Big Business Multimedia Strategy

By Hamano Takayoshi

A revolutionary change is taking place in Japan's business community, as elsewhere in the world, with the advent of an era of multimedia that organically combines voice, data, images and various other forms of media by computer technology.

Business revolution by multimedia

The use of personal computers (PCs) has spread rapidly in Japan, which is said previously to have lagged behind other industrial countries in this aspect, and Japanese businesses are entering an era in which each employee has their own PC. As a result, multimedia is being applied in increasingly wide fields. For example, this year has seen many more cases of companies promoting recruitment activities for new school graduates through the Internet. The use of teleconferences based on multimedia has also increased thanks to sharply reduced costs of equipment for such conferences. Coupled with the widespread use of electronic mail, this has changed the way office work is done. There are increasing moves to search for partners in multimedia business while the use of databases has become widespread.

In addition, there are pioneering moves on the use of multimedia in various industries. In the manufacturing sector, for instance, some firms are undertaking joint design or software development linking experts working in different places, drawing and transmitting design charts using multimedia, and on–line transmission of catalogs. On–line marketing and stocking are becoming widespread in the wholesale/retail industry, on–line information retrieval and hotel bookings are common in tourism, on–line magazines and electronic encyclopedias are widely published, and electronic settlements and electronic money are being developed in the financial industry.

Among big businesses, multimedia activity is grouped roughly into two categories. The first is the use of multimedia to improve productivity and promote sales in their main business fields. The second is to move into new fields making use of multimedia as part of the campaign to diversify business operations. Both cases represent aggressive strategy designed to take the initiative in a particular area and use it for better business management amid the business revolution caused by multimedia. The following are examples of the latest developments in this regard observed in three major companies in different industries.

Software production by major steelmaker

Nippon Steel Corp., Japan's largest steelmaker, entered the field of electronics, information and communications as a system integrator, building computer systems for a diverse client base, in the mid–1980s when steel output was peaking out. The firm itself uses a gigantic steel–manufacturing system, which must satisfy the strict criteria of ensuring 24–hour continuous production. The company has built up electronic know–how in the course of meeting requirements for developing such a sophisticated system.

Nippon Steel has embarked on diversifying its business, taking advantage of such experience and know–how. Among the various systems developed to date are a financial trading system, which channels price information on the stock and foreign exchange markets to dealer workstations and supports dealing in financial derivatives; a system that converts a chart into computer–aided design (CAD) data to improve the efficiency of work concerning chart drawing and transmission; and a system allowing ships, trains and vehicles in transit to receive television signals beamed by a satellite in geostationary orbit.

According to Nippon Steel's consolidated earnings report for 1994, iron and steel constituted slightly less than 70% of its total sales of ¥2,881 billion, of which sales of the company's electronics/information division and 11 affiliated firms accounted for more than ¥140 billion.

Nippon Steel now edits and produces digital videos, compact discs (CDs) and audio goods. The office atmosphere at the Shibuya, Tokyo office of Multimedia Systems resembles that of a computer software house—a far cry from a steelmaker's place of business. The studio, occupying a floor–space of about 500 square. meters, is equipped with functions for editing and producing digital programs. The studio is called—appropriately enough—an X Century Studio, meaning that it is designed to be a foothold for media business in an unknown "X" century. In addition to the more than 10 staff on the payroll, the studio employs some 30 staff members on a contract basis.

The contract staff, all experts in their own areas, do not work outside the company's framework. They work within Nippon Steel's domain under a unique organizational system, with the company offering a working place in the form of a studio and equipment such as editing machines. Since the studio was established in April 1995, the staff has worked energetically to produce video and CD versions of popular programs by Japan Broadcasting Corp. (NHK), and to establish radio and television broadcasting stations on the Internet—which has become technically possible with the spread of PCs.

"We aim to improve the efficiency of program production through digitalization," says Tokonami Hiroshi, Multimedia Systems senior manager. "Sooner or later, there is a possibility of reaching a stage where software production is automated. It may even become possible to produce dramas by making hundreds of patterns readily available and dexterously combining and editing them," he says.

KDD's technological development

The environment that surrounds Japan's international telecommunications giant KDD is set to change dramatically due to the government's policy of easing regulations in various fields. Currently, domestic and international telecommunications operations are separately undertaken by specialized companies. But deregulation has raised the possibility of domestic and international telecommunications firms being allowed to enter each other's domain.

Against that background, KDD emphasizes the development of technology in new fields taking advantage of its abundant financial resources and excellent technological capability. Examples of technologies developed so far include the "Smart Pass" system used to verify the authenticity of an integrated circuit (IC) card user, an unmanned switchboard system which verbally responds to voice instruction, and a system of automatic translation for the Japanese and Korean languages based on the voice recognition technology used in the switchboard system.

The "Smart Pass" system is designed to confirm the identify of users who gain access to on–line commercial ventures including electronic shopping and information reference services. The system features an advantage in terms of security because the user's identity code is not left in the computer system but is controlled through the IC card.

The voice recognition switchboard system is a large–scale, private–exchange phone response system that understands a conversation over the phone as if a human operator were responding, and connects the call to an employee, enjoying a high success rate of more than 94%. It can be applied to voice dialing over the mobile phone by the driver of a car in transit as well as to guide and connect extension numbers on an in–house phone exchange system.

The Japanese–Korean automatic translation system has been developed jointly with Korea Telecommunications of South Korea and other partners. It carries out in two or three seconds the translation and output of voices fed into the system in Japanese. The developers have succeeded in an experiment in the automatic translation of hotel bookings and now are studying its commercial application.

Given these technological achievements, the day appears to be near when a revolutionary change will be seen in KDD's main business.

Steel giant Nippon Steel Corp. makes moves toward multimedia business.

X Century Studio is determined in staking a place for itself in Japan.

Fuji Xerox's "teleworking"

Taking advantage of its information and communications technology, some company employees are working at home or commuting to satellite offices without going to the head office. And the trend for "teleworking" is spreading gradually, changing salaried workers' lifestyles.

Adopting such a system has led to an 18% rise in the productivity of office workers, say Fuji Xerox officials. The firm operates two satellite offices and "spot offices" in suburban Tokyo which workers at the head office can use. The productivity improvement has resulted from shortening staff commutes from 115 minutes to 43 minutes, on average. Another reason is that unlike the five–day routine of working in the office, teleworking allows employees to concentrate on aspects of their work, such as planning, without being bothered by phone calls and miscellaneous duties.

When they commuted to the heart of Tokyo, it was common for these salaried workers to get together with colleagues after work, spending the weekend at home simply to rest. Now "teleworkers" spend their spare time doing community work and enjoying their hobbies.

A telework promotion conference sponsored jointly by the Posts and Telecommunications Ministry and the Labor Ministry, of which Hagihara Naoro, head of the company's R&D department, is a member, is to come up with a report in November on the future course of action for teleworking on the basis of its previous benefits.

An electronics revolution is demonstrably in place, not only in offices but at home and across society as a whole. A key to the success of this revolution is how fast deregulation—sometimes criticized for its slow pace—will progress in this area. It is necessary to ensure at least that regulation does not hamper the swelling tide of the electronics revolution. JJTI

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