

The Role of Japan's Bookstores in Circulating Academic Information

— Case Example of Kinokuniya Co. Ltd. —

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1. Introduction

Maruzen and Kinokuniya are among the best known bookstores in Japan. What is less known is that these companies, especially Kinokuniya, have performed a significant social function as specialized importers of foreign books and circulators of academic information. This article will examine this dissemination of scholarly material, focusing on Kinokuniya.

2. Importance of Circulation of Academic Information

First of all, this section discusses the historical significance of both companies. In October 1957, the Soviet Union launched the world's first artificial satellite, Sputnik I. This historic landmark took place after World War II, when western capitalist countries led by the U.S. had a tempestuous relationship with the USSR and its socialist allies, and the launch brought "Sputnik shock" to the West.

The U.S. immediately established NASA in 1958, directly controlled by the President, to advance development of space technology. It is said that a total of 500,000 scientists and technical experts were mobilized for this project, and intellectual information sharing became a serious issue. To address this and other issues, the President's Science Advisory Committee was established including an information science panel led by Alvin M. Weinberg, the head of Oak Ridge National Laboratory, for deliberations on issues regarding information. The panel's conclusions were released on January 10, 1963, as a report entitled "Science, Government, and Information: The Responsibilities of the Technical Community and the Government in the Transfer of Information," prefaced by President John F. Kennedy.

His preface is as follows:

"One of the major opportunities for enhancing the effectiveness of our national scientific and technical effort and the efficiency of Government management of research and development lies in the improvement of our ability to communicate information about current research efforts and the results of

past efforts.

This report of the Science Advisory Committee draws attention to the importance of good communication to modern scientific and technical endeavor. It makes a welcome contribution to better understanding of the problems of scientific and technical communication both within the Government and outside of Government of the steps that can be taken to meet these problems.

As the report points out, strong science and technology is a national necessity and adequate communication is a prerequisite for strong science and technology.

The observations of the Committee deserve serious consideration by scientists and engineers engaged in research and development and by those administering the large Government research and development programs.”¹

This preface emphasizes the point that appropriate circulation of information is a crucial part of the research and development of science and technology, and the core of the report was “Transfer of information is an inseparable part of research and development. All those concerned with research and development – individual scientist and engineers, industrial and academic research establishments, technical societies, Government agencies – must accept responsibility for the transfer of information in the same degree and spirit that they accept responsibility for research and development itself.”² In short, it urged society to address this vital issue because “information sharing is a crucial part of research and development.” The Weinberg report focused on scientific and technical research; however, circulation of information is equally important for the humanities and social sciences.

In 1957, Japan’s Science and Technology Agency (currently the Ministry of Education, Culture, Sports, Science and Technology) founded the Japan Information Center for Science and Technology (JICST: currently the Japan Science and Technology Agency (JST)), which released booklets that indexed scholarly abstracts mainly for corporations. This center and other organizations offered document delivery and translation. Moreover, in 1986, Japan’s Ministry of Education (currently the Ministry of Education, Culture, Sports, Science and Technology) founded the Center for Academic Information (currently the National Institute for Informatics) as an inter-university research institute, to unify information services for universities and colleges. Those specialized institutions have played important roles in circulating academic information, yet those institutions were small in scale, both financially and organizationally, compared to similar bodies in the U.S. and other countries. In fact, Japan’s private book importers, especially Maruzen and Kinokuniya, have played a larger role in circulating academic information than the national institutes.

¹ Science, Government, and Information – The Responsibilities of the Technical Community and the Government in the Transfer of Information: A Report of the President’s Science Advisory Committee, The White House, III, January 10, 1963

² ditto, p.1, January 10, 1963

3. Maruzen

The Security Report of MARUZEN Co., Ltd. describes its history as follows; “Our company started as ‘Maruya Trading Company’ in Yokohama with Yukichi Fukuzawa’s forward-looking wisdom to import western books and cultural things. Our motto is to contribute to our country through cultural development and trade promotion.”³ It is a famous story, told also in his biography, that Yukichi Fukuzawa, the founder of Keio University, spent all his money to buy western books when he went to the U.S. for the first time by the ship, Kanrinmaru. The Maruya Trading Company was the first corporation in Japan, founded in 1869 right after the Meiji era had begun. So the circulation of academic information in Japan started 138 years ago.

Numerous foreign titles were imported by Maruya (which became Maruzen in 1891). Many of the imported books were translated into Japanese, including Mill’s On Liberty, published in 1872 in Japan, Malthus’s Essay on the Principle of Population (1877), Schiller’s William Tell (1880), Darwin’s Origin of Species (1881), Rousseau’s Social Contract (1882), and Smith’s Wealth of Nations (1884).

Critic and novelist Takeshi Kimura (1894-1979), the author of Maruzen’s Unofficial History and a graduate of Waseda University’s English department, states in his book that “looking back, I think the influence of Maruzen on my intellectual growth is comparable to that of this northwest Tokyo university. Waseda University is my alma mater, and Maruzen also could be called my alma mater in a different sense. I believe that all the intellectuals in Japan must feel the same kind of nostalgia for Maruzen as a spiritual home.”⁴ The feelings Kimura describes must have been widely shared by scholars, researchers, and intellectuals. In the past and present, individuals, colleges, universities, and corporations have depended largely on private book importers or distributors of academic information. From the Meiji era until a few years after World War II, Maruzen was the only company that played both of these roles. Thus, Maruzen has made an immeasurable contribution to the development of Japanese science, technology, and academic culture.

4. Kinokuniya

Kinokuniya Co., Ltd. was founded in 1927, the second year of the Showa era. Founder Moichi Tanabe recalls being taken to a festival in Nihonbashi, a neighborhood in the center of Tokyo, as a child, where he was squeezed by the crowd into a bookstore. That bookstore was Maruzen, and there he decided to be an owner of a bookstore because he was fascinated by the foreign books beautifully lined up on the shelves. In 1949, Kinokuniya started to import foreign books. They hired experienced importers and sellers from Maruzen and from Mitsukoshi department store for the new business. At that point, Kinokuniya was far from being a rival of Maruzen, which had a long history and tradition.

However, they expanded as more colleges were built in the late 1960’s in line with policy of the

³ Security Report of MARUZEN Co., Ltd. as of March 1993, Printing Bureau Ministry of Finance, p.1, 1993

⁴ Takashi Kimura, Maruzen Unofficial History, Committee of Maruzen history, introduction p.1, 1969

Ministry of Education (currently the Ministry of Education, Culture, Sports, Science and Technology). Kinokuniya grew rapidly with this “university boom.” By 1990, Kinokuniya had 60 branch offices nationwide to sell mainly foreign academic books and journals, and then finally Kinokuniya caught up with Maruzen. Because Kinokuniya started to import and sell foreign books later than Maruzen, at that time their business goal was to surpass Maruzen. This was only natural, because back then Maruzen was the only nationwide bookstore chain to sell both domestic and foreign books.

4.1 Background of Information Services

As an importer and seller of foreign books and journals, Maruzen dominated the market. Another role of Maruzen and Kinokuniya have played is in computerized information services and support services for the computerization of libraries, including universities and colleges. As mentioned, in the U.S., databases and information retrieval systems were developed as a by-product of a national project of space exploration, and by the mid of 1960's, American scholars had already started to use databases to search academic information.

Japan was 10 years behind the U.S. in computerizing academic information services, and Kinokuniya was the pioneer in Japan in this area. There are generally two forms of information circulation systems; paper forms and digital databases. In computerized database services, Kinokuniya was the leader. Maruzen has retained a dominant market share in the import and sales of foreign books; however, Kinokuniya pulled 10 years ahead of Maruzen in computerized information services.

It was around 1970 when Kinokuniya's annual earnings nearly reached 10 billion yen. The executive director, Osamu Matsubara (currently CEO), casually remarked that “Kinokuniya should have our original product like Maruzen's Athena-ink and Tiger's Calculator.” When a younger section chief heard this, he proposed that Kinokuniya should offer computerized academic information services. Back then computers were still unattainable objects, so very few people even knew the words “computer software.” Therefore, all the top officials objected to the proposal.

However, Matsubara made a decision to start the new project with the idea: “Things prevailing and successful in the U.S. should be happening in Japan as well ten years from now.” Then they bought computers and went into partnership with overseas information companies to start the new project; “information retrieval services.” The start of this new project triggered innovation within Kinokuniya's management, then later Kinokuniya became highly evaluated in Japan and especially internationally. Thus, Kinokuniya eventually surpassed Maruzen.

4.2 Start of Information Retrieval Service

Kinokuniya started “Alerting-search Service from Kinokuniya” (ASK) in May, 1972. It was six months before the Japan Information Center of Science and Technology (JICST) started the same service. Almost simultaneously, Nikkei, Inc. started an information retrieval service called NEEDS-IR, but ASK

was the one and only full-scale academic information service in Japan. The ASK service worked by batch processing imported magnetic tapes which had exclusive or non-exclusive licenses from overseas data banks. All the databases Kinokuniya used were widely respected and well-established ones from the U.S. government and societies of chemistry, physics, and engineering, as seen below.

Databases and the organizations for ASK services

as of 1972

<i>Name of Database</i>	<i>Produced by</i>	<i>Field</i>	<i>Annual number of items</i>
Automatic Subject Citation Alert (ASCAIV)	Institute for Scientific Information (ISI)	science technology, medical science, biology	360,000
U.S. Government Report Announcements (USGRA)	National Technical Information Service (NTIS)	entire area of science technology, social science	54,000
International Information Service in Physics, Electro-Technology, Computer and Control (INSPEC)	Institute of Electrical Physics Engineers (IEE)	electricity, electrical technology, computers, controls	150,000
CA-Condensates (CAC)	Chemical Abstracts Services (CAS)	chemistry, chemical engineering	360,000
Abstracts on the Chemical-Biological Activities of Chemical Substructures (CBAC)	Chemical Abstracts Services (CAS)	biochemistry, physical chemistry	39,000
Polymer Science & Technology (POST)	Chemical Abstracts Services (CAS)	high polymer chemistry	44,000
Automatic New Structure Alert (ANSA)	Institute for Scientific Information (ISI)	new molecular entities	48,000
Metals Abstracts Index Database (METADEX)	American Society for Metals (ASM)	metallurgical engineering, metallic physics, chemistry	25,000
Computerized Information Index (COMPENDEX)	Engineering Index Inc. (EI)	entire area of engineering	120,000
AGRIDEX (AGRIDEX)	CCM Information Corporation	agriculture	120,000
Searchable Physics Information (SPIN)	American Institute of Physics	Physics	30,000

As “alert” means “to be watchful, to be quick to perceive,” the intent of the ASK service is to use computers to search and make quick reports on the latest global academic information. For example, when a researcher orders the latest information on “chemo-therapy for cancer,” they would input the subject into the computer. As soon as the latest magnetic tapes arrived, they would be searched, and updated information would be output and delivered to the customer. The annual service charge was not inexpensive at 60,000 yen weekly, and 40,000 yen biweekly. However, considering the time that researchers might otherwise spend searching for current information in addition to their primary job, it could be said that the price was reasonable.

Most databases to which Kinokuniya had exclusive licenses were compiled by globally authoritative organizations, and all of them would be worth exploring in detail; however, because of space limitations, “Chemical Abstracts (database name: CA-Condensates, CBAC and POST with abstracts)” by the American Chemical Society (ACS) will serve as a representative example.

Founded in 1876, the ACS, the world’s largest academic society, currently has 158,000 members and a 410 million dollar budget. In 1907, they started a new division, Chemical Abstracts Services (CAS), to process information. There are now nearly 1,000 staff members (60% with PhD degrees), and they examine 40,000 journals, select important documents regarding chemistry, and compile indexed abstracts. Their annual amount of information was already over 400,000 items per year in the 1970’s, and they published the indexed abstracts weekly both in printed forms and database forms to circulate worldwide. At that time, chemical researchers obtained information from CAS daily, and they picked up necessary information for their studies by hand outs of nearly 8,000 pieces of information sent by CAS every week.

The ASK service served to reduce chemists’ research time. In the beginning of the 1970s, Japan’s major chemical companies used their own computers to process the data from magnetic tapes licensed from CAS. However, even for a big company, it was not easy to mobilize enough computer engineers and experts for computer processing. Kinokuniya was Japan’s first CAS information center, and in 1973, ten other countries besides the U.S. had similar information centers, including England, Germany, France, and Canada. All the other centers were run by public organizations, and Kinokuniya was the one and only private corporation providing this service.

The ASK service covered almost all areas of science and technology. In 1974, according to the service brochure, the organizations that used the ASK service included 36 national and public exam agencies, 47 universities and colleges (including 24 national and public colleges and universities), and 99 private corporations. ASK was an absolutely essential tool for advanced researchers, and many of the most important institutions in Japan relied on it.

4.3 Start of Online Database Services

Alerting search service, known as SDI (Selective Dissemination of Information) in the database industry, is useful in monitoring research trends, but for academic research, data from the past is needed.

When ASK became able to store databases for the preceding two years, it started ASK-RS (Retrospective Search). Customers also needed to search information over ten years old, so Kinokuniya needed to have overseas agencies retrieve that older data. Online overseas information services from Japan became possible after 1978, and a total of 10,000 topics had been retrieved and processed by the time the online database retrieval services by dedicated circuit started in 1980.

In the U.S., computerized documentation had advanced in the 1960s, which intensified the development of database and information retrieval systems. NASA outsourced development of their system to private corporations. One of them was Lockheed Missiles and Space Corporation (Lockheed) which developed an online search system called DIALOG. The U.S. government released this system to the public in the 1970's. Subsequently, commercial database services were made available by the companies that had developed the systems in the early 1970's; System Development Corporation (SDC) started ORBIT, and Lockheed commercialized DIALOG. Because of telecommunications regulations, these services weren't available in Japan until after 1980, but Kinokuniya began interacting and negotiating with these two corporations in about 1975.

At that time, the only way to use overseas information retrieval services was through telex (a system involving teletypewriters connected by telephone lines), and Kinokuniya started providing service by telex in 1978. The use of DIALOG and ORBIT retrieval technologies by telex was fairly easy for Kinokuniya to integrate because they already had technical expertise in using batch processing to search information. An overseas database search service by telex could be called "pseudo-online," with users able to perform their own searches using corporations' exclusive telex lines. The telex usage charge was as expensive as telephone usage; 1,280 yen/minute at that time; therefore the use of telex terminals was limited in many corporations. The use of dedicated terminals to access Kinokuniya's information retrieval services led to considerable growth in the information divisions of many corporations, with use of Kinokuniya dedicated lines often costing 3 million yen per month.

The greatest benefit of using telex was its interactivity, which, for instance, allowed researchers to correct spelling and typographic errors immediately. Searching with batch processing, one previously had to wait a week or even a month to reprocess the material. Other benefits included the ability to obtain data in real-time, access to a vast record of historical data (over 10 years of data for Chemical Abstracts), and the reduction of research time to about 10 minutes per search.

In July 1978, Kinokuniya concluded an agreement with Lockheed and constructed KINOCOSMONET, using a dedicated line between the U.S. and Japan that required the approval of Japan's Ministry of Postal Services. In March 1980, Kinokuniya made Lockheed's DIALOG available. By 1990, people from 100 countries used DIALOG, with 200,000 users per day. Without this service, efficient information searches would not have been possible for Japanese corporations or for national agencies. In

1985, a total of 3,240 companies and organizations used Kinokuniya's information retrieval services,⁵ including national exam agencies, research and development divisions of corporations, multinational corporations, and major universities and colleges.

Currently, more than 500 major international databases can be browsed by DIALOG, including major databases in the humanities, sociology, natural sciences, business, medical science, and patents. However, because of a downturn in business at Lockheed, DIALOG was sold for 353 million dollars to Knight Ridder Inc., a newspaper publisher. Currently it is owned by Thompson Corporation, a Canadian publisher, and G-Search Co., Ltd. (a Fujitsu subsidiary) is the exclusive agent in Japan. As stated above, the adoption and dissemination of DIALOG in Japan was mainly achieved by Kinokuniya, which started information services in the beginning of the 1970's. Maruzen also became a provider of DIALOG search services at around the same time as Kinokuniya.

4.4 Library Support Services

A "bibliographic utility" is a library science term. Library and Information Science Study Handbook explains it as follows. "Bibliographic utility is an organization that provides libraries and other institutions with access to and support for bibliographic databases, usually using a proprietary interface. In a broad sense, it includes agencies which offer search services for research papers' abstracts and indexes; however, historically it focuses on physical books and magazines in libraries. In other words, bibliographic utilities were established to enable resource sharing by mutual cooperation. As the main purpose is to support libraries, naturally these are their primary clients. Bibliographic utilities use shared data to reduce the time and labor needed to catalogue materials, establish databases for individual libraries' collections, and to enable inter-library loan services (ILL). These services are made possible through the computerization of library tasks, using communication networks such as Machine Readable Cataloging (MARC) technology."⁶

To put it more simply, when a library buys Harry Potter, it takes time to make an index of the book, even for an experienced librarian. It is quicker and much easier to use another library's pre-existing data. Before making indexes, they can check the shared database for existing indexes and use the information they find. Bibliographic utilities vastly increase efficiency and convenience, and they have become indispensable for current and future libraries.

The largest bibliographic utility is the Online Computer Library Center (OCLC) in the U.S. Kinokuniya became an agent of OCLC in 1986. With no other OCLC clients in Japan, Kinokuniya was, in effect, an exclusive agency. Although OCLC had not offered their services overseas, Kinokuniya anticipated that they would open up to Europe and Asia, and offered to act as their agent in 1984. It takes enormous time and effort to make indexes of specialized books. Even an experienced librarian at the National Diet Library can make only several indexes per day. Making indexes of foreign specialized

⁵ Nikkei New Media, Nikkei, Inc., p.2, 1985.8.5 issue

⁶ Library and Information Science Study Handbook Second Edition, Maruzen, p.401, 1999

books is particularly difficult, so it was extremely helpful for university libraries, which have numerous foreign books, to be able to access OCLC. Libraries became able to share book indexes in English and other languages such as German, French, Russian, Spanish, Portuguese, Chinese, and Korean. Also, Western countries imported many Japanese books. Waseda University cooperated fully to make a catalog of Japanese books for OCLC.

Two years before Kinokuniya became their agent, OCLC offered their services to 6,000 libraries. These services included Online Cataloging Services (an automatic index making system using databases for books, audio-visual media, ancient documents, manuscript books, music scores, maps, etc.), Inter-library loan (ILL) services, and Computerized index making (machine readable indexes for future mechanized libraries).⁷

The main users of Kinokuniya, as well as Maruzen, are university libraries. The goals of OCLC are (1) cost reduction for libraries, (2) avoiding overlapping investment, and (3) improving services for library users. Those are many libraries' general operating goals as well. By offering OCLC services, Kinokuniya drove a wedge into university libraries, the primary consumers of academic information. Libraries are the heart of universities and colleges; therefore, it was very meaningful for Kinokuniya to offer the OCLC bibliographic utilities.

In the 1990's, OCLC expanded their services, and added "further access to the world's information" to their stated philosophy. First, they initiated an online database search service called FirstSearch, providing online DIALOG functionality, primarily to university libraries. In the 2000's, electronic journals became widespread, and in the late 1990s, OCLC started an online electronic journal service called ECO (Electronic Collection Online). Currently, online users can browse 5,300 versions of electronic journals. Major publishing companies can now afford to establish their own systems, for example Elsevier owns ScienceDirect to offer online versions of their academic journals; however, medium and small publishers, which cannot afford their own systems, can use OCLC to offer their electronic journals. With this system, if OCLC subscribers pay extra charges, their users can browse the electronic journals. In fact, OCLC was the first company in the world to offer online-only journals, called Electronic Journals Online, without a printed alternative.

They also offer an online service, NetLibrary eBook, for books. With this service, subscribers can access academic books online 24 hours a day. Moreover, they don't need physical cataloging or book shelves. Currently, the users can browse 120,000 titles of online academic books from 400 major publishers such as Oxford University Press, MIT Press, Yale University Press, Blackwell Publishing, and Routledge. Each year, the number of accessible electronic books is increasing. Maruzen also recognized the importance of bibliographic utilities and started working with UTLAS in Canada. However, shortly thereafter, this company changed names several times in a series of mergers.

⁷ Isao Miura, *Database Stories Vol.16*, Jyoho-Kanri, p.603, vol.42 No.7, 1999

4.5 Establishment of BOOK Database

In the past, when book readers, libraries, and bookstores tried to search for publications, they had only a few options; Japan MARC (an index database from the National Diet Library), or commercial book index databases by major book and magazine distributors such as Tohan Co., Ltd. (Tohan) and Nippon Shuppan Hanbai, Inc. (Nippan). However, those needed much improvement because of a six month delay in information and many areas were not covered at all. Moreover, those search systems were not user-friendly.

After the second energy shock in 1981, publishing industry growth slowed. The total sales of 1986 showed almost no growth; approximately 2.55 trillion yen (only a 1.31% increase over the previous year). The industry urgently needed to spark new growth. To address this issue, in 1985, Kinokuniya encouraged Tohan and Nippan to establish book databases for readers. A database production company, Nichigai Associates, Inc. joined the project, and those four companies (Kinokuniya, Tohan, Nippan, and Nichigai) started a consortium to establish book databases. This project required publishing companies to pay registry fees, and it became an all-out effort by the whole publishing industry, including publishers, distributors, and bookstores. It was Kinokuniya's great accomplishment to put together longtime rivals Tohan and Nippan for this huge project.

According to the press release at that time, the purpose of this database was as follows:

“In Japan about 40,000 books are published annually, but we didn't have a system to search and order new publications promptly. To meet the needs of libraries and general readers, the National Diet Library, Tohan, and Nippan separately offered book databases, partly accessible online. However, these databases were not sufficient to provide comprehensive searches. To remedy this problem, four companies cooperated to establish “BOOK,” a book database of new publications designed for the needs of bookstores, libraries, archives, scholars, and general readers.”⁸

The philosophies of this database were as follows:

- This established database would be used not for the benefit of these four companies, but for the development of the publishing industry.
- This database would be provided to publishers, distributors, bookstores, libraries, and other organizations at actual cost.

The four companies still continue to cooperate on this database, with nearly 3,100,000 items of stored information. The users can get a general idea before actually handling a book by viewing, for example, the contents of book covers or wrapping bands, or short story collections' tables of contents through the database. They also can get updated information the day after new books are published. This useful database is now widely used by university libraries, public libraries, and online bookstores like Amazon. The BOOK database also had a reference booklet called BOOK PAGE; an almanac of books.

⁸ Isao Miura, *Database Stories Vol.18*, Jyoho-Kanri, p.793-794, vol.42 No.9, 1999

Before online bookstores spread, the BOOK PAGE served as an alternative to “physical bookstores.”

4.6 Development of CD-ROM

Online information searches became the dominant practice because of its immediacy and handiness. However, online search was costly. For example, the user had to pay nearly 5,000 yen to get 50 requested items in 10 minutes with CA-Condensates (the previously mentioned chemistry database). Therefore online search was not practical for university libraries and public libraries because they could not charge library patrons for usage. When CD-ROM optical discs were developed by Sony and Philips in the early 1980's, database service became available for those libraries. CD-ROM is a multimedia format like music CD, but characters, images, and sound can be recorded. With maximum of 500 Megabytes on a 12 cm disc, one CD-ROM can store a year's worth of morning and evening newspapers, or over 30 volumes of a medium-sized dictionary like “Koji-en,” one of Japan representative dictionaries. When CD-ROMs first appeared, many people who were involved in the database industry must have thought it was a revolutionary medium that would change the information service business.

An online database search is charged at a metered rate like riding a taxi, with an additional connection fee. On the other hand, a CD-ROM is an unmetered, stand-alone product without a connection fee, so the CD-ROM database market expanded in libraries. In the fall of 1986, Kinokuniya and Nichigai Associates developed “Electronic Library Bibles” with an OEM agreement with Hitachi Ltd., providing a combination system of personal computer incorporating an external drive, with CD-ROMs including the BOOK database, the entire contents of the Asahi Shimbun newspaper, as well as JETRO (Japan External Trade Organization)'s extensive information on trade and the world economy. Up to that time, when a user browsed newspaper archives, all the articles were scaled down; however, with this new system, the user could browse the full articles instantly just like an online system. Shortly after this system went on the market, 300 organizations started to use it.

Kinokuniya also developed a CD-ROM of the Oxford English Dictionary (OED)'s NEC computer version as a joint project with NEC, which had a 90 % share of the Japanese personal computer market at that time. It was originally an IBM version of the OED CD-ROM published by Oxford University Press (OUP), converted to an NEC-PC version. OUP sought various advice from Kinokuniya while developing this product; therefore, it was natural for Kinokuniya to develop this product in Japan. They issued press releases saying, that in England, the OED CD-ROM made it possible to reduce the time for a life-long vocabulary search to just one week, and this PR claim was not exaggerated. In Japan, a printed version of the OED was expensive, at 400,000 yen, and 6,000 sets were sold. This OED CD-ROM went on sale at 250,000 yen, and immediately several hundred sets were sold.

4.7 Other Domestic and Overseas Databases

Kinokuniya has provided many other Western databases besides the various academic databases

described in this chapter. The following list of database services is excerpted from Kinokuniya Information Service's 1994 catalog, 22 years after the start of their original ASK service.

Overseas Database Services

<i>Service name</i>	<i>Country</i>	<i>Provider</i>
DIALOG	USA	DIALOG Information Services
DATA-STAR	Switzerland	RadioSuisse
EC Online	EC	European Community
NUMERICA	USA	Technical Database Services
OCLC FirstSearch	USA	Online Computer Library Center
QUESTEL/DARK	France	Questel
WESTLAW	USA	West Publishing

Domestic Database Services

<i>Service name</i>	<i>Provider</i>
ASSIST	Nichigai Associates, Inc.
C & C VAN	NEC Corporation
DIALINE	Mitsubishi Research Institute, Inc.
ELNET	Electronic Library, Inc.
G-Search	G-Search Ltd.
JOIS	Japan Information Center of Science and Technology
Nikkei Telecom	Nikkei, Inc.

Overseas CD-ROM Services

<i>Service name</i>	<i>Country</i>	<i>Provider</i>
ADONIS	Holland	ADONIS
Bowker's CD-ROM	USA	Bowker-Saur
Chadwyck-Healey's CD-ROM	UK	Chadwyck-Healey
Chapman-Hall's CD-ROM	UK	Chapman & Hall
DIALOG OnDisc	USA	DIALOG Information Services
ISI's CD-ROM	USA	Institute for Scientific Information
SilverPlatter's CD-ROM	USA	SilverPlatter Information
UMI's CD-ROM	USA	University of Microfilm International

Domestic CD-ROM Services

<i>Service name</i>	<i>Provider</i>
CD-HIASK	Asahi Shimbun Company
CD-BOOK	Nichigai Associates, Inc.
J-BISC	National Diet Library
N-BISC	Nippon Shuppan Hanbai Inc.
Igaku-Chuo Zasshi	Japan Centra Revuo Medicina
Nikkei CD-ROM	Nikkei, Inc.
Heibonsha World Encyclopedia	Heibonsha Limited

ADONIS (Article Delivery Over Network Systems) was an experimental document delivery service that was co-financed and provided by major scientific, technical and medical (STM) publishing companies including Elsevier, Springer, Pergamon, Blackwell, Academic Press, and Wiley. Retrieved documents could usually be obtained at a library, but if libraries didn't have the original documents, these suppliers would provide copies.

ADONIS was intended to provide major users of articles and documents with a convenient service that minimized unauthorized copying. Each participant invested 10 million yen for the project, and there were twelve participating organizations including Western universities, pharmaceutical companies, the British Library, University Microfilm International, and Kinokuniya.

Kinokuniya began representing InfoLine, Pergamon's online service, as well as ISI's online service, ISI Search. (Pergamon was later bought by Elsevier.) However, these new potential competitors only lasted a few years, so they are not included in the tables above. Kinokuniya also became the Japanese provider of an online database of environmental information called CIS (Chemical Information System), compiled by the U.S. government's Environmental Protection Agency and National Institutes of Health. They also represented INKA, a German online database service that was assembled by FIZ4, a national chemical research organization.

5. Informatization of the Publishing Industry

Two major features of the Japanese publishing industry are the no-discount resale system and the consignment selling system, which allows returning unsold books and magazines. Over 70,000 new books are published annually in Japan, and those books have to be shipped to tens of thousands of bookstores throughout Japan. Other daily tasks may include processing supposed 500,000 orders and circulation including a vast number of returns, as well as complicated billing and settlement for consignment sales. Book distributors urgently needed to computerize those tasks to make daily routines more efficient.

Computerization of publishing companies was not made possible until distributors adapted EDI (Electronic Data Exchange) for their businesses in 1990's. Relatively quickly, major bookstores started to use the distributors' network systems such as TONETS by Tohan and NOCS by Nippan; however, no bookstores tried to computerize their businesses with their own computers. To address this, in February 1972 Kinokuniya introduced a medium sized computer by Hitachi, called HITAC8210, not intended to computerize routine office work, but to develop information service products and sell them. Kinokuniya's computer introduction was the third in the publishing industry, following Tohan and Nippan.

6. Role of Kinokuniya

Since May 1972, Kinokuniya has offered computerized information service products. From the start to few years after they started online information services such as DIALOG, this division kept a deficit balance. However, in the 1990's, they developed the Information and Media Services Division, which

included distinct sections for international information and information production, and they quickly eliminated the accumulated deficits. By 1994, the total annual sales of the whole information service branch reached 6.45 billion yen, with 190 staff members.

As bookstores had always sold books and journals, which are heavy and solid, it was entirely new to sell something light and weightless such as information on a piece of paper, MT (Magnetic Tape), or CD-ROM, with added value. Therefore, they needed new practices and technologies to sell those new products, and it took a great deal of time and efforts to establish a new system. At that time, overseas book delivery took a month by airmail, and 3 to 4 months by sea. Some scientific journals were delivered by air cargo, but most orders for foreign books were processed by slow, conventional methods. On the other hand, digital information was delivered to the users of information services almost instantly. In case of copy services by document delivery, it will still take only one week at most by air. The foreign book division included a purchase department and a sales department. The purchase section was in charge of product development; however, their main task was to find new publications and to make newsletters announcing them, and they did no technical development.

Kinokuniya's information services were not originally intended for purchasing and selling books, but for offering academic information to their customers. However, to meet demanding customers' needs in a market that was going through drastic technical changes, they needed a new system for purchase, development, and sales. This new project required advanced information technology and specialized knowledge 1) for offering communication line services (Kinokuniya had an international dedicated line service between Japan and the US, called KINOKOSMONET), 2) for development of CD-ROMs and other products, 3) for customer support for professionals in chemistry, pharmaceuticals, patents, and other fields, 4) for the creation of computerized library catalogues, 5) for developing technology and writing manuals for overseas corporations, and so on. For this new project, they hired many people with doctor's and master's degrees in science and engineering. Those staff members were highly capable, as four of them became professors at Tokyo University, Tsukuba University, and other major universities, and two of them later became junior college professors.

In the publishing industry, "Publine"; Kinokuniya's online publishing information service, receives considerable attention. This service made it possible to access data on how many books are sold at all the Kinokuniya bookstores in real time. The information system division, with 30 staff members, is in charge of those online database services.⁹ Currently, 236 organizations, including major publishing companies and distributors, are using Publine, which has become crucial to the infrastructure of the publishing industry. Those new information services naturally evolved out of previous experience with information systems and database development.

In 1969, Kinokuniya built a theater, Kinokuniya Hall, in a prime location in Shinjuku, Tokyo. This

⁹ The Ten Year Anniversary of Innovative Kinokuniya's Publine in the publishing industry, Bunka-Tuushin, 3617(7), October 10, 2005

hall has offered a venue for the theatrical world, and is called the theater world's Koshien (high school baseball championships are held annually at Koshien stadium). Kinokuniya began support for cultural programs long before their support, *mecenat*, attracted the attention of the mass media, and they have made huge investments in philanthropic programs that contribute to society and culture, though their innovations in computerizing academic databases made more of a social contribution to Japanese culture more than any of their philanthropic ventures. It could be said that Maruzen contributed to society in information circulation before World War II, and that after the war, Kinokuniya took over the role.

7. Conclusion

In an article for Nippon Keizai Shimbun entitled My Biographical Resume, Kinokuniya's current chairman, Mr. Osamu Matsubara, wrote: "When I introduced the president, Mr. Tanabe to the executive director Mr. Akira Ogawa of Long-Term Credit Bank of Japan, he stared at Tanabe's face and said, 'I haven't seen a face like yours before...' After a silence, he went on and said, 'your face shows that you are a big spender.' Tanabe is indeed a very unique and wild person. He declared that he didn't know anything about management, and he didn't want to know about it. He went out into the town every night, and left all the business to me."¹⁰ The founder of Kinokuniya, Moichi Tanabe's major achievement was in taking advantage of opportunities to appear on Japan's popular television program "Eleven PM," and he deliberately promoted Kinokuniya in his frequent appearances all over Japan. It was chairperson Matsubara who actually built Kinokuniya into one of Japan's leading companies.

For a long time, it had been said that the optimum size for a bookstore was 20 tsubo (about 712 sq.ft.), and all bookstores were small businesses. Kinokuniya upset conventional wisdom in the field, opening a chain of big branch stores. The prestige of bookstores was very low compared to publishers and distributors, but Kinokuniya improved the bookstore's status. Matsubara's management ability indeed made Kinokuniya one of the top-ranking companies of Japan, and there are other reasons that Kinokuniya holds a unique status in the publishing world.

First of all, it was founder Moichi Tanabe, an extraordinary individual, who had the innovative idea of building a theater and an art gallery in the company building. Also, from a business view point, computerization triggered the development of information services using cutting-edge technology, which transformed Kinokuniya from a mere bookstore to a leading general information service company.

One of Kinokuniya's contracted data sources in 1972 was the American Institute of Physics (AIP). Dr. H. William Koch, the negotiator of AIP, was the chief of its development division and also a radiation physicist. He greatly appreciated Kinokuniya's development of database services even though Kinokuniya was not a big client for them at the time. Later, when Dr. Koch became the Institute's chairman, he nominated Kinokuniya to be the exclusive agent for AIP's journals in Japan. As information

¹⁰ Osamu Matsubara, Three Encounters -My Biographical Resume, Nikkei, Inc., p.9-10, 2004

services developed, Kinokuniya's market share increased and caught up to Maruzen. This made it possible for Kinokuniya to conclude exclusive contracts with major companies in Japan. Many client companies' annual usage charges for information services, including DIALOG, reached tens of millions of yen. Moreover, in developing information services, employees' learning is highly motivated by cooperative relationships with leading overseas companies, Japanese computer makers, and major trading companies.

Generally, system thinking is vital for business efficiency and high quality customer service. Establishing a solid systems division encourages staff members to maintain a systems thinking approach. They naturally maintain systematic practices because of the organization that was integrated into computerized information systems from their early stages of development. The formation of a systems division was a by-product of information services projects, and it further helped Kinokuniya advance to become a leading company.

Not only Publine but also the BOOK database became crucial to the infrastructure of the publishing world. Modernization started in Japan 100 years later than in the Europe and the US, so Japan had to intentionally introduce western academic culture. This effort has been maintained since the Meiji Restoration in 1868. Presently, American academic societies are central to physics, chemistry, and medical science. Therefore, Japanese scholars and researchers must make presentations in English and write papers in English to submit to western journals. They need to get important specialized academic information in science and other fields in English, even including Japanese scholars' research papers. Now, Kinokuniya and also Maruzen must continue to carry out their demanding commitment to future generations, which Yukichi Fukuzawa who was the founder of Keio University, handed over to future generation over a century ago.