stock market and bond data for Tokyo and Osaka Exchanges	②	J/E	P/D	O/M	②④
	Technical Indices for Industries and Each Issue	Basic indices and indices by industry as well as value added indices data on Tokyo and Osaka Exchanges	②	J/E	P/D	O	②④
	Unlisted Debenture Data	Evaluated market price of unlisted public offering debenture calculated based on the circular notice from the Ministry of Finance	②	J/E	P/D	O/M	②④
Nippon Statistics Center Ltd.(NSC)	City / Town / Village District-Units	About 900 items of social economic	②	J/E	P/D	M/C	②

Company	Database	Description	Subject	Language	Status	Medium	Main Countries
Nippon Statistics Center Ltd.(NSC)	Smallest District-Units	About 200 items of social economic	②	J/E	P/D	M/C	②
Nomura Research Institute, Ltd.(NRI)	DataLine, IDS	Macroeconomic Database Equity Database; Bond Database; NRI Index Database	②	J/E	P/D	O	②③
	FAST	Financial results and indicators of Japanese companies	②	J/E	P/D	C	③
	NRI/E	Information of Japanese Economy, Industry, and Finance	②	E	P	O	③
NTT Visual Communication Systems Inc.(NTT-V)	The Accommodations Reservation Information Service	Free access to information on a wide selection of accommodations throughout Japan	②	J	P/D	I/O	①
Osaka City Foundation for Urban Technology	OSAKA-UE File	Offer the urban engineering information Osaka City through JICST on-line service	①	J	P	O	
Protein Research Foundation(PRF)	PRF/LITDB	Literature database related to peptides and proteins	①	E	P/D	O/M/C	②
	PRF/SEQDB	Amino acids sequence database (peptides & proteins)	①	E	P/D	O/M/C	②
	PRF/SYNDB	Chemically synthesize Compound database (peptides)	①	E	P/D	O/M/C	②
QUICK Corp.	QUICK-IS	QUICK-IS a comprehensive financial information service which provides stable data delivery and easy data manipulation through PC in the environment best fit for each customer, i.e. Client/Server system, remote system or customer's Local Area Network and so on. The basic service is classified into QUICK-IS Level I and QUICK-IS Level II, and wide range of information and function options, like dynamic data exchange, various analysis services, order routing, e-mail etc., are also available	②	J/E Numeric	P/D	O	②③④⑤
Research Institute of Human Engineering for Quality Life(HQL)	Body Size Database	Measurement data of 34,000 Japanese persons, surveyed from 1992 to 1994. The measurement data contains 178 measurements per subject	①	J/E	P/D	M/C	②
	3 Dimensional Database	Base of body size data. This data by the format of DXF and IGES PC files	①	J/E	P/D	M/C	
RESEARCH ORGANIZATION FOR INFORMATION OF SCIENCE & TECHNOLOGY(RIST)	ATOMICA, Encyclopedia on Nuclear Energy	A Database of Atomic Energy Information for Promotion of Public Acceptance Through Internet	①	J	P/D	O	

Company	Database	Description	Subject	Language	Status	Medium	Main Countries
Rural Culture Association	Diagnosis and Control of Disease and Insect Pest	130 Kinds of crop 1600 disease and insect pest diagnoses and control	③	J	P/D	O/C	
	Gendai Nougyou (The Contemporary Agriculture)	Monthly journal 'Gendai Nougyou' title retrieval	③	J	P/D	O/C	
	Nougyou Gijutsu Taikei (The Encyclopedia of Agricultural Technology)	"Nogyou Gijutsu Taikei" title retrieval	③	J	P/D	O/C	
	The CD-ROM of Agricultural Chemical 1996	Japanese Agricultural Chemical retrieval	③	J	P/D	C	
	The Complete Works of Japanese Dietary Habits	Interview Research of Japanese Dietary Habits over 60 years ago	③	J	P/D	O/C	
Technomics, Inc.	Pharmcast Data	Information on medicines and pharmaceuticals	①②	E	P	M	②③
TEIKOKU DATABANK, LTD.(TDB)	COSMOS1	Financial data of 130,000 Japanese companies, including 350,000 statements	②	E	P	O/M/C	
	COSMOS2	Descriptive information of 240,000 Japanese companies	②	E	P	O/M/C	
The Energy Data and Modelling Center, The Institute of Energy Economics, Japan(EDMC)	APEC Energy Database	Historical Energy Demand & Supply Data in APEC Region	③	E	P/D	I	①
The Foundation of Kyushu Industrial Technology Center(KITEC)	Researcher information	Information on researchers in science and engineering fields at national universities in kyushu and researchers at national and prefectural test and research institutions	①	J	P	I	①
The Japan Shipping Exchange, Inc. (JSE)	Japan Maritime Information Service	Japanese Flag Ships	②	E	P/D	M	①
The Japan Times, Ltd.	Japan Times in The Nikkei-Telecom Japan News & Retrieval	Major world, domestic news, Art, Sports and Editorial descriptions selected from daily English Newspaper "The Japan Times"	③	E	P	O	②
THE MAINICHI NEWSPAPERS(Mainichi INTERACTIVE)	Mainichi Daily News Database	articles of Mainichi Daily News	③	E	P	O	②
	Mainichi Newspapers Database	articles of Mainichi Newspapers	③	J	P	O	②③
	News Release NAVI	Information providing services on press release from companies	②	J	P	O	②④
	Rating Information Services	Financial rating information on companies	②	J	P	O	②④

Company	Database	Description	Subject	Language	Status	Medium	Main Countries
THE YOMIURI SHIMBUN	THE DAILY YOMIURI DATABASE	Electronic version of 'The Daily Yomiuri' a Newspaper written in English	③	E	P	O	②③
	YOMIDAS	Articles from Yomiuri Shimbun including Tokyo, Osaka, Western, and Central versions	③	J	P	O	②③
TOHAN CO.,LTD.	Publishing Information	About 1,500,000 books (Japanese) Information	③	J	P/D	O/C	
TOKYO SHOKO RESEARCH, LTD.(TSR)	CD-ROM JAPAN 250,000	CD-ROM Japan 250,000 contains information on the 250,000 largest Japanese businesses	②	E	P	C	②③④
	tsr-van2	Business information including financial, bankrupt data on 1.1 million companies in Japan	②	J	P	I	①
	World Base	Short Form Japanese Company Information	②	E	P	O/M/C	①
TOYO KEIZAI INC.	Business Performance Forecasts	Forecast data of business performance of 2,460 public companies and 850 over-the-counter companies	②	J/E	P	M	①
	Flash Report(Tanshin)	Sole and consolidated account information on 2,460 public and 850 over-the-counter companies	②	J/E	P	M	①
	Major Shareholders	Top 20 shareholders of 2,460 public and 850 over-the-counter companies	②	J/E	P	M	①

Appendix

Table 2 Japanese Databases Accessible Overseas (1999: Distributors/Agents)

Subject	Language	Vendor Status	Medium	Providing
①: Science and Technology	J: Japanese	P: Producer	I: Internet	①: Worldwide
②: Economics, Business and Finance	E: English	D: Distributor	O: On-line	②: North America
③: General/Others	O: Others	A: Agent	M: Magnetic Tape or Diskette	③: Europe
		T: Telecommunications Center	C: CD-ROM/CD-I/DVD, etc.	④: Asia and Australia
				⑤: Others

* Please look at the home page of DPC as for the latest directory. (URL:<http://www.dpc.or.jp>)

Company	Database	Description	Subject	Language	Status	Medium	Main Countries
Asia Data Research, Inc. (ADR)	ADR Market Trend Search	Retail panel data of home appliances and photo cameras in Asian countries	②	J/E	D	M	④⑤
DENTSU INC.	ELNET	Articles, with full-text image data, from 59 Japanese major newspapers and from 150 Japanese journals including monthly economic reports	③	J	A	O/C	②③④
Fijitsu Ltd.	ADMINISTRATIVE REFORM COMMITTEE'S BULLETIN	Prompt reports of Administrative Reform Council's discussion and announcement. The Council started at Dec.19, 1994	③	J	A	O	①
	AERA	Collection of articles from weekly magazine 'AERA'	③	J	A	O	①
	ASAHI ONLINE DATABASE	Collection of articles in English from 'Asahi Evening News' and English version of 'Asahi News Services'	③	E	A	O	①
	Asahi Shimbun Database	Contains the full text of 'Asahi Shimbun'	③	J	A	O	①
	BOOK/MONTHLY	Provides the information of the new books available in Japan	③	J	A	O	①
	BOOKPLUS	Contains the title, outline, author, publisher and price of the books published in Japan	③	J	A	O	①
	Bulletin of Administrative Reform Committee's Minutes	Provides the outline of bulletin of Administrative Reform Committee's Minutes	③	J	A	O	①
	Catalog of Journals and Newspapers	Catalog of domestic Journals, newspapers, and newsletters with their circulation, price, description and codes	③	J	A	O	①
	CD New Score Information	Information on newly published and forth-coming CD titles	③	J	A	O	①
	Chunich Shimbun Database	Collection of the articles of Chunich Shimbun	③	J	A	O	①
	Company Information by Teikoku Databank	Profiles of more than 1,080,000 companies in Japan	②	J	A	O	①

Company	Database	Description	Subject	Language	Status	Medium	Main Countries
Fijitsu Ltd.	Company Information by Tokyo Shoko Research	Profiles with performance information for current three years of more than 720,000 companies in Japan	②	J	A	O	①
	Company Information Retrieval Service	Cross-file retrieval system from several databases of newspapers and company profiles	②	J	A	O	①
	Computer Terms Dictionary	Contains the computer terms (in Japanese and English) and their meanings	③	J	A	O	①
	Cross-File Retrieval of Company Information	Cross-file retrieval system from eight company databases	②	J	A	O	①
	Cross-File Retrieval of National Newspapers	Cross-File retrieval system from three database. Provides articles in the last two years	③	J	A	O	①
	Database of Directories	Bibliographic information and general description on directories published in Japan	②	J	A	O	①
	Decentralization Promotion Committee's Bulletin	Prompt reports of Decentralization Promotion Committee's discussion and announcement	③	J	A	O	①
	DIAMOND Personnel Directory of Companies	Personnel directory of major companies in Japan with personnel changes and corporate structure	②	J	A	O	①
	DNN INFORMATION INDUSTRY TODAY	Collection of articles from "DAILY NETWORK NEWS" and by-weekly "IBM WATCHING" published by Network News Co., Ltd.	③	J	A	O	①
	ECONOMIST	Electronic version of 'Economist' Journal, full-text	③	J	A	O	①
	Executives' Personal Profile by Tokyo Shoko Research	Biographical information with address of executives of more than 500,000 companies in Japan	②	J	A	O	①
	Extraordinary Administrative Research Council and the Administrative Reform Council Report	Reports and suggestions from Extraordinary Administrative Research Council and the Administrative Reform Council	③	J	A	O	①
	Financial Information by Teikoku Databank	Financial records of companies in Japan	②	J	A	O	①
	Financial Information by Tokyo Shoko Research	Financial records of companies in Japan	②	J	A	O	①
	Gendai Yogo no Kiso Chishiki(Basic Knowledge of Modern Terminology)	Electronic version of the 'Gendai Yogo no Kiso Chishiki(Basic Knowledge of Modern Terminology)' published by Jiyu Kokuminsha	③	J	A	O	①

Company	Database	Description	Subject	Language	Status	Medium	Main Countries
Fijitsu Ltd.	Historical WHO Foreign	Contains the profile of about 32,000 famous people in the world history	③	J	A	O	①
	Historical WHO Japan	Contains the profile of 60,000 famous people in Japanese history	③	J	A	O	①
	Hot Springs in Japan	The information of about 1,400 hot springs and inns in Japan provided by Yama to Keikoku-sha	③	J	A	O	①
	IBJ-NIKKO Information System's Database/Japanese Notable Industries	Provides the information of the Japanese notable industries the IBJ-NIKKO information System possesses	②	J	A	O	①
	IBJ-NIKKO INFORMATION SYSTEMS' DATABASE-JAPAN ECONOMICS	Major macro-economic statistical data announced by government, administrative agencies or private organizations	②	J	A	O	①
	IBJ-NIKKO INFORMATION SYSTEMS' DATABASE-JAPAN INDUSTRIES	Monthly data of foreign trade and domestic trade. Data elements such as production, inventory, shipment, import, export. The data conveyed all 39 types of Japanese industry	②	J	A	O	①
	Index of the magazines in National Diet Library	Provides the information of the bibliography of magazines the National Diet Library possesses	③	J	A	O	①
	Industrial News	News releases from companies, government bodies, and related organizations	②	J	A	O	①
	Information Industry Hotline	Flash reports of 'The Daily Network News'	③	J	A	O	①
	Information of Bankrupt Companies by Teikoku Databank	Prompt reports of bankrupt companies	②	J	A	O	①
	INFORMATION OF BANKRUPT COMPANIES by Tokyo Shoko Research	Prompt reports of bankrupt companies	②	J	A	O	①
	JAFIC	Contains abstracts and references to articles on food industry	①	J	A	O	①
	JCATALOG	Provides catalog of serial publications, technical reports and conference related materials published in over 50 countries	①	J	A	O	①
	JCLEARING	Provides information of research on science and technology intended or in progress	①	J	A	O	①
	JETRO ACE	Collection of reports and statistics from 80 overseas offices of JETRO	②	J	A	O	①

Company	Database	Description	Subject	Language	Status	Medium	Main Countries
Fijitsu Ltd.	JICST(Time Span: from 1981 to present)	Contains references of the literature on science and technology from serial publications, technical reports etc. published in over 50 countries. Includes abstracts	①	J	A	O	①
	JICST75-80(Time Span: from 1975 to 1980)	Contains references of the literature on science and technology from serial publications, technical reports etc. published in over 50 countries. Includes abstracts	①	J	A	O	①
	JICST-E	Provides abstracts and references to articles on science and technology, medical science in Japan, described in English	①	E	A	O	①
	JMEDICINE	Provides abstracts and references to medical articles in Japan	①	J	A	O	①
	JQUICK	Contains references of the current literature on science and technology from 10,000 serial publications etc.	①	J	A	O	①
	JTB Hotel Information	Directory of domestic hotels and lodges	③	J	A	O	①
	JTB Travel Box Overseas Version	Provides tourist information for overseas tours	③	J	A	O	①
	Kagaku Kogyo Nippo Database	Articles from 'Kagaku Kogyo Nippo' the leading newspaper for chemical industry	②	J	A	O	①
	Kensetsu Tsusin Shimibun Database	Collection of the articles of Kensetsu Tsushin Shimibun	③	J	A	O	①
	Kroll Travel Watch™	Provides the information of the traffic, establishments and public peace of 250 cities in the world	③	J	A	O	①
	Kyodo News Agency World Yearbook	Electronic version of World Yearbook published by Kyodo News Agency	③	J	A	O	①
	Law Database	Full-text of current laws held by the General Affairs Agency	②	J	A	O	①
	Library on Questionnaire to Consumers	Provides reports of Questionnaire to Consumers	②	J	A	O	①
	Listed and Over-the-counter companies by Toyo Keizai	Detailed information on the listed, over-the-counter, and foreign affiliated companies in Japan	②	J	A	O	①
	MAGAZINE	Provides the outlines of the articles in newspapers and magazines of economic, industrial and business fields	③	J	A	O	①
	MAINICHI ONLINE DATABASE	Collection of articles from 'MAINICHI DAILY NEWS'	③	E	A	O	①

Company	Database	Description	Subject	Language	Status	Medium	Main Countries
Fijitsu Ltd.	MAINICHI Shimbun DATABASE	Collection of articles from 'MAINICHI Shimbun'	③	J	A	O	①
	Mainichi Shimbun Database Personal Use Edition	Collection of articles in the last two years from 'Mainichi Shimbun Database'	③	J	A	O	①
	Market Search on Company Trends	Reference to the marketing research information on companies	②	J	A	O	①
	Market Search on Consumer Trends	Reference to the marketing research information based on questionnaire to consumers	②	J	A	O	①
	Market Search on Products and Industries	Reference to the marketing research information on all industries and their products in Japan	②	J	A	O	①
	Market Search Reference Directory	Reference to the marketing research reports and articles	②	J	A	O	①
	Market Search Reference to trade papers and magazines	Provides references to trade papers and magazines concerning to the marketing research	②	J	A	O	①
	Monthly Outdoor Campsite Information	The information of about 1800 campsites in Japan provided by Yama to Keikoku-sha	③	J	A	O	①
	Music CD Catalog	Bibliographic and price information with critics for music CD	③	J	A	O	①
	NATIONAL TOURIST INFORMATION DATABASE	Information on sight-seeing, such as depth of snow, events, availability of parking lots and hotels, and coupons of ski-ground, presented by cities, towns and villages in Japan	③	J	A	O	①
	NEW BUSINESS INDUSTRY REPORT	Research report of remarkable industries' trends and issues including description, structure, and profitability information	②	J	A	O	①
	Nihon Kogyo Shimbun Database	Collection of articles from 'Nihon Kogyo Shimbun'	③	J	A	O	①
	Nihon Nogyo Shimbun Database	Collection of articles from 'Nihon Nogyo Shimbun'	③	J	A	O	①
	Nihon Shokuryo Shimbun Database	Articles from 'Shokuryo Shimbun' the leading newspaper for food industry	②	J	A	O	①
	Nikkan Kogyo Shimbun Database	Collection of articles on new products and technology from 'Nikkan Kogyo Shimbun'	③	J	A	O	①
	NIKKAN SPORTS	Collection of articles from 'Nikkan Sports' newspaper	③	J	A	O	①

Company	Database	Description	Subject	Language	Status	Medium	Main Countries
Fijitsu Ltd.	Nikkan Sports Bulletin	The information of professional baseball games, entertainment, etc. provided by Nikkan Sports Data Supply	③	J	A	O	①
	Nikkan Sports Celebrities information	The collection of the profiles of athletes, artists, celebrities in various fields	③	J	A	O	①
	NIKKEI Shimbun Database	Collection of articles from 'Nikkei Shimbun', 'Nikkei Sangyo', 'Nikkei Ryutsu', and 'Nikkei Kinyu Shimbun'. Collection of titles from 'Science' and 'Nikkei Business'	③	J	A	O	①
	Nikken	Collection of articles from 'Nikken'	③	J	A	O	①
	PHARMA JAPAN	Collection of articles from 'PHARMA JAPAN' for overseas' medical and medicine business men. It includes full texts	②	J/E	A	O	①
	Pharmaceutical Company Information	Detailed company profiles of pharmaceutical manufacturers and wholesalers	②	J	A	O	①
	PRIZE	The introduction of 2,144 prizes in Japan and The winners' name of the prizes	③	J	A	O	①
	Q&A on Taxation and Corporation Law Database	Basic information on taxation in Q and A style with letters of Tax Law and Corporation Law	②	J	A	O	①
	Sankei Shimbun Database	Articles from 'Sankei Shimbun'	②	J	A	O	①
	Sankei Shimbun Database Personal Use Edition	Collection of articles in the last two years from 'Sankei Shimbun Database'	③	J	A	O	①
	SKI INFORMATION DATABASE	Information of snow-status and hotel reservation status of 300 ski-playing sports in Japan	③	J	A	O	①
	Sports Nippon Database	Collection of the articles of Sports Nippon	③	J	A	O	①
	Taxation Business Judgement Database (Summary)	Collection of summary on Taxation Business Judgment since 1948	②	J	A	O	①
	TEIKOKU DATABANK: JAPANESE COMPANIES	Business information of 210,000 Japanese companies	②	E	A	O	①
	The Brain Map Guide to the Specialists	The profiles of the specialists in various fields according to JMA ACE Research Instituted Inc.'s research	③	J	A	O	①
	THE DAILY YOMIURI DATABASE	Collection of article from 'THE DAILY YOMIURI' published by the Yomiuri Shimbun. It includes full texts	③	E	A	O	①

Company	Database	Description	Subject	Language	Status	Medium	Main Countries
Fijitsu Ltd.	Title of Weekly and Monthly Magazine	Title information of 35 popular magazine	③	J	A	O	①
	TITLE SEARCH	Title information of articles from 1,000 magazines on technology	③	J	A	O	①
	TKC Law Information Database	Full-text of civil and administrative cases and related information	②	J	A	O	①
	Tokyo Shimbun Database	Collection of articles from 'Tokyo Shimbun'	③	J	A	O	①
	Trial for the Database of Newspapers	Provides the Samples of the database of the newspapers (Mainichi, Yomiuri, Sankei) for free	③	J	A	O	①
	VIDEO & LD CATALOG DATABASE	Collection of software of visual laser-disc.	③	J	A	O	①
	Video & LD Flash	Prompt reports on forthcoming video & LD	③	J	A	O	①
	Weekly Toyo Keizai Database	Collection of articles from 'Weekly Toyo Keizai'	③	J	A	O	①
	WHO	Contains the profile, books, essays interviews of celebrities who appear in newspapers, magazines and books	③	J	A	O	①
	Yomiuri Shimbun Database	Collection of articles from 'Yomiuri Shimbun' and 'Yomiuri Katei Shimbun'	③	J	A	O	①
	Yomiuri Shimbun Database Personal Use Edition	Collection of articles in the last two years from 'Yomiuri Shimbun Database'	③	J	A	O	①
GREEN NET CO., LTD.	G-Net	Japanese patent data stored	①	J	D	O	①
G-Search Ltd.	ADMINISTRATIVE REFORM COMMITTEE'S BULLETIN	Prompt reports of Administrative Reform Council's discussion and announcement. The Council started at Dec.19, 1994	③	J	D	O	①
	AERA	Collection of articles from weekly magazine 'AERA'	③	J	D	O	①
	AREA DATA SCOPE	Regional statistical data of town part for 2 kilometers around which of the Kanto, Chubu and Kinki region in Japan	②	J	D	O	①
	ASAHI ONLINE DATABASE	Collection of articles in English from 'Asahi Evening News' and English version of 'Asahi News Services'	③	E	D	O	①
	Asahi Shimbun Database	Contains the full text of 'Asahi Shimbun'	③	J	D	O	①
	BOOK/MONTHLY	Provides the information of the new books available in Japan	③	J	D	O	①

Company	Database	Description	Subject	Language	Status	Medium	Main Countries
G-Search Ltd.	BOOKPLUS	Contains the title, outline, author, publisher and price of the books published in Japan	③	J	D	O	①
	Bulletin of Administrative Reform Committee's Minutes	Provides the outline of bulletin of Administrative Reform Committee's Minutes	③	J	D	O	①
	Catalog of Journals and Newspapers	Catalog of domestic Journals, newspapers, and newsletters with their circulation, price, description and codes	③	J	D	O	①
	CD New Score Information	Information on newly published and forth-coming CD titles	③	J	D	O	①
	Chugoku Shimbun Database	Collection of articles from 'Chugoku Shimbun'	③	J	D	O	①
	Chunich Shimbun Database	Collection of the articles of Chunich Shimbun	③	J	D	O	①
	Company Information by Teikoku Databank	Profiles of more than 1,100,000 companies in Japan	②	J	D	O	①
	Company Information by Tokyo Shoko Research	Profiles with performance information for current three years of more than 1,020,000 companies in Japan	②	J	D	O	①
	Company Information Retrieval Service	Cross-file retrieval system from several databases of newspapers and company profiles	②	J	D	O	①
	Cross-File Retrieval of Company Information	Cross-file retrieval system from eight company databases	②	J	D	O	①
	Cross-File Retrieval of National Newspapers	Cross-File retrieval system from three database. Provides articles in the last two years	③	J	D	O	①
	Database of Directories	Bibliographic information and general description on directories published in Japan	②	J	D	O	①
	Decentralization Promotion Committee's Bulletin	Prompt reports of Decentralization Promotion Committee's discussion and announcement	③	J	D	O	①
	DIAMOND Personnel Directory of Companies	Personnel directory of major companies in Japan with personnel changes and corporate structure	②	J	D	O	①
	DNN INFORMATION INDUSTRY TODAY	Collection of articles from "DAILY NETWORK NEWS" and by-weekly "IBM WATCHING" published by Network News CO.,LTD.	③	J	D	O	①
	ECONOMIST	Electronic version of 'Economist' Journal, full-text	③	J	D	O	①

Company	Database	Description	Subject	Language	Status	Medium	Main Countries
G-Search Ltd.	Executives' Personal Profile by Teikoku Databank	Biographical information with address of executives of more than 220,000 companies in Japan	②	J	D	O	①
	Executives' Personal Profile by Tokyo Shoko Research	Biographical information with address of executives of more than 1,020,000 companies in Japan	②	J	D	O	①
	Extraordinary Administrative Research Council and the Administrative Reform Council Report	Reports and suggestions from Extraordinary Administrative Research Council and the Administrative Reform Council	③	J	D	O	①
	Financial Information by Teikoku Databank	Financial records of companies in Japan	②	J	D	O	①
	Financial Information by Tokyo Shoko Research	Financial records of companies in Japan	②	J	D	O	①
	Gendai Yogo no Kiso Chishiki(Basic Knowledge of Modern Terminology)	Electronic version of the 'Gendai Yogo no Kiso Chishiki(Basic Knowledge of Modern Terminology)' published by Jiyu Kokuminsha	③	J	D	O	①
	Historical WHO Foreign	Contains the profile of about 32,000 famous people in the world history	③	J	D	O	①
	Historical WHO Japan	Contains the profile of 60,000 famous people in Japanese history	③	J	D	O	①
	Hoken Mainichi Shimbun Database	Collection of articles from 'Hoken Mainichi Shimbun'	③	J	D	O	①
	Hot Springs in Japan	The information of about 1,400 hot springs and inns in Japan provided by Yama to Keikoku-sha	③	J	D	O	①
	IBJ-NIKKO Information System's Database/Japanese Notable Industries	Provides the information of the Japanese notable industries the IBJ-NIKKO information System possesses	②	J	D	O	①
	IBJ-NIKKO INFORMATION SYSTEMS' DATABASE-JAPAN ECONOMICS	Major macro-economic statistical data announced by government, administrative agencies or private organizations	②	J	D	O	①
	IBJ-NIKKO INFORMATION SYSTEMS' DATABASE-JAPAN INDUSTRIES	Monthly data of foreign trade and domestic trade. Data elements such as production, inventory, shipment, import, export. The data conveyed all 39 types of Japanese industry	②	J	D	O	①
	Index of the magazines in National Diet Library	Provides the information of the bibliography of magazines the National Diet Library possesses	③	J	D	O	①
	Industrial News	News releases from companies, government bodies, and related organizations	②	J	D	O	①

Company	Database	Description	Subject	Language	Status	Medium	Main Countries
G-Search Ltd.	Information Industry Hotline	Flash reports of 'The Daily Network News'	③	J	D	O	①
	Information of Bankrupt Companies by Teikoku Databank	Prompt reports of bankrupt companies	②	J	D	O	①
	INFORMATION OF BANKRUPT COMPANIES BY Tokyo Shoko Research	Prompt reports of bankrupt companies	②	J	D	O	①
	JAFIC	Contains abstracts and references to articles on food industry	①	J	D	O	①
	JCATALOG	Provides catalog of serial publications, technical reports and conference related materials published in over 50 countries	①	J	D	O	①
	JETRO ACE	Collection of reports and statistics from 80 overseas offices of JETRO	②	J	D	O	①
	JICST(Time Span: from 1981 to present)	Contains references of the literature on science and technology from serial publications, technical reports etc. published in over 50 countries. Includes abstracts	①	J	D	O	①
	JICST75-80(Time Span: from 1975 to 1980)	Contains references of the literature on science and technology from serial publications, technical reports etc. published in over 50 countries. Includes abstracts	①	J	D	O	①
	JICST-E	Provides abstracts and references to articles on science and technology, medical science in Japan, described in English	①	E	D	O	①
	JMEDICINE	Provides abstracts and references to medical articles in Japan	①	J	D	O	①
	JQUICK	Contains references of the current literature on science and technology from 10,000 serial publications etc.	①	J	D	O	①
	JTB Hotel Information	Directory of domestic hotels and lodges	③	J	D	O	①
	JTB Travel Box Overseas Version	Provides tourist information for overseas tours	③	J	D	O	①
	Kagaku Kogyo Nippo Database	Articles from 'Kagaku Kogyo Nippo' the leading newspaper for chemical industry	②	J	D	O	①
	Kensetsu Tsusin Shimbun Database	Collection of the articles of Kensetsu Tsushin Shimbun	③	J	D	O	①
	Korea News&Today	Online version of membership system Korean information paper	③	J	D	O	①

Company	Database	Description	Subject	Language	Status	Medium	Main Countries
G-Search Ltd.	Kyodo News Agency World Yearbook	Electronic version of World Yearbook published by Kyodo News Agency	③	J	D	O	①
	Law Database	Full-text of current laws held by the General Affairs Agency	②	J	D	O	①
	Library on Questionnaire to Consumers	Provides reports of Questionnaire to Consumers	②	J	D	O	①
	Listed and Over-the-counter companies by Toyo Keizai	Detailed information on the listed, over-the-counter, and foreign affiliated companies in Japan	②	J	D	O	①
	MAGAZINE	Provides the outlines of the articles in newspapers and magazines of economic, industrial and business fields	③	J	D	O	①
	MAINICHI ONLINE DATABASE	Collection of articles from 'MAINICHI DAILY NEWS'	③	E	D	O	①
	MAINICHI Shimbun DATABASE	Collection of articles from 'MAINICHI Shimbun'	③	J	D	O	①
	Mainichi Shimbun Database Personal Use Edition	Collection of articles in the last two years from 'Mainichi Shimbun Database'	③	J	D	O	①
	Market Search on Company Trends	Reference to the marketing research information on companies	②	J	D	O	①
	Market search on Consumer Trends	Reference to the marketing research information based on questionnaire to consumers	②	J	D	O	①
	Market Search on Products and Industries	Reference to the marketing research information on all industries and their products in Japan	②	J	D	O	①
	Market Search Reference Directory	Reference to the marketing research reports and articles	②	J	D	O	①
	Market Search Reference to trade papers and magazines	Provides references to trade papers and magazines concerning to the marketing research	②	J	D	O	①
	Monthly Outdoor Campsite Information	The information of about 1800 campsites in Japan provided by Yama to Keikoku-sha	③	J	D	O	①
	Music CD Catalog	Bibliographic and price information with critics for music CD	③	J	D	O	①
	NATIONAL TOURIST INFORMATION DATABASE	Information on sight-seeing, such as depth of snow, events, availability of parking lots and hotels, and coupons of ski-ground, presented by cities, towns and villages in Japan	③	J	D	O	①

Company	Database	Description	Subject	Language	Status	Medium	Main Countries
G-Search Ltd.	NEW BUSINESS INDUSTRY REPORT	Research report of remarkable industries' trends and issues including description, structure, and profitability information	②	J	D	O	①
	Nihon Kogyo Shimbun Database	Collection of articles from 'Nihon Kogyo Shimbun'	③	J	D	O	①
	Nihon Nogyo Shimbun Database	Collection of articles from 'Nihon Nogyo Shimbun'	③	J	D	O	①
	Nihon Shoken Shimbun Database	Collection of articles from 'Nihon Shoken Shimbun'	③	J	D	O	①
	Nihon Shokuryo Shimbun Database	Articles from 'Shokuryo Shimbun' the leading newspaper for food industry	②	J	D	O	①
	Nikkan Kogyo Shimbun Database	Collection of articles on new products and technology from 'Nikkan Kogyo Shimbun'	③	J	D	O	①
	NIKKAN SPORTS	Collection of articles from 'Nikkan Sports' newspaper	③	J	D	O	①
	Nikkan Sports Bulletin	The information of professional baseball games, entertainment, etc. provided by Nikkan Sports Data Supply	③	J	D	O	①
	Nikkan Sports Celebrities information	The collection of the profiles of athletes, artists, celebrities in various fields	③	J	D	O	①
	Nikken	Collection of articles from 'Nikken'	③	J	D	O	①
	PHARMA JAPAN	Collection of articles from 'PHARMA JAPAN' for overseas' medical and medicine business men. It includes full texts	②	J/E	D	O	①
	Pharmaceutical Company Information	Detailed company profiles of pharmaceutical manufacturers and wholesalers	②	J	D	O	①
	PRIZE	The introduction of 2,144 prizes in Japan and The winners' name of the prizes	③	J	D	O	①
	Q&A on Taxation and Corporation Law Database	Basic information on taxation in Q and A style with letters of Tax Law and Corporation Law	②	J	D	O	①
	Sankei Shimbun Database	Articles from 'Sankei Shimbun'	②	J	D	O	①
	Sankei Shimbun Database Personal Use Edition	Collection of articles in the last two years from 'Sankei Shimbun Database'	③	J	D	O	①
	Senken Shimbun Database	Collection of articles from 'Senken Shimbun' the leading fashion newspaper in Japan	③	J	D	O	①

Company	Database	Description	Subject	Language	Status	Medium	Main Countries
G-Search Ltd.	Sports Nippon Database	Collection of the articles of Sports Nippon	③	J	D	O	①
	Taxation Business Judgement Database (Summary)	Collection of summary on Taxation Business Judgment since 1948	②	J	D	O	①
	TEIKOKU DATABANK: JAPANESE COMPANIES	Business information of 210,000 Japanese companies	②	E	D	O	①
	The Brain Map Guide to the Specialists	The profiles of the specialists in various fields according to JMA ACE Research Instituted Inc.'s research	③	J	D	O	①
	THE DAILY YOMIURI DATABASE	Collection of article from 'THE DAILY YOMIURI' published by the Yomiuri Shimbun. It includes full texts	③	E	D	O	①
	Title of Weekly and Monthly Magazine	Title information of 35 popular magazine	③	J	D	O	①
	TITLE SEARCH	Title information of articles from 1,000 magazines on technology	③	J	D	O	①
	TKC Law Information Database	Full-text of civil and administrative cases and related information	②	J	D	O	①
	Tokyo Shimbun Database	Collection of articles from 'Tokyo Shimbun'	③	J	D	O	①
	Trial for the Database of Newspapers	Provides the Samples of the database of the newspapers (Mainichi, Yomiuri, Sankei) for free	③	J	D	O	①
	VIDEO & LD CATALOG DATABASE	Collection of software of visual laser-disc.	③	J	D	O	①
	Video & LD Flash	Prompt reports on forthcoming video & LD	③	J	D	O	①
	Weekly Toyo Keizai Database	Collection of articles from 'Weekly Toyo Keizai'	③	J	D	O	①
	WHO	Contains the profile, books, essays interviews of celebrities who appear in newspapers, magazines and books	③	J	D	O	①
	Yomiuri Shimbun Database	Collection of articles from 'Yomiuri Shimbun' and 'Yomiuri Katei Shimbun'	③	J	D	O	①
	Yomiuri Shimbun Database Personal Use Edition	Collection of articles in the last two years from 'Yomiuri Shimbun Database'	③	J	D	O	①
Information Services International Dentsu, Ltd.(ISID)	JSD	Real-time stock price information on Tokyo and Osaka Stock Exchanges, provided by Jiji Press, Ltd	②	J	D	O	

Company	Database	Description	Subject	Language	Status	Medium	Main Countries
Japan Association for International Chemical Information(JAICI)	QCLDB	Bibliographic database of ab initio quantum chemistry	①	E	D	M	①
Japan Patent Information Organization(Japio)	INPADOC	Published bibliographic data on patents and utility models of 62 countries and 5 international organizations from 1969. (Remark : Each accumulation period depends on countries and organizations.)	①	E/O	D	O	③④⑤
Japan Science and Technology Corporation, Information Center for Science and Technology(JICST)/JOIS	NK-MEDIA(Nikkan Kogyo Shimbun Articles)	Bibliographic information with abstracts of articles related to new products and new technology with related company trends	②	J	D	O	②③④
NEC Corporation(NEC)	C&C-VAN DATABASE	Information on companies, economy, and international trade	②③	J	D	O	②③⑤
	DIALINE	Information on books published in Japan and others	②③	J	D	O	②③⑤
	ELISNET	Information on electronic devices including semi-conductor devices	①	J	D	O	②③⑤
	JOIS	Information of science and technology	②③	J	D	O	②③⑤
	NICHIGAI ASSIST	Information on biographies, books, and journals	③	J	D	O	②③⑤
	NIKKEI TELECOM BIZ	Articles from newspapers, company information, and other general textual information, with downloading capability	②③	J	D	O	②③⑤
Nichigai Associates, Inc. (Nichigai)	NICHIGAI/WEB SERVICE Zasshi Kiji Sakuin	Index to articles of 5,600 periodicals about the humanities, technology and medical science, belong to National Diet Library.	③	J	D	I	①
	NICHIGAI ASSIST JOINT	Index to articles, of 1,300 journals about economic and industry issued from 1981 to 1995	③	J	D	O/M/C	①
	NICHIGAI ASSIST KSK	About 120,000 Index to articles of journals about economic and industry issued in abroad. Also provides Japanese summary of articles	③	J	D	O	①
	NICHIGAI ASSIST Zasshi Kiji Sakuin	Index to articles of 5,600 periodicals about the humanities, technology and medical science, belong to National Diet Library	③	J	D	O/M/C	①
NIFTY Corporation	INFOCUE	Reference service in English concerning a wide range of information in the field news,business,science and medicine	②③	E	D	O	①

Company	Database	Description	Subject	Language	Status	Medium	Main Countries
NIFTY Corporation	MULTI MEDEIA DB	Database service mainly consisted of business information	②③	J	D	O	①
	NI MEDIA SEEK	Reference service for a wide of information concerning books and living	②③	J	D	O	①
NIHON KEIZAI SHIMBUN, INC.(NIKKEI)	Asian Corporate Profile	Description of companies in Asia including 10,000 Chinese manufacturers, 1,800 Korean listed companies, 600 Hong Kong listed companies, and 1,000 Japanese-owned companies in Asia	②	E	D	O/M	②③④
	DRI DATA	Major economic statistics and indices for United States	②	E	D	O	②③④
	Data on Borrowing by Financial Institutions	Data on borrowing by the financial institutions provided by the Industrial Bank of Japan	②	J/E	D	O/M	②③④
	IFS Data	Financial statistics and price indices with GNP for IMF member countries	②	E	D	O	②③④
	Input-Output Tables	Expanded input-output tables originally developed by NIKKEI, basic government table and its supplements, and connected industry input-output tables are included	②	J/E	D	O	②③④
	OECD Economic file	Major economic indices including GNP for IMF member countries	②	E	D	O	②③④
	OECD National Income Statistics File	National expenditure and its itemized break-down for 20 industrial nations	②	E	D	O	②③④
	World Bank External Debt Statistics	Balance of debts and other economic indices of 105 developing countries	②	E	D	O	②③④
NTT BUSINESS INFORMATION SERVICE INC.	Town Page Database	Search for area or industry type from 11million nationwide corporate information listings in 1,650 categories (The Town Page Database is an electronic version of the NTT Town Pages) Details include company name, postcode, address, industry classification and telephone number	③	J	D	M/C	①
Research Institute of International Trade and Industry(RITI)	Input-Output Table	Input-output table of Japanese industries, provided by the Ministry of International Trade and Industry (MITI)	②	O: Numeric	D	M	②
Technomics, Inc.	Actfund	Information on antibiotic substances, Natural Products	①	J/E	D	M	②③
TESCO Direct Company Ltd.	LEXIS-NEXIS	I.P. Litigation Flash News	②③	J/E	D	O	①

Appendix

Table 3 Japanese Databases being Planned for Overseas (1999)
Subject

①: Science and Technology
 ②: Economics, Business and Finance
 ③: General/Others

Language

J: Japanese
 E: English
 O: Others

Vendor Status

P: Producer
 D: Distributor
 A: Agent
 T: Telecommunications
 Center

Medium

I: Internet
 O: On-line
 M: Magnetic Tape or Diskette
 C: CD-ROM/CD-I/DVD, etc.

Providing

①: Worldwide
 ②: North America
 ③: Europe
 ④: Asia and Australia
 ⑤: Others

* Please look at the home page of DPC as for the latest directory. (URL:<http://www.dpc.or.jp>)

Company	Database	Description	Subject	Language	Medium
IBJ-NIKKO INFORMATION SYSTEMS, LTD. (INIS)	I.N.Bond Database	Information on domestic public issues by Japanese resident corporations	②	E	Undetermined
Japan Small and Medium Enterprise Corporation	Business Matching DB (provisional name)	Database for foreign companies to find Japanese Small and Medium Enterprise business partner	②	E	I
Nippon Statistics Center., Ltd.(NSC)	Data by Cities & Towns	3,255 District-Unit (800datas)	②	J/E	M/C
	Data by Smallest Area	162,616 District-Unit (200datas)	②	J/E	M/C
Osaka City of Foundation for Urban Technology	Osaka and Its Technology	Outstanding reports on various fields of engineering written by staff engineering officers of the city	①	E	C
Research Institute of Human Engineering for Quality Life(HQL)	Japanese Body Size Database	Statistically analyzed measurement data of 34,000 Japanese persons surveyed from 1992 to 1994. The measurement data contains 178 measurements pex subject	①	E	I
The Energy Conservation Center, Japan (ECCJ)	Energy Conservation Database	English version of Energy Conservation Database in Japanese, Energy conservation technology data and related energy and environment data	①	J/E	I
The Energy Data and Modelling Center, The Institute of Energy Economics, Japan(EDMC)	EDMC Energy Databank	Various Energy Data and its related Data in Japan and the World	③	E	I
TMC Co., Ltd.	Medie	Database for Medical Devices	③	J/E	I/O/M/C

Appendix

Table 4 Address of Overseas Service Points (1999: Producers/Distributors)

Company	Contacts	Address	Telephone	Facsimile	Homepage	Status
Asahi Shimbun Publishing Company(ASAHI SHIMBUN)	Electronic Media & Broadcasting Division, Asahi Shimbun Company	5-3-2 Tsukiji, Chuo-ku, Tokyo 104-8011, Japan	+81-3-5541-8693	+81-3-5541-8694	http://www.asahi.com	Headquarters
	C.W.N New York Office	445 West 23rd Street Suite 10-B New York N.Y. 10011, U.S.A.	+212-645-2464	+212-645-0979		Partner
	New York Times Syndication Sales	3 Rue Scribe Paris 75009, France	+33-1-47-42-1711	+33-1-47-42-8044		Partner
Asia Data Research, Inc.(ADR)	Asia Data Research, Inc.	Nakanosakaue Sunbright Twin 15F, 2-46-1 Honcho, Nakano-ku, Tokyo 164-0012, Japan	+81-3-5350-4765	+81-3-5350-4775		Headquarters
	Gfk Marketing Service Ltd.	Room 2314, Park-in-Commercial Center, 56 Dundas Street, Yaumatei, Kowloon, HongKong	+852-2359-3333	+852-2332-5841		Branch; Headquarters
Association of Agriculture and Forestry Statistics	Association of Agriculture and Forestry Statistics	Meguro-Sumiya bldg. 3-9-13, Shimo-Meguro, Meguro-ku, Tokyo 153-0064, Japan	+81-3-3492-2989	+81-3-3492-2545	http://www.aafs.or.jp	Information Division
	Maruzen Co., LTD.	2-3-10, Nihonbashi, Chuo-ku, Tokyo 103-8245, Japan	+81-3-3273-3234	+81-3-3271-6076		Agent
AXESS INTERNATIONAL NETWORK INC. (AXESS)	AXESS INTERNATIONAL NETWORK INC.	Seafort Square Center Bldg., 2-3-12 Higashi Shinagawa, Shinagawa-ku, Tokyo 140-8619, Japan	+81-3-5460-7035	+81-3-5460-7009		Headquarters
Brandy International Incorporated(Bii)	Brandy International Incorporated	11F, Toyo Ekimae Bldg., 2-2-20 Toyo, Koto-ku, Tokyo 135-0016, Japan	+81-3-5683-7210	+81-3-5683-7213	http://www.globe.or.jp/brandy/	Headquarters
Database Promotion Center, Japan (DPC)	Database Promotion Center, Japan	5th Floor, Shinbashi-Towa Bldg., 2-13-8 Shinbashi, Minato-ku, Tokyo 105-0004 Japan	+81-3-3508-2430	+81-3-3508-2440	http://www.dpc.or.jp	Headquarters
DENTSU INC.	Electronic Library Division, DENTSU INC.	1-11 Tsukiji, Chuo-ku, Tokyo 104-8426, Japan	+81-3-5551-7116	+81-3-5551-2345	http://www.dentsu.co.jp	Headquarters
Dun & Bradstreet Japan Ltd.(D&B)	Dun & Bradstreet Japan Ltd.(D&B)	5F Aobadai Hills, 4-7-7 Aobadai, Meguro-ku, Tokyo 153-0042, Japan	+81-3-3481-3561	+81-3-3481-3570	http://www.dnbipn.co.jp/	Subsidiary
	Dun & Bradstreet Asia-pacific, Canada, Latin America	One Diamond Hill Road Murray Hill, NJ07974-0027 U.S.A.	+1-908-665-5000	+1-908-665-5135	http://www.dnb.com/	Subsidiary

Company	Contacts	Address	Telephone	Facsimile	Homepage	Status
Dun & Bradstreet Japan Ltd.(D&B)	Dun & Bradstreet Limited	Holmers Farm Way High Wycombe Bucks HP12 4UL England	+44-1494-42-2000	+44-1494-42-2260	http://www.dunandbrad.co.uk/	Subsidiary
	Dun & Bradstreet France S.A.	345 avenue Georges Clemenceau Immeuble Defense Bergeres TSA 5003 92882 Nanterre CTC Cedex9 France	+33-1-41-35-1700	+33-1-41-35-1777	http://www.dbfrance.com/	Subsidiary
	Dun & Bradstreet (Australia)Ltd.	479st. Kilda Road Melbourne, Vic.3004 Australia	+61-3-9828-3333	+61-3-9828-3300	http://www.dbapic.com.au/	Subsidiary
EDUCA Inc. (EDUCA)	EDUCA Inc.	4-4-10, Minami-Aoyama, Minato-ku, Tokyo 107-0062, Japan	+81-3-5474-3541	+81-3-5474-6944		Headquarters
Electronic Devices Information Service Co., Ltd. (ELISNET)	Electronic Devices Information Service Co., Ltd.	Hirakawa-cho KS Bldg., 5F, 2-4-14 Hirakawa-cho, Chiyoda-ku, Tokyo 102-0093, Japan	+81-3-5275-3770	+81-3-5275-9928	http://www.elisnet.or.jp	Headquarters
ELECTRONIC LIBRARY Inc. (EL)	ELECTRONIC LIBRARY Inc. (EL)	8-11-13 Nishi-Gotanda, Shinagawa-ku, Tokyo 141-0031, Japan	+81-3-3779-1211	+81-3-3779-1227	http://www.elnet.co.jp	Headquarters
	NTT WORLDWIDE TELE COMMUNICATIONS CORPORATION	Kawa Nishi-shinbashi building-B tower, 2-14-1 Nishi-shinbashi, Minato-ku, Tokyo 105-0003, Japan	+81-3-5551-7116	+81-3-5551-2345		Agent
	NI+C International Co.	IBM Kawasaki Bldg., 1-14 Nisshin-cho, Kawasaki-ku, Kawasaki-shi, Kanagawa 210-0024, Japan	+81-3-3539-2700	+81-3-3539-2891		Agent
Financial Information Services Japan K.K.(Moody's Japan K.K.)	Financial Information Services Japan K.K.	Shin Aoyama Bldg., West21F, 1-1-1, Minami-Aoyama, Minato-ku, Tokyo 107-0062, Japan	+81-3-5770-5321	+81-3-5770-5328	http://www.fisonline.com	Headquarters
Fujitsu Ltd.	Fujitsu Ltd.	1-18-18 Ebisu, Shibuya-ku, Tokyo 150-8450, Japan	+81-3-5423-6350	+81-3-5449-7240	http://www.fujitsu.co.jp	Headquarters
Gfk Japan Ltd.	Gfk Japan Ltd.	Nakanosakaue Sunbright Twin 15F, 2-46-1 Honcho, Nakano-ku, Tokyo 164-0012, Japan	+81-3-5350-4621	+81-3-5350-4647		Headquarters
GreenNet CO.,LTD.	GreenNet CO.,LTD.	3-7-10, Toranomon, Minato-ku, Tokyo 105-0001, Japan	+81-3-5404-7601	+81-3-5404-0480		Headquarters
	GREEN NET KOREA CO., LTD.	#406, Dae Kyo B/D 56-4,3GA Wonhyo-ro Yong San-gu Seoul, KOREA.	+82-2-717-1894	+82-2-706-5687		Branch
G-Search Limited(GSH)	G-Search Limited	LOOP-X Bldg., 9F 3-9-15 Kaigan, Minato-ku, Tokyo 108-0022, Japan	+81-3-5442-4381	+81-3-5442-4391	http://www.g-search.or.jp/	Headquarters

Company	Contacts	Address	Telephone	Facsimile	Homepage	Status
IBJ-NIKKO INFORMATION SYSTEMS, LTD. (INIS)	IBJ-NIKKO INFORMATION SYSTEMS, LTD.	3-7-1 Kanda-Nishiki-cho, Chiyoda-ku, Tokyo 101-0054, Japan	+81-3-5281-1101	+81-3-5281-0707	http://www.indb.co.jp/	Headquarters
	Datastream International Limited	Monmouth House, 58-64 City Road, London EC1Y2AL, U.K.	+44-171-250-3000			Agent
Information Services International Dentsu, Ltd. (ISID)	Information Services International Dentsu, Ltd.	4-11-10 Nakano, Nakano-ku, Tokyo 164-8520, Japan	+81-3-3228-6111	+81-3-3319-6989		Headquarters
	ISI-Dentsu of America, Inc.	1114 Avenue of the Americas, New York, NY 10036, U.S.A.	+1-212-789-2300	+1-212-789-2333		Branch
	ISI-Dentsu of Asia, Ltd.	Suite 1101, Central Plaza, 18 Harbour Road, Wanchai, Hong Kong	+852-2829-0829	+852-2802-8477		Branch
	ISI-Dentsu of Europe, Ltd.	1st Floor, Aquila House, 33-34 Soho Square, London, W1V 5DG, U.K.	+44-171-287-4207	+44-171-287-4206		Branch
	ISI-Dentsu Singapore, Pte. Ltd.	10 Science Park Road, #03-13, The Alpha, Singapore Science Park II, Singapore, 117684	+65-872-3688	+65-872-5788		Branch
Japan Association for International Chemical Information (JAICI)	Japan Association for International Chemical Information	Nakai Bldg., 6-25-4 Honkomagome, Bunkyo-ku, Tokyo 113-0021, Japan	+81-3-5978-3622	+81-3-5978-3600	http://www.jaici.or.jp/	Headquarters
	FIZ Chemie GmbH	Franklinstrasse 11, D-10587 Berlin, Germany	+49-30-390-76	+49-30-390-76		Agent
	Kay Pool	9520 Linden Avenue, Bethesda, MD 20814, U.S.A.	+1-301-493-6595	+1-301-897-3487		Agent
	KOREA INFORMATION SERVICES FOUNDATION	#450-1, Gayang Bldg., Gayang Dong, Gangsao-ku, Seoul, 157-200 Korea	+82-2-3668-1493	+82-2-3661-1586		Agent
Japan Construction Information Center(JACIC)	Japan Construction Information Center	Akasaka Seventh Avenue Bldg., 10-20, 7-chome, Akasaka, Minato-ku, Tokyo 107-8416, Japan	+81-3-3505-2981	+81-3-3505-2966	http://www.jaic.or.jp	Headquarters
Japan External Trade Organization (JETRO)	Japan External Trade Organization	2-2-5 Toranomon, Minato-ku, Tokyo 105-0001, Japan	+81-3-3584-6016	+81-3-3584-6018	http://www.jetro.go.jp/	Headquarters
Japan Packaging Machinery Manufacturers Association(JPMA)	Japan Packaging Machinery Manufacturers Association	7thF, Kimura Bldg., 5-5, Asakusabashi 5-chome, Taito-ku, Tokyo 111-0053, Japan	+81-3-3865-2815	+81-3-3865-2850	http://www.jpmma.or.jp/	Headquarters
JAPANESE PATENTS DATA SERVICE, CO.	HANLIM IPS CO.,LTD	SUDA BLDG. 1-17-8 Nishi-Shinbashi, Minato-ku, Tokyo 105-0003, Japan	+81-3-3580-8021	+81-3-3580-8081		Agent
Japan Patent Information Organization (Japio)	Japan Patent Information Organization (Japio)	Sato-Dia Bldg.4-1-7 Toyo, Koto-ku, Tokyo 135-0016, Japan	+81-3-5690-5555	+81-3-5690-5566	http://www.japio.or.jp	Headquarters

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	The Dialog Corporation	11000 Regency Parkway Suite 400, Cary, NC 27511 U.S.A.	+1-919-462-8600	+1-919-468-9890		Partner
	Orbit Questel, Inc.	8000 Westpark Drive, McLean, VA 22102, U.S.A.	+1-703-442-0900	+1-703-893-4632		Partner
	QUESTEL/Orbit Inc.	Le Capitole 55, Avenue des Champs Pierreux 92029 Nanterre Cedex, France	+33-1-46145555	+33-1-46145511		Partner
	STN INTERNATIONAL, c/o FIZ Karlsruhe	D-76344 Eggenstein-Leopoldshafen, Germany	+49-7247-808510	+49-7247-808131		Partner
Japan Science and Technology Corporation, Information Center for Science and Technology (JICST)	Japan Science and Technology Corporation, Information Center for Science and Technology (JICST)	5-3, Yonbancho, Chiyoda-ku, Tokyo 102-0081, Japan	+81-3-5214-8414	+81-3-5214-8410	http://www.jst.go.jp	Headquarters
	Data Communications Corp. of Korea (DACOM)	DACOM Building 65-228, 3-Ga, Han Gang-Ro Yong San-gu Seoul 140-716, Korea	+82-2-220-7273	+82-2-220-7219		Agent
	FIZ-Karlsruhe	P.O. Box 2465, W-7500 Karlsruhe 1, Germany	+49-7247-808-555	+49-7247-808-666		Agent
	Institut de l'Information Scientifique et Technique (INIST)	2, Allee du parc de Brabois, Vandoeuvre-Les Nancy, Codex 54514, France	+33-83-50-46-80	+33-83-50-46-83		Agent
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	JST Paris Office	Batiment Mercure, 31 Quai de Grenelle 75015 Paris, France	+33-1-5395-3880	+33-1-5395-3881		Branch
	JST Washington Office	2000 L Street, N.W. Suite 508 Washington, D.C. 20036, U.S.A	+1-202-872-4707	+1-202-872-4053		Branch
	National Technical Information Service (NTIS)	5285 Port Royal Road, Springfield, VA 22161, U.S.A.	+1-703-487-4822	+1-703-321-8547		Agent
Japan Small and Medium Enterprise Corporation	Japan Small and Medium Enterprise Corporation	37th Mori Bldg., 5-1, Toranomon 3-chome, Minato-ku, Tokyo 105-8453 Japan	+81-3-5470-1569	+81-3-5470-1527	http://www.jsbc.go.jp/	Headquarters
Japan Technical Information Service(JATIS)	Japan Technical Information Service	Sogo-kojimachi No.3 Bldg., 1-6, Kojimachi, Chiyoda-ku, Tokyo 102-0083, Japan	+81-3-3239-5096	+81-3-3239-4714	http://www.jatis.co.jp	Headquarters

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K.K. Kyodo News	K.K. Kyodo News	16th Kowa Bldg., North Wing, 1-9-20, Akasaka, Minato-ku, Tokyo 107-8517, Japan	+81-3-5572-6095	+81-3-5572-6097	http://www.kyodoco.jp/	Headquarters
	Dow Jones Markets	Harbor side Financial Center 600 Plaza Two Jersey City, NJ07311 U.S.A	+201-938-5563	+201-938-5555		Partner
Market Information center for Perishable Food(MICPF)	Market Information center for Perishable Food	NTTDATA Omori Sanno Bldg., 3-5, Sanno 1-chome, Ota-ku, Tokyo 143-0023, Japan	+81-3-3778-6478	+81-3-3778-6479	http://www2s.biglobe.ne.jp/~fains/	Headquarters
Marketing Intelligence Corporation (MiC)	Marketing Intelligence Corporation	1-4-1 Honcho, Higashikurume-shi, Tokyo 203-8601, Japan	+81-424-76-5164	+81-424-76-5198	http://www.mic.co.jp/mic/	Marketing Research Business Division
	Marketing Intelligence Corporation Shanghai Office	Shanghai International Trade Center 2200 Yanan Xi-Lu, Shanghai 200336 China	+86-21-6275-3322	+86-21-6275-0786		Branch
	EUROPANEL	Westgate, London W5 IUA U.K	+44-181-967-4559	+44-181-967-4002	http://www.europanel.com	Other
MARUZEN CO., LTD.	MARUZEN CO., LTD.	2-3-10, Nihonbashi, Chuo-ku, Tokyo 103-8245, Japan	+81-3-3272-0338	+81-3-3272-7267	http://www.maruzen.co.jp/	Headquarters
	Maruzen International Co., Ltd.	1200 Harbor Blvd., 10th Floor, Weehawken, NJ 07087, U.S.A.	+1-201-865-4400	+1-201-865-4845		Subsidiary
Media Research Center, Inc.	Media Research Center, Inc.	Heiwado Bldg 5F, 2-4 Kanda Ogawamachi, Chiyoda-ku, Tokyo 101-0052, Japan	+81-3-3219-7575	+81-3-3219-7377		Headquarters
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	「ACTON」 DIRECT	P.O. Box 5059, Lincoln, NE 68505-0059, U.S.A.	+1-402-466-8400	+1-402-466-9074		Partner
National Diet Library (NDL)	National Diet Library (NDL)	1-10-1 Nagata-cho, Chiyoda-ku, Tokyo 100-8924, Japan	+81-3-3581-2331 (Ex.2104)	+81-3-3581-3292	http://www.ndl.go.jp	Headquarters
NEC Corporation (NEC)	NEC Corporation	5-7-1 Shiba, Minato-ku, Tokyo 108-8001, Japan	+81-3-3798-9111	+81-3-3798-7844		Headquarters
New Glass Forum (NGF)	New Glass Forum	3-1-9 Shinbashi, Minato-ku, Tokyo 105-0004, Japan	+81-3-3595-2775	+81-3-3595-0255	http://www.ngf.or.jp	Headquarters

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Nichigai Associates, Inc. (Nichigai)	Nichigai Associates, Inc.	Dai-3 Shimokawa Bldg., 1-23-8 Ohmori-kita, Ohta-ku, Tokyo 143- 8550, Japan	+81-3-3763-5241	+81-3-3764-0845	http://www.nichigai.co.jp	Headquarters
NIFTY Corporation	NIFTY Corporation	Ohmori BellPort A, 26-1, Minami-Ohi, 6-chome, Shinagawa-ku, Tokyo 140-8544, Japan	+81-3-5471-5606		http://www.nifty.ne.jp	Headquarters
	MX Engineering Corporation	3F-C No.120 Yumin6 Rd, Peitou Dist, Taipei, Taiwan, R.O.C	+886-2-2827- 8457	+886-2-2827- 8456		Partner
	Toyo Information Systems(HK)Co., Ltd.	7F, Dah Sing Financial Centre 108, Gloucester Rd,Wanchai, Hong Kong	+852-2598-7171	+852-2598-6126		Partner
NIHON KEIZAI SHIMBUN, INC. (NIKKEI)	Nihon keizai Shimbun, Inc.	1-9-5 Otemachi, Chiyoda-ku, Tokyo 100- 8066, Japan	+81-3-5255-2100	+81-3-5255-2809	http://www.nikkei.co.jp	Headquarters
	Nihon Keizai Shimbun America, Inc.	1325 Avenue of the Americas, Suite #2500, New York, NY 10019, U.S.A.	+1-212-261-6240	+1-212-261-6249		Branch
	Nihon Keizai Shimbun Europe, Ltd.	Bush House, North West Wing, Aldwych, London WC2B 4PJ, U.K.	+44-171-379- 4994	+44-171-379- 0378		Branch
	Nihon Keizai Shimbun Singapore Pte Ltd.	331 North Bridge Road, #13-02/03, Odeon Towers, Singapore 188720	+65-336-4122	+65-336-4016		Branch
	Nihon Keizai Shimbun, Hong Kong Ltd.	Suite 1707B-10, Dah Sing Financial Centre, 108 Gloucester Road, Wanchai, Hong Kong	+852-2598-1771	+852-2845-7768		Branch
Nippon Statistics Center Ltd.(NSC)	Nippon Statistics Center Ltd.	Tawara-machi City Bldg., 2-10-13, Kotobuki, Taito-ku, Tokyo 111- 0042, Japan	+81-3-3847-1701	+81-3-3847-1708	http://www.nihon-toukei.co.jp	Headquarters
	ACTON INTERNATIONAL LTD.	4901 North 57th Street, 68507-3102, Box 5059 Lincoln, NE 68505-0059, U.S.A	+1-402-466-8400	+1-402-466-9074	http://www.acton.com	Partner
Nomura Research Institute, Ltd. (NRI)	Nomura Research Institute, Ltd.	Dai-2 Yamaman-Bldg., 6-7 Nihonbashi Koami- cho, Chuo-ku, Tokyo 103-0016, Japan	+81-3-3249-9415	+81-3-3249-9447	http://www.nri.co.jp/index-j.html	Headquarters
	Haver Analytics	60 East 42nd Street, Suite 2424, New York, NY U.S.A.	+1-212-986-9300	+1-212-986-5857		Agent
	Nomura Research Institute America, Inc.	2 World financial Center, Building B, New York, NY, U.S.A.	+1-212-667-9010	+1-212-667-1013		Branch
	Nomura Research Institute Europe Limited	Nomura House, 1, St.Martin's-le-Grand, London, U.K.	+44-171-521- 3023	+44-171-521- 3689		Branch

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Nomura Research Institute, Ltd. (NRI)	WEFA, Inc.	800 Baldwin Tower 1510 Chester Pike Eddystone, PA 19022, U.S.A.	+1-610-490-2553	+1-610-490-2600		Agent
NTT BUSINESS INFORMATION SERVICE, INC.	NTT BUSINESS INFORMATION SERVICE, INC.	Kudan Fuji Bldg., 2-4 kanda Jinbo-cho, Chiyoda-ku, Tokyo 101- 0051, Japan	+81-3-5210-0151	+81-3-5210-0155	http://www.nttbis.co.jp	Headquarters
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Osaka City Foundation for Urban Technology	Osaka City Foundation for Urban Technology	3-5-22 Kitahama, Chuo- ku, Osaka 541-0041, Japan	+81-6-6209-1910	+81-6-6209-1920		Headquarters
Protein Research Foundation	Protein Research Foundation	Ina 4-1-2, Mino, Osaka 562-8686, Japan	+81-727-29-2040	+81-727-29-4124		Headquarters
QUICK Corp.	QUICK Corp.	Otemachi-Bldg., 1-6-1 Otemachi, Chiyoda-ku, Tokyo 100-0004, Japan	+81-3-3216-5911	+81-3-3287-0836		Headquarters
	QUICK AMERICA CORPORATION	Two Wall Street, Suite 520, New York, NY 10005, U.S.A.	+1-212-720-4960	+1-212-720-4989		Subsidiary
	QUICK Corp. London Branch	65 Clifton Street, London EC2A 4JE, U.K.	+44-171-247- 2222	+44-171-377- 2201		Branch
	QUICK Corp. Hong Kong Representative Office	Room 3001, Sino Plaza, 255-257, Gloucester Road, Causeway Bay, Hong Kong	+852-2831-9888	+852-2831-9868		Representative Office
Research Institute of Human Engineering for Quality Life(HQL)	Research Institute of Human Engineering for Quality Life	Dokita-Daibiru Bldg.3F., 1-2-5, Dojima, Kita-ku, Osaka 530-0003, Japan	+81-6-6346-0234	+81-6-6346-0456	http://www.hql.or.jp/	Headquarters
Research Institute of International Trade and Industry (RITI)	Research Institute of International Trade and Industry	Kobiki-kan Ginza Bldg., 2-8-9 Ginza, Chuo-ku Tokyo 104-0061 Japan	+81-3-3535-5348	+81-3-3535-5347		Headquarters
RESEARCH ORGANIZATION FOR INFORMATION OF SCIENCE & TECHNOLOGY (RIST)	RESEARCH ORGANIZATION FOR INFORMATION OF SCIENCE & TECHNOLOGY	Shirakata-Shirane 2-4, Tokai-mura, Naka-gun, Ibaraki 319-1106, Japan	+81-29-283-3833	+81-29-283-3811		Headquarters
Rural Culture Association	Rural Culture Association	7-6-1 Akasaka, Minato- ku, Tokyo 107-0052, Japan	+81-3-3585-1146	+81-3-3585-6466		Headquarters
Technomics, Inc.	Technomics, Inc.	Nihonbashi TM Bldg., 1- 8-11 Nihonbashi Horidome-cho, Chuo-ku, Tokyo 103-0012, Japan	+81-3-3666-2952	+81-3-3666-2730	http://www.technomics.co.jp	Headquarters
TEIKOKU DATABANK, LTD (TDB)	TEIKOKU DATABANK, LTD	2-5-20 Minami-Aoyama, Minato-ku, Tokyo 107- 8680, Japan	+81-3-3408-1108	+81-3-3404-4339	http://www.tdb.co.jp/	Headquarters
	TEIKOKU DATABANK AMERICA, INC.	747 Third Avenue, 25th Fl., New York, NY 10017, U.S.A	+1-212-421-9805	+1-212-421-9806		Branch

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TESCO Direct Company Ltd.	TESCO Direct Company Ltd.	Shinwa Bldg., 2-9-11 Toranomon, Minato-ku, Tokyo 105-0001, Japan	+81-3-3502-5641	+81-3-3502-5643		Headquarters
THE ENERGY CONSERVATION CENTER, JAPAN (ECCJ)	THE ENERGY CONSERVATION CENTER, JAPAN	3-19-9, Hatchobori, Chuo-ku, Tokyo 104-0032, Japan	+81-3-5543-3017	+81-3-5543-3022	http://www.eccj.or.jp	Headquarters
The Energy Data and Modelling Center, The Institute of Energy Economics, JAPAN (EDMC)	The Energy Data and Modelling Center, The Institute of Energy Economics, JAPAN	Shuwa Kamiya-cho Bldg., 3-13 Toranomon 4-chome, Minato-ku, Tokyo 105-0001, Japan	+81-3-5401-4341	+81-3-5401-4350	http://www.ieej.or.jp/edmc/	Headquarters
The Foundation of Kyushu Industrial Technology Center(KITEC)	The Foundation of Kyushu Industrial Technology Center	2-17-5, Hakataeki-Higashi, Hakata-ku, Fukuoka 812-0013, Japan	+81-92-411-7391	+81-92-472-6609	http://www.kitec.or.jp	Headquarters
The Japan Shipping Exchange, Inc.(JSE)	The Japan Shipping Exchange, Inc.	Wajun Bldg. 3rd Fl., 2-22-2, Koishikawa, Bunkyo-ku, Tokyo 112-0002, Japan	+81-3-5802-8370	+81-3-5802-8371	http://www.jseinc.org	Headquarters
The Japan Times, Ltd.	JT USA Inc.	3655 Torrance, Blvd., Suite 430, Torrance, CA 90503 U.S.A	+1-310-540-6862	+1-310-540-3462		Branch
THE MAINICHI NEWSPAPERS(Mainichi INTERACTIVE)	THE MAINICHI NEWSPAPERS	1-1-1, Hitotsubashi, Chiyoda-ku, Tokyo 100-8051, Japan	+81-3-3212-1819	+81-3-3212-5122	http://www.mainichi.co.jp	Headquarters
THE YOMIURI SHIMBUN	THE YOMIURI SHIMBUN	1-7-1 Otemachi, Chiyoda-ku, Tokyo 100-8055, Japan	+81-3-3217-9884	+81-3-3217-8279	http://www.yomiuri.co.jp/	Headquarters
TMC CO., Ltd.	TMC CO., Ltd.	1-18-2, Ginza, Chuo-ku, Tokyo 104-0061, Japan	+81-3-3567-1906	+81-3-3567-2014	http://www.medic.co.jp	Headquarters
TOKYO SHOKO RESEARCH, LTD.(TSR)	TOKYO SHOKO RESEARCH, LTD.	Shin-ichi Bldg., 1-9-6 Shinbashi, Minato-ku, Tokyo 105-0004 Japan	+81-3-3574-2264	+81-3-3574-2224	http://www.tsr-net.co.jp	Headquarters
TOKYO SHOKO RESEARCH, LTD.(TSR)	Dun & Brad Street Information Services	One Diamond Hill Road, Murray Hill, NJ 07974, U.S.A	+1-908-665-5104			Agent
TOHAN. CO., LTD.	TOHAN. CO., LTD.	6-24, Higashigoken-cho, Shinjuku-ku, Tokyo 162-8710, Japan	+81-3-3266-9517	+81-3-3235-1726	http://www.tohangsquare.or.jp	Headquarters
TOYO KEIZAI INC.	TOYO KEIZAI INC.	1-2-1 Nihonbashi Hongoku-cho, chuo-ku, Tokyo 103-8345, Japan	+81-3-3246-5511	+81-3-3242-4067	http://www/toyokeizai.co.jp	Headquarters
	TOYO KEIZAI AMERICA INC.	380 Lexington Ave., 45th Fl., New York, NY 10168, U.S.A.	+1-212-949-6737	+1-212-949-6648		Branch



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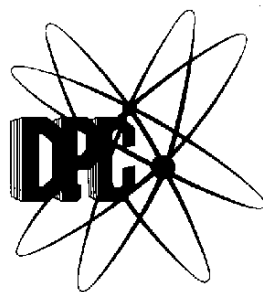
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