Waves of Change—The Personal Computer Market in 1993

By Virginia Kouyoumdjian

Over the last few months, Japanese computer and business magazines have been awash with articles about the revolution which is taking place in the personal computer market here. Japan in 1993 is being regularly compared to the United States of the mid-1980s when competition spiraled and prices tumbled, hailing the start of personal computing for everyone.

The main reason for this wave of publicity is the price cutting which has been brought about by the entry into this market of low-priced overseas competitors led by Compaq Computer Corp. and Dell Computer. By offering prices significantly lower than the competition, in particular Japanese manufacturers, these companies have triggered a major change in attitude towards cost performance and the potential of the personal computer market.

To understand the situation better, it is necessary to take a close look at the personal computer market in Japan and the factors which have made it very different from markets in the U.S. and Western Europe.

Japan could not ride the wave of PC cloning and price cutting which made personal computers so much more affordable from the mid-1980s because of the idiosyncrasies of its written language. PC-AT compatible machines were available from hundreds of manufacturers but none of the machines was able to handle *kanji* adequately. Even when a certain amount of *kanji* processing became possible, it was woefully inadequate in terms of both speed and range. The only manufacturer which handled this problem in a thorough fashion was NEC in Japan and, as a result, it has gained the lion's share of the domestic market.

NEC introduced the first personal computer in its 9800 series in October 1982 and has, since then, shipped close to 6 million units, giving it over 50% of the domestic market. By working closely with software developers, in particular Just System which in 1983 produced Ichitaro, still the best-selling Japanese word processing program, NEC was able to provide its customers with powerful tools. Over the years, the base of available software grew rapidly and currently totals about 14,500 programs. Aside from software availability, NEC also ensured that *kanji* would rapidly be displayed on the screen. This remains one of their main areas of strength, even in the current environment.
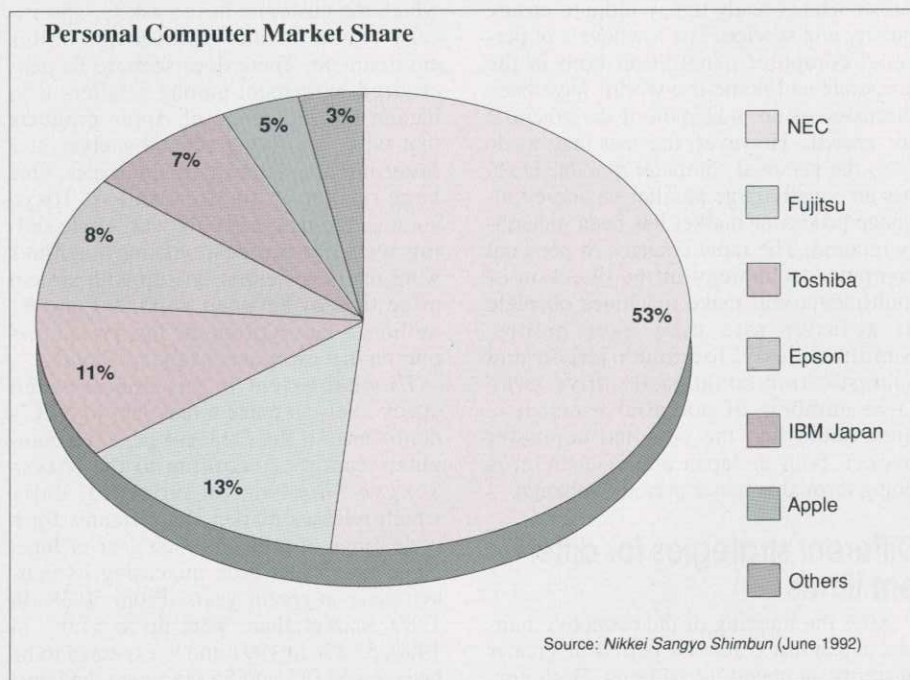
The basic operating system used by NEC personal computers is an adaptation of the DOS system and is shared only by one other manufacturer, Seiko Epson. It is by coming up with a new version of their own DOS system that IBM started the current revolution in 1990.

In October 1990, IBM Japan introduced a new operating system called IBM-DOS Version J4.0/V, better known nowadays as DOS/V. With this new system, computers didn't need a special *kanji* ROM to display characters and could also run all the DOS software written in English. All subsequent IBM personal computers sold in Japan were shipped with DOS/V but this initially had little impact on the market. IBM had yet to break into the retail consumer business and prices were comparable to the better-known and therefore "safer" NEC machines.

The early 1990s saw some considerable changes in the personal computer market in the U.S. Apple Computer saw its sales take off after the introduction of the Macintosh Classic in 1990 at prices 40% lower than its predecessors. Then Compaq, a company that had been known for technology and quality at high prices but which had fallen on hard times, came back strongly with a new line-up of low-priced machines. Dell Computer, a direct marketing newcomer did very well by offering very low prices, excellent service and multiple configuration options. It is some of these changes which finally blew into Japan in late 1992 and early 1993.

Not just a question of price

The first salvo in the price war was fired in October 1992 by Compaq which beat IBM by one week in announcing its DOS/V compatible ProLinea i386 SX for ¥128,000, a price so far below anything available in Japan as to be virtually unbelievable. IBM then followed with a more powerful i486 entry model, the PS-V,

Personal Computer Market Share

Source: *Nikkei Sangyo Shimbun* (June 1992)

Legend: NEC, Fujitsu, Toshiba, Epson, IBM Japan, Apple, Others

Values: 53%, 13%, 11%, 8%, 7%, 5%, 3%

priced at ¥198,000. By the time Dell Computer announced its basic entry-level i386 model for ¥98,000 in early 1993, there was no turning back. While loudly claiming that this was just another attack on the lines of the AX and TRON consortia which were short-lived and ineffective, NEC was extremely quick in announcing its own low-priced machine. Starting at ¥218,000 for an i486 configuration, the 98FELLOW is more than ¥100,000 cheaper than its predecessors.

At the same time as the DOS/V "wars" were starting, Apple Computer which had finally shipped Kanji-Talk release 7.1, giving full Japanese-language access compatibility to its latest System 7.0, was also reducing prices and introducing a barrage of new models. As a result, NEC was faced with a two-sided attack from both the DOS-V and the Apple OS camps. Other Japanese computer manufacturers had, for the most part, signed on with DOS-V while at the same time waiting in the wings to see the situation settle down a little before introducing their own models.

All this flurry of activity and the lurid reporting which went with it concentrated principally on pricing, often ignoring the fact that the issues at hand are a great deal more varied. Much has been said about the difficult nature of the Japanese consumer who is ready to pay more to ensure quality and service. The low levels of personal computer penetration both in the corporate and home-use worlds have been discussed as an indication of the potential for growth. However, the fact that, aside from the personal computer market, Japan has an equally large parallel Japanese-language processor market has been generally ignored. The rapid changes in personal computer technology in the direction of multimedia will make machines obsolete at a faster rate than ever before. Simultaneously, too much jargon and sophistication could easily drive away large numbers of potential users. It is undeniable that the personal computer market, both in Japan and elsewhere, is going through a major period of change.

Different strategies for different times

After the bursting of the economic bubble, Japan has entered a period of greater austerity in spending patterns. Both cor-

porations and individuals are looking for ways to cut costs while maintaining certain levels of performance or lifestyle. It is in this environment that some of the U.S. computer manufacturers are offering new concepts of no-frills pricing. Dell Computer, for example, is selling almost exclusively by direct mail, a method which has traditionally had low levels of acceptance in Japan. Since operations started in February 1993, however, the level of telephone inquiries and orders has been at much higher levels than anticipated. Customers have been attracted by the option of extensive customization combined with extremely low prices, made possible by Dell's avoidance of the whole cumbersome distribution system.

Other manufacturers, such as IBM, Apple and Compaq are sticking to traditional sales routes but working to expand networks. The greatest effort is probably being made by IBM which gained notoriety for its repeated earlier failures to break into the consumer market. The fact remains, however, that IBM's image is still very "corporate" and those retailers with no direct encouragement or support find it difficult to sell their products. Compaq is still struggling with the distribution system and a number of retailers are selling their products but do not have them on display in the stores. Any product which the customer has to ask for specifically is at a distinct disadvantage in this environment. There does seem to be generalized agreement among retailers who handle the full range of Apple products that these are flying off the shelves at a faster rate than almost anything else. One large retailer on the west side of Tokyo commented that, not only was Apple selling well but the best-selling machines were the new Centris line-up with system price tags of between ¥600,000 and ¥1 million, a far cry from the low priced revolution that everyone is talking about!

To what extent is this double-sided attack likely to make a real dent in NEC's dominance of the Japanese personal computer market? According to the *Nikkei Sangyo Shimbun*, an industrial daily which releases market share figures for a wide range of products each year in June, NEC has in fact been increasing its market share in recent years. From 50.3% in 1989, market share went up to 51.0% in 1990, 53.1% in 1991 and is expected to be between 54.0% and 55.0% when the latest

figures are released. The company is outwardly extremely confident that, not only can this figure be maintained, but that it can in fact be increased further. It cites in particular the speed of its machines in terms of displaying *kanji* and the very wide range of software as opposed to very limited availability of DOS/V.

There is widespread recognition that NEC still has an edge in terms of *kanji* processing speed. In functions such as converting from alphabet or Japanese syllabary input to *kanji*, its machines are both faster and more accurate. It must also be said, however, that enormous progress has been made in this field in the competing camps and the gap is likely to narrow.

As for software availability, there are indeed a great many programs for the 9800 series, many of them developed specifically for users such as small- or medium-scale corporations or retailers. It is unlikely that these customers will switch to DOS/V anytime soon and equally unlikely that the DOS/V camp will try to replicate every niche application created for the 9800. On the other hand, virtually every major software application is also available for DOS/V and that number will increase dramatically. The average entry level customer buying a first DOS/V machine is unlikely to feel the negative impact of too little software availability.

There seems to be general agreement that NEC is unlikely to lose its dominance overnight. There is plenty of scope for growth in Japan's personal computer market and the DOS/V group will need to see greater consolidation before making a real dent in NEC's position.

Growth potential for the Japanese PC market

It is often said that, compared to the U.S., PC penetration in Japan is still pitifully low. It is a fact that only about 10 million machines are currently in use, putting penetration at less than 10%. These figures, however, do not take into account the separate market for dedicated Japanese language word processors which is equal in size to the PC market. Combined penetration of the two is probably nearer 20% to 25%. It is likely that this will increase to 60% or 70% in the first instance and, at some stage down the road, close to 100% as has been the case with television units.

The personal computer "war" has electrical
appliance shops battling each other in
attempts to offer the best sales.

Another factor is the educational market which is just beginning to take off. The Ministry of Education began a drive to introduce personal computers into elementary schools from 1992, junior high schools from this year, and senior high schools from 1994. There is therefore still enormous room for growth, enough for all the major players to benefit.

The events of the past month have been very useful in the exposure they have given to the personal computer. The market is finally moving away from the "nerds" (known in Japanese as "maniacs") and into the mainstream. A large segment of the population has regarded personal computers as somewhat esoteric devices. Unlike other consumer electronics products, manuals tend to be full of jargon and intimidating. The combination of this and high prices in the past has kept many potential customers away, and these are the very people who are now more likely to buy since they have less to lose.

Faced with a combination of guaranteed growth but lower prices, manufacturers have to take a long hard look at their strategies. There is no doubt that the pace of product introductions in the PC market has picked up recently and is now similar to the six-month cycles seen in the audio-visual market at the height of the boom. Each new product introduction brings with it better performance and lower prices which are outwardly a boon to the consumer, but the situation can easily backfire. By making entry-level machines too sophisticated, it is easy to alienate the customer who just wants a functional computer for the best price, the very same people who have owned VCRs for years

but still don't know how to program the timer because the manual is too complicated. Then, there are the computer "nerds" who always want more power and speed, but even they are likely to be annoyed if their brand-new investment is out-of-date within a few months.

The way ahead

It is very easy to look at the current personal computer market and lose track of the real issues: who will be able to offer the best combination of price and performance and why? The old adage that the Japanese consumer is not easily swayed just by lower prices has a strong element of truth in it. Faced with unfamiliar and intimidating technology, it is often easier to go with the trusted supplier than a dubious upstart. The fact is, however, that this has always been a market of upstarts and the customer is growing more sophisticated and confident.

NEC seems less concerned about the situation than people would have it be, citing its strength in *kanji* and software. But what of the future? To what extent can its current architecture handle the new wave of demands that will be made upon it. The personal computer is becoming an increasingly sophisticated machine and greater demands are being made in areas like compatibility, networking and connectivity. It is not clear at this stage how well NEC's stand-alone stance will blend in with these demands. Other manufacturers will surely have an easier time of it. DOS/V machines are basically compatible through their operating system despite small minor differences. Even a company like Apple whose early machines were notorious for

their non-connectivity, has made it one of its key strategies with a number of tie-ups that include DEC and IBM.

Then there is multimedia, considered by some to be a mere buzzword but in fact likely to be a driving force of the personal computer industry. In the simplest possible terms, multimedia will be the bringing together of data, audio and full-motion graphics to enhance immeasurably the potential of personal computers. Some companies such as Apple and Fujitsu have been concentrating on it for several years already: Apple through its Macintosh line and Fujitsu through its FM-TOWNS line. It is no accident that these have been among the best-sellers in the personal computer market recently. In order to be effective, multimedia machines will need large amounts of memory and storage. It will therefore be necessary to reduce costs further in order to provide these to the consumer at an affordable price.

It is interesting to see the contrast between the media coverage and actual conversations with computer manufacturers. Everyone seems to agree that prices are indeed falling here like they have never done before but that the real issues are elsewhere. It is as though this enormous market has finally been shaken into awareness that personal computers are indeed here and within everyone's reach. The fact that prices tumble in the grip of a recession has been both good and bad. Potential buyers, corporate or otherwise, are looking for ways to save money and are therefore readier to explore alternatives to familiar suppliers. On the other hand, there is definitely less money to spend and personal computer sales in 1993 are likely to be flat at best.

The real issue in the personal computer market in Japan is becoming the same as it has been elsewhere: cost performance. There is little doubt that this is a vital period with both technology and the consumer undergoing rapid changes. The ability of all manufacturers, both Japanese and foreign, to keep pace with this and provide optimum performance for the best price will be the deciding factor in what Japan's personal computer map will look like in the future. jjti

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