With his new portable computer, this hardware manufacturer urges other developers to get on the move.

An Industry Challenge: The Osborne I Computer

By Adam Osborne

The current microcomputer industry leaders—Radio Shack, Apple and Commodore—have lost their way. They've turned their backs on the strategies that made the industry successful. They have redirected themselves to building more expensive computers, locked into unique proprietary software, competing with established minicomputer manufacturers. Their unrealistic perspective will trigger disaster with all the tragic ruthlessness that early success had on such companies as Imsai and Processor Technology.

I have been an observer of the industry since 1976, and have written numerous books, columns and articles on the subject. An enormous

Address correspondence to Adam Osborne, Osborne Computer Corporation, 26500 Corporate Ave., Hayward, CA 94545.

amount of research, combined with reader feedback, has given me an unparalleled opportunity to keep my finger on the industry's pulse. I saw as early as 1980 that the leading hardware manufacturers were making significant misjudgments. I saw that we must return to the strategies that created the microcomputer industry.

That is why I started Osborne Computer Corporation, and built the Osborne I computer.

Hardware manufacturers must concentrate on driving down the price of computer hardware. It's the only way we'll put microcomputers into more hands and keep our industry growing.

Hardware manufacturers must stay out of the software business. They must build computers that run industry-standard software. If software manufacturers can sell a few industry-standard operating systems, languages and application programs to everyone, without being beholden to one hardware manufacturer or another, then we can lower the software costs and realize the true potential of low-cost computing.

This is my mandate at Osborne Computer Corp. This is the purpose of the Osborne I.

The rest of the microcomputer industry has a few years in which they can either adopt these same policies, or they can elect to go into some other line of business.

Repeating Mistakes

There is a lesson to be learned from the minicomputer industry.

That industry represents an appalling manifestation of rigged high prices. This is particularly ironic, coming from an industry that represents itself as being at the forefront of the cost-cutting technological revolution.

The minicomputer industry consists of numerous hardware manufacturers, each of whom builds unique minicomputers, and then creates software that will not run on anyone else's computer. This combination of unique hardware design and restrictive software licensing has given manufacturers a stranglehold on their customers, forcing consumers to pay far more than necessary for minicomputer products.

Each minicomputer manufacturer reinvents their unique software, and the customer foots the bill—again, and again, and again. These manufacturers also discourage direct hardware competition, and keep peddling obsolete designs at inflated prices—once again the customer pays the tab.

A few jackals have tried to peddle replacement hardware, but only IBM CPU replacement manufacturers have succeeded, aided by the ever-present threat of antitrust litigation.

The microcomputer industry, despite its inauspicious start, was successful because it circumvented the artificial restrictions on cost-cutting imposed by minicomputer manufacturers. The early microcomputer manufacturers were lucky; they did not understand what they were doing, but they did, nevertheless, stumble on a correct strategy for success. They built hardware using industry-standard central processing units and industry-standard system buses and hardware components and connectors. Dozens of microcomputer manufacturers shared four assembly languages. If your microcomputer used the S-100 bus, numerous sources for hardware components guaranteed low hardware costs.

That is where the microcomputer industry began. That is most certainly not where industry leaders are today.

Apple and Commodore share the 6502 microprocessor, but do they have compatible software? Of course not. Even Apple's own new product, the Apple III, has limited compatibility with its predecessor, the Apple II.

Radio Shack uses the Z-80 CPU. Does that mean you can use industry-standard CP/M-based software? Yes, providing you circumvent the software strategy that Radio Shack has tried to impose on its customers. The new Radio Shack Color Computer is an inexpensive version of the TRS-80 and uses a subset of TRS-80 software, right? Wrong. It has a 6809 microprocessor that makes it completely incompatible with the rest of Radio Shack's product line.

The early losers, exemplified by Imsai and Processor Technology, were superb innovators; but they were lousy businessmen, which is why they failed. Current industry leaders are managed by superb businessmen, but they are lousy innovators; therefore, they are vulnerable.

They are lousy innovators because they have rejected the novel strategies that gave birth to the microcomputer industry. I'm not sure that management ever really understood these strategies. They are now adopting the tried philosophies of the mini-

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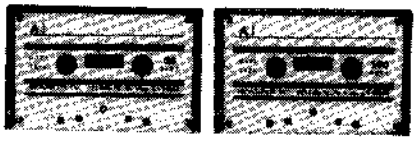

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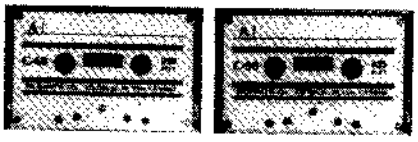

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computer marketplace and are gearing up to do battle with established minicomputer manufacturers.

With the Osborne I, I have laid down my challenge for the future. This future will see a rapid evolution of new, low-cost portable microcomputers that appeal to individuals and are used with the frequency of typewriters. Within five years I can see microcomputers such as the Osborne I selling for less than $1000, while products selling for less than $2000 will have abilities that surpass today's $10,000 microcomputers.

The Osborne I

The Osborne I microcomputer is a single integrated package, with the size and weight of a briefcase. This package includes a five-inch monitor that displays 24 rows of 50 characters. The character set includes uppercase and lowercase letters, two display intensities and underlining for all characters. Other features include two floppy-disk drives, a Z-80 CPU, 64K bytes of RAM, an IEEE-488 interface, an RS-232-C interface, a standard typewriter keyboard, modem electronics and a ten-key numeric pad. Every system comes with free, industry-standard software: CP/M, CBASIC, MBASIC, WordStar, MailMerge and SuperCalc. SuperCalc is a program of the type pioneered by Software Arts with VisiCalc.

The listed retail price for all this hardware and software is $1795. Dealers can receive 40 percent discounts.

The following hardware options are offered:

—double-density, double-sided floppy-disk drives

—a nine-inch monitor that reproduces the five-inch monitor display

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Many people have told me that this low price will shock the microcomputer industry. But the price is an indictment of Apple, Commodore and Radio Shack. Any one of them could have offered you this same product, probably for even less money. And they could have done so a year ago. They do not offer such a product either because they do not understand the market, or because they are afraid of undermining sales of their existing, more expensive, microcomputers.

The three industry leaders can get away with selling expensive hardware, propped up by even more expensive and unique software, as long as all mass producers of microcomputers adopt the same policies.

But the rules have changed.

I could never have built the Osborne I computer and sold it for $1795 if I had had to underwrite the cost of developing my own operating system, language compilers and interpreters and unique application programs. But I did not have to spend money on software development; Microsoft, Digital Research, Compiler Systems and innumerable other software manufacturers have already done the job for me.

Osborne Computer Corporation (26500 Corporate Ave., Hayward, CA 94545) will continue to drive down the cost of computer hardware. Products such as the Osborne I will cost less. Products in the Osborne I price range will do more.

Within five years briefcase-sized computers will include a printer and cost less than $2000. The problem with such a configuration today is not so much parts cost as it is size. You simply cannot fit two floppy-disk drives, a CRT display and a printer mechanism into a briefcase. But flat screen displays are on the way, and soon we will be able to dispense with one of the floppy-disk drives, using inexpensive RAM or bubble memory

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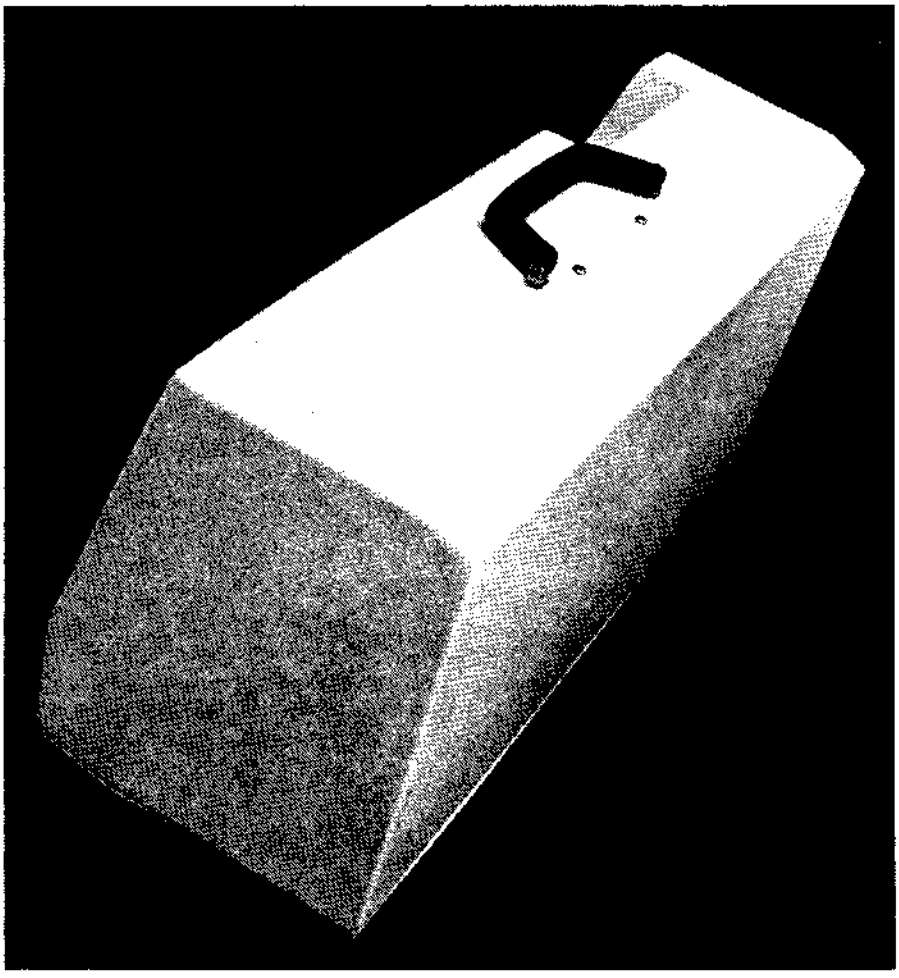

Osborne's microcomputer system in a briefcase.

to provide bulk storage, while a single floppy-disk drive functions as a backup device.

The current and future markets for microcomputers such as the Osborne I are as ubiquitous as today's typewriter market. The Osborne I is almost as compact, and almost as inexpensive, as an electric typewriter; and it is just as portable. I project that sales for this new type of microcomputer will surpass a quarter of a million units in 1982, a million units in 1983 and many millions annually thereafter.

All these sales will not go to the Osborne I, of course. The Osborne I is just the first entry in this new class of microcomputer. By 1983 it will have a lot of company.

Looking Ahead

Low-cost microcomputer systems will have a profound impact on our daily work habits.

Consider the hallowed tradition whereby secretaries type letters for bosses. Using a microcomputer, a boss could write a letter in less time than it takes to prepare the information for the secretary and then proof the secretary's work.

Managers will no longer be able to depend on underlings to generate financial data. Today it can take weeks for a cash-flow analysis or financial forecast to percolate up from the low-level flunky who generates the data, through the many levels of management of a large corporation, to the bosses who use this information. In the future the boss will prepare this information himself or herself. The information will then flow from the top down.

There is a ruthless inevitability to these changes in white-collar work habits. White-collar professionals who adopt microcomputers will significantly outperform their coworkers. Coworkers will have the option of joining the revolution or changing their profession.

Consider next the flow of information. Instead of sending typed letters and memos, it will be far more efficient to send diskettes—or simply to transmit the data over communications lines. Networking for computers in the future represents one of the most challenging frontiers facing the microcomputer industry.

Microcomputers must communicate directly with each other over telephone lines to permit point-to-point messages. Using a microcomputer with a battery pack, attorneys will be able to work on a brief while flying coast to coast, then send the edited material from a hotel room back to the law office. Journalists, likewise, will be able to write their stories on a word processing system and telephone the result from any point in the world to the home office. Microcomputers connecting with large central computers will be able to access and contribute to central databases.

Soon the concept of a central office will be questioned. Why should commuters suffocate in traffic jams twice a day when they could do 90 percent of their work at home with a microcomputer and telephone? Perhaps offices should be nothing more than conference rooms, where people meet for those meetings that really do require the physical attendance of participants.

Certainly microcomputers will force white-collar professionals to become more efficient in their work habits. Human nature may slow down this march toward greater white-collar efficiency, but won't stop it.

Although we may argue about the impact that microcomputers will have on white-collar professionals, the future of the microcomputer industry itself is now quite clear.

You are about to witness a new, massive round of hardware price reductions.

The microcomputer industry is about to separate completely into hardware and software branches. Software vendors will generate industry-standard programs. Hardware manufacturers will build industry-standard microcomputers. Those who stray from industry standards will be forced to leave the microcomputer marketplace.

The microcomputer industry differs radically from any type of computer industry that has preceded it. Those who run microcomputer companies along minicomputer lines will fail, because some of us will do the job as it should be done. Economics overwhelmingly favors the first microcomputer manufacturers who understand the microcomputer for the different product that it is. ■