The IBM Problem: Two Viewpoints

The Results of Domination

It is the thesis of this paper that the computer industry is in extreme danger due to the present monopolistic practices of the industry. IBM's domination of our industry threatens not only those of us directly connected with computers, it also threatens our nation. The arguments which support this thesis are a mixed bag of technology, economics and sociology. They are also somewhat based upon future extensions of related past experience. Before proceeding to discuss the issues behind the monopoly in the computer industry, we must first clear away some basic debris.

Many people equate arguments which uncover monopoly as a direct attack on IBM. This is understandable since, if there is a monopoly in our industry and if a monopoly is bad, then there ought to be a bad guy around somewhere. Unfortunately, nothing could be further from the truth. IBM stands out as a living testament to the power of free enterprise and the achievement possible in a democracy. Their ability to plan is awesome and they are unquestionably one of the best managed organizations of any kind in the world. It is, in fact, IBM's sheer capability for greatness that is in large part responsible for the monopolistic situation as it now exists. And if it took great leadership to get us to this point, it's going to take even greater leadership to get us away from it.

We can now clear away a second piece of debris. This concerns the argument that even if there is a monopoly in the computer industry, what's so terrible about that?

Several things. First, there is the problem of foreign erosion of a major domestic industry. The U. S. is currently the world leader in computing. Our ability to remain a leader is directly proportional to our ability to remain technologically innovative. As technological growth stagnates, which has already begun in our industry, it opens the doors to nations unwilling to make our investment in technology but more than willing to take advantage of lower labor costs. The Japanese, for example, invented neither the radio nor television nor even the color TV tube, and look what's happened to the consumer electronics industry in the U. S. When was the last time Volkswagen was innovative? To underscore that one and examine what happens when a foreign manufacturer decides to innovate, consider Mercedes-Benz. With each innovation, they become non-competitive with U.S. manufacturers. Foreign erosion in the consumer electronics and the automotive industry has cost the U. S. hundreds of thousands of jobs and added considerably to our balance of payments deficit. Or consider—for years, the number one motorcycle company in the world was Harley Davidson. They built the best and ate everybody's lunch in the process. Soon, everybody else quit, and that left Harley Davidson. Take a look at who's eating Harley Davidson's lunch these days. If that's not sufficiently alarming, look for a moment at national security. Almost without exception, every major defense system which guards the U. S. has been designed around our leadership in computer technology. It may be tough being the strongest nation in the world, but it's a lot tougher being the second, third or fourth strongest. Our progress and survival require technological innovation. Remaining innovative means remaining competitive from within, driven by the profit motive fundamental to the free enterprise system. The last government-forced innovative project was called the F-111. We can now return to the present economic and technical considerations which make our industry a monopoly.

When RCA decided to leave the computer industry, the last door closed violently on competitiveness. RCA demonstrated quite clearly that identical products available at lower prices cannot be profitably manufactured and marketed in the computer industry. As long as RCA stayed alive, an argument could be put forth along the lines that IBM had built a better mousetrap. When RCA failed to sell their identical but cheaper mousetrap, it became clear that IBM did not have a better mousetrap—what IBM had was industry control. How did IBM get that control? By being good. Damn good. By being tough. Damn tough. And probably, from time to time, by being some of the things that their antagonists accuse them of. But trying to claim that IBM doesn't have control is about as optimistic as General Custer telling his sergeant, as the Indians make their second pass, not to take any live prisoners.

The computer industry has still not fully recovered from the conversion trauma associated with the transition from second to third generation computing. The evidence of the massive conversion difficulty is seen, for example, by the number of IBM System/360 users who continue to operate in emulation mode. The problem is still so severe that IBM was compelled to include emulation in their System/370. While many good things can be said for emulation, it has a notorious feature of encouraging users to stagnate and forcing comparative conversion costs significantly in favor of the manufacturer who can emulate his previous product regardless of its quality. It is interesting to note that this trauma has been so ingrained in the user marketplace that during the last four years the only segment of the industry which has shown any reasonable growth whatsoever has been the plug-in compatible equipment group.

Where do we go from here? Third generation computing equipment brought with it many blessings. One of these was the ability to free the computer user from internal information file manipulation mechanisms. These mechanisms are now part of the hardware-manufacturer-supplied operating system.

Initially, these mechanisms did relatively little since their major task was to map pure sequential file structures. During the last four years, however, the use of nonsequential file techniques has expanded a thousandfold. In most cases, the data structures and information behind these techniques has been made transparent to the user. At the same time, assembly language programming has almost vanished in contrast to source level language programming. This subtle shift in function now places the entire industry on the horns of an unbelievable dilemma. Eight years ago we were traumatized by program conversion. Now, we are slowly being locked in to machine-dependent data structures whose conversion may well be extremely expensive, extremely difficult, and in some cases, next to impossible. The

dilemma we face is that [illegible] bondage, we are actually accomplishing many more valuable computing tasks than ever before. We took our uppers and we are still too high to see anything but the clouds.

Second generation computer users continue to emulate outmoded equipment because it is less expensive than to convert, and (as we've said) he who had the emulator got the customer. The present shift of information processing toward data orientation means that, for the next go around, he who has the data gets the customer. The last time, we emulated programs in computers. This time, we will emulate data mechanisms. This means that the very blessing that permits us to perform vastly complex direct access storage operations will lock us into the hardware supplier and his conveniently transparent software.

For years, many members of our industry felt that standards were a solution to the problems of manufacturer dominance, conversion, and competition. The facts are that standards, even when they work, are an ineffective and stagnating tool. COBOL, for example, became standardized not because it was a good language, but because of the sledge hammer wielded by one customer: the U. S. government. And while the American National Standards Institute flits about with communications control standards, few manufacturers follow them in the construction of remote terminals and their central processing communication interfaces. The computer industry needs standards to be sure. Many standards. But it needs standards which ensure innovation and competitiveness, not those which guarantee industry stagnation and foreign erosion of our industry.

U. S. technology today is on the brink of developments which have the potential for revolutionizing our approach to computing mechanisms. But we can never get there in a one-manufacturer-dominated industry, regardless of why the industry is so dominated. If there were a simple solution to the problems of our industry, we wouldn't be on our present treadmill. It is our responsibility, as members of the industry, to take appropriate action and help restore free enterprise and competition to the computing industry in the U: S. I am proposing a three-point program whose objective is to do just that:

1. Take whatever action is necessary to begin an immediate Congressional investigation concerning monopolistic practices in the computer industry and the Justice Dept.'s failure to mount sufficient effort to solve this problem.

2. Take whatever steps are necessary to ensure that the Justice Dept.'s funding for prosecuting their present suit against IBM is of an order of magnitude sufficient to withstand IBM's lawyers and delaying tactics.

3. Initiate funding for the formation of an industry advisory committee which could report both to Congress and to the Justice Dept. and which would be chartered with the task of technically developing a plan to restore competition to our industry. This committee should be staffed with a wide variety of computer industry technical, marketing, and management executives. This committee, in concert with the Justice Dept., can formulate a plan for the future of the computer industry.

In the three years since the Justice Dept. filed their suit against IBM, two major competitors (GE and RCA) have left the industry. Dozens of smaller competitors have gone bankrupt. IBM's budget for their legal defense of this suit and the Control Data lawsuit is over $7 million a year, involves over 50 million pages of materials, and occupies the time of over 200 people.

The Justice Dept.'s staff is approximately seven people. I'd say that's pretty good odds in IBM's favor and something has to change. If you agree, you can help by contacting your elected representatives and requesting them to act immediately on this program.

If you have a better idea, tell your elected officials about that.

—Gerald H. Larsen
President
Unicorn Systems Company

The 2,700—An Open Letter

Judge Philip Neville
U. S. District Court
316 North Robert St.
St. Paul, Minnesota
55101

Dear Judge Neville:

This is in response to your order of Dec. 13, 1971, to provide information from Personal Data Services Corp. to assist the court and IBM in defining the edp market for products and services.

In my 26 years of experience in the computer field, I have never been so surprised, amazed, and startled to a point of disbelief, as I was when I received your court order. . .

The documents forwarded to me by IBM's attorneys, John French and Norman Carpenter, tell an incredible story about what has been happening to our courts, our system of justice, and to the computer field itself.

As one of the pioneers in the field, and a long time consultant to nearly all of the large suppliers of computers as well as to many users, I believe it is desirable for me to enlighten the court on several issues raised by the entire case. These issues are fundamental and go directly to the core of many problems in business, government, society and the computer field. The prime reason for my calling these to your attention is that I do not believe you can achieve your objective of market definition using your present approach. In addition, the definition of the market on the traditional basis will not help detect the most fundamental problem of all: namely, the extreme dominance by one company of a field of interest and endeavor second in importance to very few in this country.

The issues are as follows:

IBM dominance

The dominance of IBM in the computer field is well known to nearly everyone. The measurement of that dominance is tricky and complex. Most opinions are based on measuring the percentage of dollar volume sales of main frame computer equipment. IBM's percent has always been in the range of 70 to 75, with the second competitor in the 3 to 7% range.

This method is probably not too far off, if one is seeking a quantitative figure. Admittedly, IBM's percentage of the grand total of dollars spent for information systems and services (a category much broader than main frames) is much lower. However, IBM's true dominance can not be measured by percentages of things bought or sold.

There is only one word to describe the real dangers inherent in IBM's dominance, and that is "influence." The influence extends throughout all of the decision-making and business processes in government, education, industry, science, etc., most of which are based upon information. Thus, the dominance should be measured in terms of the number of decisions, or aspects, of other activities that are permeating the American way of life in the 1970s.

For example, walk into any corporate office of a large or small company today, and ask what supplier furnishes the **business system** upon which they depend. The odds are greater than three to one (**more** than 75%) that the answer will be, IBM. **That** is real, **and dangerous,** domination. No other industry of any major importance (except the telephone industry) is so dominated by one company.

Effects of dominance

The permeating effects of IBM's dominance can be felt in practically every walk of life, from business, to government, to education, to science, to labor, to politics, to the professions, and to the public. Some of these effects have been good, measured on the scale of the greatest good for the greatest number of people and organizations. However, most of the effects have been bad, measured on the same scale. The list of bad effects covers several pages. Briefly, six of them are:

1. Disappearance of competitors and impossibility of survival.
2. Excessively higher systems costs, especially software.
3. Slow progress in types of systems needed by customers, example: on-line real-time systems.
4. Misleading of users, especially smaller users.
5. No competitive bidding—consultants frozen out or handed IBM as only selection.
6. Ingrown IBM attitudes, insiders from IBM, user fear of going against IBM.

Perhaps the specific policies of IBM have brought about these bad effects. However, it is much more likely that the dominance **itself** is what has caused the problems. **Any** competitor dominating an industry as all pervading as the information industry, to the extent that IBM has dominated it (more than 75% of the market, based on influence) would probably cause the same bad effects or even worse ones.

The interesting thing about this is that IBM management is well aware of the bad effects, due to the consent decree of several years ago. The lawyers at IBM as well as the management continually question whether their dominance is really good for the country.

Plight of competitors

The issue of how or whether competitors can stay in the information systems and services business is raised by the case. I served as one of several consultants to the management of GE when they were evaluating the question of what to do about the Information Systems Division in 1969-1970. As you know, they decided to sell most of the division to Honeywell in the spring of 1970.

The evaluations made by the consultants as well as GE management at that time were quite comprehensive and complex. It was felt that to continue in the business, the division would have to increase its share of the market (measured on the basis of main frame sales) to a level above some survival threshold. It was felt that this would be impossible to accomplish, as long as IBM dominated the field, without an extremely large new investment on the part of GE.

Another approach might have been to attempt to compete in a broader market (the information systems and services market) and to change the entire marketing approach, organization structure, and management policies. This would have involved an even greater investment and some fundamental changes within GE.

The only sensible decision available to management was the one that [illegible] to get out of the business except for a minority (18%) interest in the new Honeywell company.

While I am not completely familiar with the RCA case, I am sure that a similar situation existed. In fact, the same set of dominance problems faces, or will face, **any** of the major main frame suppliers. You can look for more of them to fold, or merge in the near future, unless something is done to change the IBM dominance.

The dominance also prevents newcomers from entering the field in any substantial way. The latest large entrant, Xerox, is having great difficulties.

Who loses?

If the industry continues to be dominated as it has to date, the question is, who will lose? Who will suffer from the dominance problem? The answer is: **everyone!** Everyone, including IBM, will suffer in the long run, from an unhealthy industry. Any consulting firm active in the information systems field can tell you this. Even those doing marketing consulting for IBM will, if they are pressed hard, make the same statements about the ill effects of IBM dominance.

How dominant is IBM?

One issue raised by your survey of 2,700 companies is: Will you find out what IBM's dominance is or what the market is that IBM dominates by means of the questionnaire prepared for you by IBM?

The answer is that you **will not** find out. You will not find out, first, because the 2,700 companies are not going to answer the questions. Either they will not answer at all, or else they will send you sales literature and published price lists. Secondly, even if they did answer properly, the chances are you would be completely misled by the data. For example, the information systems and services field, from a business system point of view, does not and never will include many, or even most, of the products and companies on the IBM list of examples.

IBM's strategy is obvious. If they can convince you that the "total" market includes all of those products and services furnished by the 2,700 companies surveyed, they will look pretty good. Their percentage may even be as low as 50% measured on a dollar volume basis. If the court's only measuring stick is dollar volume, then dominance will have been disproved.

As indicated earlier, IBM's true and real dominance is of a different nature, and amounts to a much higher percentage than the 75% dominance of the main frame market. The court should, or some independent group of professionals should, set the proper ground rules for measuring dominance and set about collecting the proper, meaningful data. There are a number of professional groups and consultants sufficiently unbiased and knowledgeable to do this.

Security of data

I get a very queasy feeling about how private and secure any data I might send you will be. One reason is the publicity in **Business Week** recently concerning the court clerk's error in allowing the **Business Week** reporter to see the 30 odd file drawers containing the responses of 1,500 companies. A second reason is that the court order was mailed to me with a cover letter, **not** from you, but from the IBM's lawyers. Now, this may be standard legal procedure, but if it is, I object to it strenuously.

If I object, then I assume that the companies having the most to lose by exposing all of their secrets to IBM would also object. The questions asked in your (or

the forum

rather IBM's) questionnaire cover the most sensitive competitive data I can imagine.

There is no indication in the court order, or in the material sent with it, as to who at IBM will be allowed to see the data or to use it. You will not be able to legislate the number of people or the particular people within IBM who will see and use the data. Compared to the main issue, IBM's dominance, this is perhaps a minor issue. Nevertheless, it is quite bothersome.

Costs of data collection

Your decision to force 2,700 companies to bear their own costs (rather than having IBM pay) in supplying data, so that IBM can prepare a defense in the main suit, is really an unbelievable decision. Surely, the U.S. government has the resources to collect data to define a market in an antitrust case. Assuming that the Justice Dept. truly does want to do something about the information systems industry and its unhealthy state, why can't they pay the costs? Compared to the total amount of money the federal government loses every year because of IBM's dominance (in software overhead alone), the costs of gathering data pertaining to the problem would be small.

The reason the documents I received seem so incredible and unbelievable is the surface appearance of the case. It would seem that IBM is controlling the entire situation, dominating the courts, just the way they dominate the industry.

1. The court has apparently accepted IBM's attempt to define the market in a way favorable to them.
2. The court has followed IBM's suggestion and forced 2,700 companies to provide information.
3. The court has decided that the 2,700 companies will pay the costs of collecting information and not IBM.
4. The court plans to turn data on a falsely defined market over to IBM for use in their own defense.
5. The court is forcing highly sensitive data to be supplied by competitors and made available to IBM.
6. The court has allowed IBM's lawyers to send the court order along with other material to the 2,700 companies.
7. The court appears headed for a decision in which IBM's true dominance will be completely hidden.

The overall issue

The overall major issue with which the court, the Justice Dept., and everyone else should be concerned is the health of the information field. The Control Data position is important in that overall context, primarily because if CDC falls, then the industry will really be on the way to a total monopoly.

GE and RCA, together with Sperry Rand, Xerox, Honeywell, and to some extent even Burroughs and NCR, have had other products and markets to keep them going. CDC has had to rely on Commercial Credit to keep going in recent years. But CDC was the only one of the big eight main frame manufacturers whose prime business always was computers.

Greyhound's interests are also important from the leasing and service point of view. But, if the court decides in favor of IBM, based on the data it will receive using the current approach, the entire major issue will have been missed and total disaster will occur. All of the basic principles of our democracy will have been violated.

Richard E. Sprague
President
Personal Data Services Corp.

TRANSMITTAL SLIP	DATE 17 July 1972
TO: [redacted]	
ROOM NO. 7D07	BUILDING Hq.

REMARKS:

Bob:

These two presidents are a little hot under the collar, but you'll be interested in their arguments on IBM anyway.

[redacted]

FROM: C/IPS/C/PPB		
ROOM NO. 6E0702	BUILDING Hq.	EXTENSION [redacted]

FORM NO 1 FEB 55 241 REPLACES FORM 36-8 WHICH MAY BE USED. (47)

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