

databases, including technical knowledge; network services allowing information exchange between development sites and external networks; and demonstration services for user training.

Distribution

Japan's software distribution system lags behind that of the U.S., where programs are classified, systemized and standardized. IBM has more than a 70 per cent share of the U.S. general-purpose computer market and DEC has more than a 60 per cent share of the mini-computer market, making the hardware of these companies the standard. IBM's policy of entering the user application development market means that users are purchasing products developed by a third-party.

In Japan, there is no standard computer for use in information systems. Manufacturers such as Fujitsu, Hitachi, NEC, IBM, Unisys and Mitsubishi Electric share the market. IBM general-purpose machines and Fujitsu and the Hitachi M series of IBM compatible machines are used as standard computers but, because input/output interfaces and Japanese language functions differ, it is difficult for software developers to standardize their programs.

Recently, hardware manufacturers have begun supporting the main software programs so that common software can be operated on different hardware supporting, therefore, a multi-vendor environment based on multiple general-purpose computers of different makes. For instance, the A-AUTO for automatic system operation, the ADABAS, MODEL 203, IDMS/R and SUPER database systems, the NATURAL, EASY TRIEVE, FOCUS and PRO-VI development tools, the SAAS integrated software and the DMS/OS integrated DASD management system can run on general-purpose computers of different makes.

Retailers have expanded the range of machines on which common software can run.

Manufacturers now release their OS information to third-party software developers so that software products can be modified to run on their hardware.

Some manufacturers have acquired marketing rights over software products.

IBM has invested in software development. DEC has an agreement with Syncom Systems in the U.S. and with Cosco in Japan. Fujitsu has agreements with the distributors of CEC, Assist, Software AG, Starling Soft and Pansophic, and Hitachi has agreements with Century Research Center and Software AG.

TABLE 2

Ratio of Software Sales through Distribution Channels – 1985 and 1987

Distribution	1985 (%)	1987 (%)
Distributors ¹	69.63	39.66
Retail stores ²	14.98	18.50
Direct sales ³	7.06	28.32
Special retailers ⁴	3.68	13.52
Others	4.65	

¹ Distributors refer to major wholesalers such as Japan Soft Bank and Software Japan.

² Retail stores include personal computer stores, department stores, electric appliance stores, toy stores and dealers. The largest distributor has contracts with 12 000 retail stores.

³ Direct and mail order sales refer to sales to end users.

⁴ Special retailer means volume sales and office equipment manufacturers (OEM) sales to large companies. At present, the amount of software sales to VARs is increasing.

Source: JPSA Survey, 1987.