

Databasing Takes Off

By Shigeki Suzuki

Database services in Japan began only 15 years ago, with off-line services sold on reels of magnetic tape. On-line services have existed for only a decade, since the mid-1970s.

In the early 1980s, KDD (Kokusai Denshin Denwa Co., Ltd.) introduced its packet-switching network, making the large-scale use of European and American on-line databases feasible. At the same time, Japanese firms began moving seriously into the database service market.

Founded in December 1979, the Japan Database Industry Association (DINA) grew from its original 19 founding firms to 26 firms at the end of March 1981, 31 in 1983 and 62 in 1985. As of February 1986, DINA membership totaled 75 firms. As these figures indicate, the database industry in Japan has become increasingly active.

Users deluged with one-way information have found the two-way features of database services appealing. Moreover, government authorities, eager to achieve a satisfactory balance in the international information flow, have embarked upon efforts to promote the database industry.

Today, ten years after the inception of on-line database services in Japan, the industry, its users and the government are all showing a new enthusiasm. We are clearly at the start of the database era.

Industry characteristics

An estimated 120 firms in Japan have entered the database service field, an extremely small number compared with the situation in Europe and the United States. Moreover, almost none of these firms engages exclusively in providing database services. The majority have ventured into the database field as an auxiliary service secondary to their main lines of business, and none has reached the stage of relying on database services to pay their own way.

The configuration of the database service is also distinctively different in Japan. In other countries, many produc-

ers create a variety of databases, which are then offered to users through distributors. The producers and distributors share the work and the risks. In Japan, a producer typically distributes its own product. There are, moreover, only some 50 firms producing databases, including many that have entered the field as a sideline as well as new ones specializing in database production.

Recently, some new firms entering the database production field have attempted to make part of their in-house databases commercially available. Others, such as newspapers and publishing houses, have produced databases as by-products of their main businesses and are aggressively marketing them. The VAN (value-added network) services that appeared following the revision of the Telecommunications Business Act in April 1985 have also indicated they might enter the field as database distributors.

Market still small

As might be expected from this brief history of database services in Japan, the market is still rather small. According to MITI (Ministry of International Trade and Industry) statistics, sales totaled only ¥96.7 billion in 1984 (Table 1). However, the market is growing very rapidly, with a growth rate of 29% per annum between 1973 and 1978 and 24% per annum between 1978 and 1983. In 1979, when DINA was founded, the market was only ¥30 billion. In 1984, it reached about ¥100 billion, even though the industry itself had aimed at an initial target figure of around ¥50 billion. While these sales hardly justify calling database services a full-fledged industry, the market is likely to top ¥300 billion or even ¥500 billion (about \$2.8 billion at the rate of \$1/¥180) in the near future, assuming growth continues at the current pace.

Databases available

MITI has published an annual directory of databases available for use in

Japan since 1983. The directory listed 604 databases in 1983, 916 in 1984 and 1,242 in 1985. Those figures, however, included the same databases more than once if they are listed by more than one firm. Eliminating this duplication, the actual figures were 456 in 1983, 679 in 1984 and 924 in 1985. As these figures show, the number of databases available has been increasing at a brisk 40% to 50% a year.

Analysis of the content of these databases reveals a pattern unique to Japan. First, domestically produced databases account for only 22% of the total, due to the small number of producers creating databases in Japan. Another important factor is that while existing databases produced overseas can quickly be transferred to Japan over international telecommunications circuits, it takes considerably more time to create domestic databases.

Second, the number of databases available is nearly equally divided between business and natural science applications. Of the 1,242 databases available in Japan in 1985, 38% were business related and 37% natural science related. In other countries, business-oriented databases predominate (Fig. 1).

Third, more than half of the available databases are reference ones (Table 2). In Europe and the United States, source databases (also known as fact databases) have already become more prevalent).

The pattern of development in the database industry has been a movement in field from natural science to business and from reference to fact. Here, too, the Japanese industry's relative infancy is apparent in its pattern of database types.

Table 1
Database Service Market in Japan

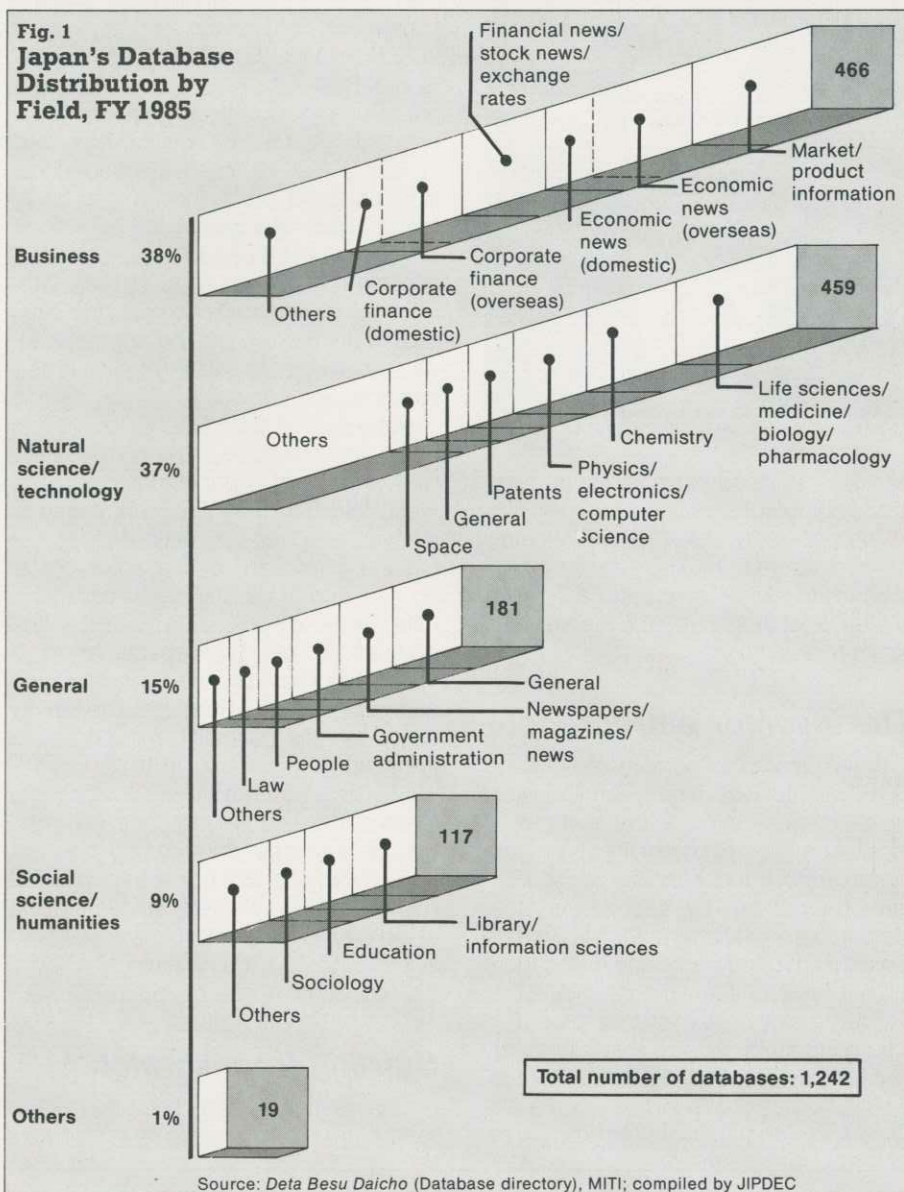
FY	Sales (¥ million)	Growth rate (% p.a.)	
1973	7,620	1973-78	28.9
1978	27,069		
1980	44,059	1978-83	23.8
1981	60,737		
1982	52,342	1983-84	22.8
1983	78,713		
1984	96,654		

Note: Figures include both on-line and off-line services.
Source: Ministry of International Trade and Industry

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Table 2 Databases by Data Type

	FY 1983	FY 1984	FY 1985
REFERENCE			
Books & magazines	92	133	173
Abstracts	10	11	47
Books, magazines & abstracts	188	286	353
Others	49	71	81
Documentary information, total	339	501	654
FACT			
Text alone	35	66	180
Text combined with other data	17	21	18
Text, total	52	87	198
Numerical data	130	229	207
Graphic data	2	2	4
Combined textual, numerical and graphic data	81	97	179
Grand total	604	916	1,242
Percent of total:			
Reference databases	43.9	45.2	47.3
Fact databases	56.1	54.7	52.7

Source: *Deta Besu Daicho Soran* (Bibliography of database directories), MITI, 1983-1985Fig. 1
Japan's Database
Distribution by
Field, FY 1985

Changes ahead

Japan may have entered the database era, but many problems remain to be solved. Cost is one problem, and people active in the database industry have indicated a desire for support from the national government to help defray some of the high costs of creating databases, while others bemoan the fact that Japanese are not accustomed to paying an appropriate price for information. Another problem is the scarcity of information, and many people are unhappy that the government does not make its wealth of statistical data available to private database producers in machine-readable form at low cost. The list of complaints and issues seems endless, but all these problems will be moving toward solution or at least amelioration in the near future.

In April 1984, the Database Promotion Center (DPC) was established with MITI support. One of its aims is to foster the database industry's development by, for example, providing support to those creating databases. In the November 1985 report of the Industrial Structure Council, MITI emphasized the importance of fully developing domestically produced databases and promoting information exchanges with other countries.

These government efforts are only one factor signaling major changes in the business climate for database suppliers. VAN, videotext and other new communications media have started commercial operation, and telecomputing is also expected to hit full stride this year. Telecomputing services such as Compuserve and The Source of the United States will have a major impact in Japan, too, by enlarging the range of database users.

Most important of all is that people talking about office automation and the new media have begun to recognize that information accessed via databases is the core of those exciting developments. All told, everything portends even more rapid development of database services in Japan.

Further information on Japanese database services can be obtained from:

DINA
Administrative Office
Japan Information Processing Development Center (JIPDEC)
3-5-8 Shibakoen, Minato-ku, Tokyo 105
or
Database Promotion Center
2-4-1 Hamamatsu-cho, Minato-ku,
Tokyo 105