

Interview with: **DR. MICHAEL TENENBAUM**

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MIS Quarterly: Dr. Tenenbaum, what do you believe top executives, in general, expect from their information system?

DR. TENENBAUM: In the first place, the term, "their information system," presumes that it is my information system. It is not. The intent of the information system is to supply service and staff support to the operating organizations. All that comes back to me is a sort of digest of the whole process. I'm detached from the information system in a practical sense. In this respect, I don't feel that I'm a vital part of a management information system.

MIS Quarterly: It is not a question of being vital to the system. The question is what is expected of the information function — how does it serve you as compared to what you expect of it?

DR. TENENBAUM: It really doesn't serve me. It serves the organization of which I am only an exposed part. When you get down to the people who really count in our company, the people who are responsible for specific activities and specific operations, then the information system is vital.

Our particular business, which is very complicated, is a cross-section of almost every technology we know. It is a cross-section of a whole spectrum of environments — the physical environment, the intellectual environment, the human environment, and the technical environment. Most important, it is very sequential in nature. The processes pass from one step to another and at each step they can diverge. As one proceeds through the sequences, the problem revolves around maintaining information, maintaining identification, and really understanding and following the logic of the spectrum of operations. The function of the information system is to see that the people who have primary responsibilities in the company have the information they need. The function is not to provide any particular service to the Chairman of the Board, the President of the company, or the president of a subsidiary.

MIS Quarterly: I'm intrigued that you exclude yourself from this grouping of people with important responsibilities.

DR. TENENBAUM: I could disappear from the scene tomorrow, and all but those closely associated with me would be unaware. But if someone who is responsible for making determinations as to what goes on at one of our major rolling mills disappeared, we would have to find someone to replace him, immediately. Most of the things that I do don't have to be done on any specific schedule.

MIS Quarterly: Since most top executive information is not likely to be produced by computers, could you describe your principal current source of useful information?

DR. TENENBAUM: The four, five, six, or seven people who report to me.

MIS Quarterly: So you believe in personal intercommunication?

DR. TENENBAUM: That's like believing in motherhood. If I didn't have that, I'd be dead in this business. All I've got are the people who work for me. I depend on them. They support me. I need them, respect them, and obviously in some way or another that big total system that is our company filters through them and comes

back to me. This approach has one unique advantage. It provides something that is a reasonable approximation of what I can digest.

MIS Quarterly: I had a meeting earlier with an executive at Citibank. Interestingly, he has a Vice President of Information Services who only has about eight people reporting to him. They are totally divorced from their computer or MIS functions. Their function is to take incredible amounts of data generated elsewhere and translate this into usable, digestible information. What is your reaction to such a structure?

DR. TENENBAUM: I can't comprehend it. They are in the banking business and their needs are different from mine; the information they generate is different. I suspect their business is reasonably monolithic as compared with ours. I can't put myself in their shoes. We've got people who are always being exposed to the products of our information system. They get the information, they use it for better or for worse. We choose our people carefully and we think that this is synonymous with saying that they're going to use information intelligently. Something is going to come out of whatever they do which will eventually emerge as a piece of information that *may* come back to me. I'm never quite certain how or why some information reaches me. As a matter of fact, any time I go out into the organization, the data problem scares me. I often see mile after mile after mile of papers piling up which people insist are very useful and important. The concept of having seven or eight people who are just going to worry about what's coming out of that pile and who have no assignment other than to just digest what it means for our business is something I don't understand. This procedure might be significant in the financial business.

MIS Quarterly: Since information services impact and are impacted by all parts of the company, in your company are the information services represented in the planning process from the beginning or are they the recipients of the end product?

DR. TENENBAUM: I'm not sure I quite understand the question. The guidance that is provided to the planning process — that is, the

directions that are suggested — really come from knowledgeable people who know their own needs. These are the people who are responsible for generating the major inputs into our strategic planning program. It is the function of knowledgeable systems people to translate this information in a way that meets our planning process needs. The systems people can dovetail their programs, their equipment, and their requirements into the directions set by the people who are determining our strategic plans. I guess what this says is that great reliance for adjusting our systems is placed on the executives in charge of the systems activity. They have to sit down and talk to the planners. They have to design the programs. They have to make recommendations as to what our needs are and what our programs should be and then take whatever actions are necessary to see that the resources they think they need are provided. This means that the systems people must be persons who command considerable respect within the corporate structure.

MIS Quarterly: Let me go a little further. What criteria or methods do you employ in evaluating the performance of responsibilities by your top information services executives? How, and particularly what, do you measure as it relates to the function that this executive heads?

DR. TENENBAUM: There would be great dependence on the reaction of those upon whom I depend for my normal communications. If they feel that they are being frustrated, not getting adequate service, lacking in confidence in the information that is being generated, or lacking in the confidence in the priorities that we're setting in our information programs, I'll sense it. I suppose I would react to any of these. In the absence of any contact with the systems group or systems people, this is what I would have to rely on. In my particular case, I've personally seen our systems activity grow from a somewhat unstructured activity to where it is today — very sophisticated, intelligent, and highly respected.

MIS Quarterly: Is there anything special that you attempt to measure?

DR. TENENBAUM: The first thing I do is measure my own competence in that piece of the organization that I know. I am aware that our

operations are becoming more complex. We are far more complex than we were in the past and it is far more difficult to provide our growing information requirements. I'm aware that we're successful in meeting the emerging and growing needs of the company. I'm aware of the things that come out of the system from the corporate standpoint — that is, the service that we provide and the ability to handle the information that comes to us from outside the organization.

I can get a reading on these by listening to reports on the relative reputation of our systems group within the industry. This reflects our ability to handle communications from our trade, and our ability to provide special staff services to industrial relations, labor relations, and financial analysis. I can evaluate some of these reports and inevitably get a feel for how effective the function is. Sometimes it is measured by the respect that our systems people have within their professional societies and among their peers. The respect they have from the outside provides a useful clue as to how good a job they are doing. You can also ask questions, such as, "We put so much money into our systems activity — what is the pay back?" Our head systems person goes through some sort of ritual and shows we got back many times what we paid out. It is a useful exercise, but I don't weigh it too heavily. I know that the payback is there before any project is undertaken.

MIS Quarterly: Do you have a relatively good feel for the incremental benefits that your organization may get from the fact that you may have superior information?

DR. TENENBAUM: I think the satisfaction comes from knowing something about the systems organization, their competence, their ability to convey a feeling of confidence, and their ability to make a constructive input into the company. Because of this confidence, the systems people are provided the opportunity from time to time to impress our Board of Directors with their competence. We wouldn't do that unless we knew that they would make an effective presentation on a matter of current significance and have an impressive story to tell.

MIS Quarterly: Is there any special approach that you would recommend the CEO take to

identify information needs and to provide the resources to meet them?

DR. TENENBAUM: Yes. I'd call someone who is competent in that area, ask, "What are my needs, and what should I do?"

MIS Quarterly: If you were looking for a head of your information services right now, what would you look for?

DR. TENENBAUM: I'd look for someone who first of all is bright and very knowledgeable in the profession. I would look for someone who is not necessarily knowledgeable about our business, but surely had the ability to become knowledgeable quickly. Importantly, this would be someone who would provide stimulating leadership to the very important, sophisticated, specialized systems group on which we're depending. I am not quite sure which is most important. Perhaps it is the ability to be a stimulating leader, to gain the confidence of the people working in the area, and to develop them to the point where they can replace the individual. This person would have to have a sense of humor, be thick skinned, reflect confidence, and possess all the usual attributes of creativity, imagination, and the other qualities that are needed in top management positions.

MIS Quarterly: How are priorities set within Inland Steel for the allocation of resources of the information function? How do you decide how much to spend?

DR. TENENBAUM: I have a very simple answer to that very complex question. I rely on the judgments of the executive that is assigned the responsibility for the management information system. If we don't have the confidence in this executive's judgments, in what this person says the needs are, some feeling for how information system needs are evaluated relative to other corporate needs, we've got a bigger problem than just how to allocate our resources. This doesn't mean we are going to go along with every recommendation made, but we are going to have a lot of confidence in the recommendations we receive. We are going to use these as the basis for our judgments. For the most part, I'd say we go along with this executive's recommendations.

MIS Quarterly: Is this kind of confidence something that can only be built up over a long period of time?

DR. TENENBAUM: Not necessarily. I don't think that sort of confidence takes that much time. I also have great confidence in some of the people that I've become exposed to only in the last six years, since I moved to Corporate Headquarters.

MIS Quarterly: Some companies have gone to the war room, chart room, or information room concept, using varying levels of visual display. Do you see this as a trend and if not, how do you think that this information is going to be assimilated in the future?

DR. TENENBAUM: I wouldn't know what to do with all of that. I think it is terribly important that when we have some important considerations to discuss that we get the important people together. We bring in whatever intelligence we need. It may be in the form of reports, charts, or people making special presentations. I suspect this fulfills my idea of a war room or a chart room. For a specific problem I can see us getting together and spending some time in some close quarters trying to reach a decision or conclude that we don't know enough to make a decision. Beyond that I'm not sure that I even understand the concept, let alone what I would do with it.

MIS Quarterly: As you look at the 1980's what are the one, two, or three key problems that face business in general, and can information services help in any of them?

DR. TENENBAUM: The key problem I see is the recognition of what information inputs will be needed. My concern is that many of the decisions that now are made on the basis of information will be made by mandate rather than by assessment of the information which is available. We have so many regulatory inputs that we may not need all the information our systems generate in the future.

MIS Quarterly: So you're suggesting that government regulation is one of the major problems that you see in the near future?

DR. TENENBAUM: Yes, I really think that the regulatory invasion of the decision-making

process is the problem that bothers me the most. It has an impact on practically everything we do.

MIS Quarterly: If you were giving the opening speech at one of our Conferences, what final exhortation would you like to leave with our constituency? What would you tell them?

DR. TENENBAUM: I'd tell them they had asked the wrong man for guidance. If they really want to know what they should be doing, they should be able to find it from within their own peer group. Why should I be telling them what they know better than I?

MIS Quarterly: They know how to run the information function, but they're supposed to be serving top management. As somebody who is the ultimate purchaser of the product of the information executive, do you have any particular comments that you would want to make to this person?

DR. TENENBAUM: I'm not the ultimate purchaser. I'm just a reflection of the people who purchase or buy and use the information. I think that the function of the information systems people is to know what their market is. It seems to me that their market is the people to whom they deliver their information, and who use it. They must also take some responsibility for the way the information will be used and the proprietary aspects of its use. The one thing the systems people should not do is isolate themselves to the extent that they feel that their only purpose is to process pieces of information going through their machines. They have a responsibility to make judgments, to evaluate what they are doing, and to evaluate how what they are doing is going to be used.

MIS Quarterly: When you meet with your peers, presidents of other corporations, does the subject of your satisfaction or dissatisfaction with information services come up?

DR. TENENBAUM: Indirectly it comes up. It's never brought up by someone saying: "Hey, do you have a management information system in your company?"

"What is that?"

"You know, those people running around that have something to do with computers. I'm not quite sure what they do, but we know that they spend \$15 million a year."

I am surprised, however, on how much understanding of this area my peers have. The executives know that they have a management information system that is a valuable element of their organization, and they know they have access to it. I think good top executives are distinguished by their ability to ask the right questions of their system. Asking the right questions means having an adequate understanding of what management information systems are, how comprehensive they are, and what sort of service they perform.

MIS Quarterly: Are there any questions concerning this area that you think I should have asked?

DR. TENENBAUM: Well, in claiming a measure of incompetence at the opening of our exchange, I really think that you're asking the wrong person this question. You ought to ask someone who is knowledgeable about information systems. As I mentioned earlier and will repeat again, just to make sure that there is not a misunderstanding, within our company we have an extremely useful tool. This tool is comprised of a lot of people, an

understanding of a complex system, and a lot of gadgetry that churns like mad and cranks out paper. It has been a very formidable tool in allowing us to adjust to a changing economic climate, a changing competitive environment, and changing requirements in our business. Additionally, there's been a tremendous increase in the complexity of what we have to do. Given where we were twenty years ago and where we are today, it is a great tribute to something, someone, or some group that we've been able to stay abreast of all these developments. They've come out with a product that has spread a lot of confidence in the organization and confidence on the part of the management group in our systems organization. When I say our management group, I am not talking about one or two or three people. I'm talking about the hundreds of people throughout our company who really are important and depend on the information generated by the Systems Group.

I'm not knowledgeable regarding information systems. I do not know whether the patterns that we adopted, the directions we took, and the priorities that we assigned are similar or dissimilar to those of other companies; but I'm confident that our decisions were right for us. That is a great tribute to our systems organization and a reflection of the fact that the systems staff is a major resource within our company.