Office Automation A Big Boom

The Japanese computer industry, aiming to overtake the American computer giant IBM, is developing at high speed. In the Japanese market, Fujitsu Ltd. overtook IBM Japan in terms of proceeds in 1979. In the small and medium computer category, Japanese manufacturers overwhelmingly dominate the domestic market.

Unlike the European computer industries, which are experiencing great difficulties in the face of strong competition from IBM, the Japanese computer industry is expected to outstrip IBM and continue to grow in the future for a number of reasons.

First, Japan has become an enormous computer market next in size to the United States. Sales of small and medium computers are growing sharply because of the advent of the age of decentralized computer processing and because of the competitive strength of Japanese manufacturers.

Secondly, Japanese manufacturers have attained a technical level enabling them to compete with IBM also in the hardware of ultra-large and large mainframes.

Thirdly, with the arrival of the age when computers and communication equipment are being combined to form information systems, Japanese manufacturers are at an advantage because they have a competitive edge in the communication sphere.

Fourthly, the intense current interest of Japanese companies in automating office

Tokyo businessmen spare their time to take a close look at newly developed computer machines at a show room.

work may mean that the market for computer-related office appliances will expand rapidly.

The computer industry places great expectation on this enthusiasm for office automation, hoping to use it as a lever to achieve sustained high growth.

1980s Is Decade of Office Automation

The office automation boom among Japanese companies began last year.

The strong interest of corporate employees in office automation is evident from the fact that office workers and businessmen swarm to electronics and business machine shows etc., books on office automation occupy special display corners in bookstores, and salaried men and businessmen are conspicuous in personal computer operating classes. Some white-collar workers have bought their own personal computers for use at home. The number of "progressive companies" that are automated to the maximum extent is increasing.

Economic writers and bankers believe that the most important growth industries throughout the 1980s will be those associated with office automation.

One of the "progressive companies" in office automation is Okamura Corporation, a major manufacturer of business office furniture, whose head office is in Yokohama. The floor of its 19th floor office is covered with beige wall-to-wall carpet, and desks and partitions are colored in subdued yellow and navy blue.

At the receptionist desk, the receptionist punches the name of visitor into her personal computer, confirms his appointment, and prints out the visitor's name on a lapel badge. The head office has a staff of 45 persons and covers a floor space of 1,000 square meters. On many desks there are terminal machines and personal computers. The head office is equipped with 12 terminal machines, 18 personal computers, one general office computer, and two Japanese word processors. Although the company's annual turnover is ¥60 billion, the Accounting Division has only five persons, including two girls. Office automation has made a "cheap" head office a reality for Okamura Corporation.

Kao Soap Co., Ltd., a major soap and detergent manufacturer, has organized KAO-EIS, an in-house information index system, by installing 110 personal computers. Information and data concerning competitive companies as well as management information are stored in the main computer and can be retrieved and displayed on the screen of the personal computers.

Nippon Credit Bank launched last November its office automation system "NOAS" using personal computers, which obtain the latest data and information from terminals in the Funds, Loan and International Affairs Departments of the bank. Major branch offices throughout the country can retrieve the necessary information by using their personal computers. Electronic mail can also be transmitted via this network.

Mitsui & Co., Ltd., a general trading company with a network of branch offices throughout the world, has started its own office automation program.

In October 1980, Mitsui opened an in-house microcomputer center to train employees. By the end of 1981, 800 employees had received intensive training. In 1982, the company will install 500 office computers and launch its "Orion Project," under which all clerical chores related to sales, delivery and inventory management will be processed by microcomputers.

The company plans to increase the number of office computers to 2,000 in the future. The company daily sends out as many as 40,000 wire messages to all parts of the world. The company hopes to computerize the operation of composing messages by installing a large number of CRT (cathode ray tube) displays.

Nippon Electric Co., Ltd., a leading manufacturer of computers and communication equipment, which is the leader in promoting office automation, has set up a model computerized office within the company. The personal information of each company executive is processed with personal computers, the list of visitors to the Secretariat is computerized for future reference, and the General Affairs Department uses personal computers to control documents. The company's Abiko Plant (in Abiko City, Chiba Prefecture adjoining Tokyo), which manufactures software and information equipment, will introduce factory-wide office automation. Nippon Electric plans to transplant the system of this model plant to other factories and offices in order to computerize its entire operation. Nippon Electric, which is the largest manufacturer of personal computers in Japan, now has 500 personal computers in its own offices, and plans to increase the number to more than 2,000 in the future.

The firms mentioned above are among the most advanced in office automation. However, Japanese industry as a whole is very enthusiastic about the concept.

In preparation for the introduction of office automation, Nippon Steel Corporation, the world's biggest steel maker, has launched an in-house "campaign to reduce the volume of documents." It is estimated that approximately 180 million pieces of document, weighing 1,000 tons, are stored in the head office occupying a high-rise building overlooking Tokyo Station. If piled one on top of the other, the documents would stand 18,000 meters high. The campaign is aimed at reducing this by half.

Okamura Corp., a major manufacturer of business offic
to take care of the company's annual turnover of ¥6

The volume of documents scrapped during the first three months of the campaign weighed 230 tons, equivalent to a pile slightly higher than Mt. Fuji's 3,776 meters. After experimenting with personal computers, the company is now studying their wholesale adoption.

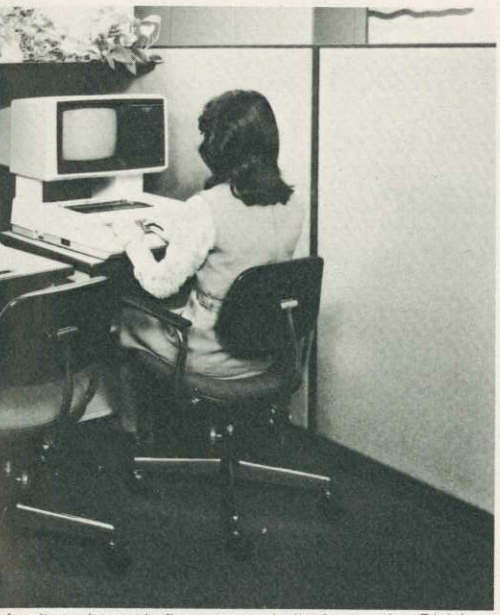
Toshiba Corporation, a leading electric appliance manufacturer, too, is pushing the rationalization of office work with such catch phrases as "one page is best for a document," "one hour is best for a meeting," and "cut down on the use of copiers." The company plans to raise the productivity of the administrative division within five years.

Kobe Steel, Ltd., a leading steel maker, is now conducting an administrative rationalization campaign named "DK" (Dynamic Kobe). Recently, it established the "OA Promotion Subcommittee" with a view to promoting company-wide office automation. The company currently uses 32 personal computers and 11 word processors and plans to increase their number gradually..

As these instances show, big enterprises are moving rather slowly in promoting office automation. It takes them time, like a mammoth tanker, to change course, but they begun the turn.

There are many reasons which motivate the Japanese firms to turn toward office automation.

First, in the business corporations, the productivity of the administrative branches is low and the ratio of indirect cost to total corporate expenditure is rising rapidly. According to the annual labor report published by the Prime Minister's Office, the ratio of white-collar workers to total employed workers rose from 36% in 1970 to 43% in 1980. In an increasing number of enterprises, the white-collar



furniture, has only five persons in its Accounting Division billion.

workers outnumber blue-collar. The use of NC (numerical control) machine tools, industrial robots and many other types of automation machinery is resulting in the highest productivity in the world for Japanese factories. However, the administrative division of corporations are becoming larger, because most clerical work is manual.

Secondly, the volume of information handled by business firms has multiplied tremendously and will continue to increase as society becomes more information-oriented in the future. The routine office tasks of reading, writing, filing and researching are beginning to exceed the manual processing capacity.

Thirdly, office automation equipment have increased in variety and their performance has become highly sophisticated. Personal computers, ranging from hobby models costing a little more than ¥150,000 to business computers costing more than one million yen, are available in great abundance. Japanese word processors have progressed so much that some of them can even convert *kana* syllabary symbols into *kanji* Chinese characters. They can compose Japanese sentences containing Chinese characters, even if the operator presses only *kana* syllabary keys. Facsimile equipment, too, have become so sophisticated that they can be interfaced with computers.

The so-called MIS (Management Information System) boom of around 1970 attracted public attention to the use of computers by enterprises. In those days, however, computers were not able to process Chinese characters, although business managers placed great expectations on them. Moreover, their performance in retrieving necessary management information freely was not efficient enough. Therefore, MIS was inadequate and failed. But business executives learned many lessons from the short-lived MIS boom.

(1) Today, semiconductor technology, including the LSI (large-scale integration) has made such big strides that computers have not only become highly sophisticated but cheaper.

(2) Communication technology, too, has progressed so much that the optical communication system with a large transmission capacity has been commercialized.

(3) Peripheral equipment, such as the high-speed ink jet printer, have become sophisticated, and input systems using character and voice recognition technology have been developed.

Judging from these facts, it is evident that the circumstances relating to computerization today are entirely different from those at the time of the MIS boom.

If industry would adopt related appliances one by one, without being carried away by the mood of the current office automation boom, it will be able to achieve significant results in rationalizing administrative work.

What kind of changes, then, will office automation bring to Japanese companies?

The familiar heaps of papers and documents on desks in Japanese offices would disappear. The present picture of a business office where telephones and desk-top calculators are the only machines would be replaced by a new picture of an office with numerous office computers and personal computers and with "work stations" which are personal computers combined with Japanese word processors.

There will be an in-house optical communication network, and all data and information as well as electronic mail will be transmitted freely via terminal machines linked to this company-wide optical communication network.

At present, the Posts and Telecommunications Ministry and the Nippon Telegraph and Telephone Public Corporation are studying the advisability of liberalizing the use of communication circuits. It is presumed that the liberalization of communication circuits will be realized before long, though with conditions. When liberalization comes, the Mitsubishi Group of companies, which is one of the biggest corporate groups in Japan, would establish a mammoth computer network embracing all group companies for prompt exchange of information. With computers as the nucleus, the members of the corporate group would strengthen their cooperation and collaboration.

Another change in the appearance of offices will be a decrease in the number of clerical workers. Such routine office work as writing, copying and compiling of documents, would be mechanized, with a possible result that the principal work of the staff will be intellectual such as long-term planning. Thus, productivity in corporate administrative branches will be greatly increased. Highly advanced rationalization of factory operations coupled with greater productivity of the administrative and business offices will further strengthen the international competitive edge now enjoyed by Japanese enterprises.

But, if office automation advances further an employment problem will arise. Office automation is progressing even while the average age of employees of Japanese enterprises is rising. In Japan, because of the lifelong employment system, unemployment will not reach serious proportions. However, employees will be reassigned within the same company from clerical to sales work, and the number of employees transferred to affiliated companies will probably increase. The necessity for such measures will make personnel management more difficult than in the past.

In American or European companies, secretaries and typists might lose their jobs as a result of office automation. However, this will not be the case in Japan, where female employees can be used flexibly because their job classifications are very loose.

Many showrooms displaying office automation equipment have been opened in business sections in Tokyo by leading manufacturers of computers, electric appliances and business machines. There are nearly 50 such showrooms within the Tokyo metropolitan area alone, and they are crowded with office workers during the noon recess. One of these showrooms features a "future office" in which a manufacturer has invested as much as ¥200 million.

Just as blue-collar workers generally have accepted industrial robots in the factories, Japanese office workers are expected to offer little resistance to office automation. Office automation will progress in Japan in the 1980s, therefore, in line with corporate management strategies.

The production of the main office automation equipment—office computer, copying machine, facsimile, and Japanese word processor—is projected to increase from ¥618.6 billion in 1980 to ¥1,291.8 billion in 1985. These four types of machines are the fields in which Japanese computer manufacturers are strongest and are trying to develop new models with improved performance. It has become increasingly clear that by building up its competitive power in ultra-large and large mainframes and through the development of office automation equipment, the computer industry has become a strategic industry that will lead the way to sophistication of the Japanese industrial structure. ●