Interview with: NORMAN LORENTZSEN

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MIS QUARTERLY: What do you believe that top executives, in general, expect from their information function?

MR. LORENTZSEN: The information that I think is vital is the type that relates to the profitability of the enterprise. This information is contained in various reports such as on financial statements.

MIS QUARTERLY: Other than financial data, is there any other kind of information you think is important?

MR. LORENTZSEN: In our company we have numerous types. A financial report is an after-the-fact report on what has happened. There is also information, particularly in the railroad business, that provides early warning "trend data" that tells us that a potential problem could be developing. An example might be a lack of control of expenditures in certain areas. The early warning system would give one an opportunity to take action before the monthly reports with the profit figures are available.

MIS QUARTERLY: You've suggested that the primary information function is historically and financially oriented. Do you see any changes in the future to this kind of practice?

MR. LORENTZSEN: Not in the basic information provided. However, in the railroad business we are subject to many external factors that can directly affect us and over which we have no control. So, in addition to having our own system for getting early warning information, we try to assess the impact of these external factors. A typical example of this might be if President Carter comes out with an announcement saying we must lower the ambient air quality standards right now. This change certainly would impact Burlington Northern. We try to assess what the impact will be in advance of it actually happening. We try to look at all of these outside influences long before they become reality. If we wait until they occur, we probably would have reached the stage where we might not be able to cope with them.

MIS QUARTERLY: In any of these outside influence evaluations, have you found your information systems to be useful in helping you answer the "what if" kinds of questions? That is, if you anticipate a particular kind of influence, what is it going to do to your business or a sector of your business?

MR. LORENTZSEN: Yes, we have computer models and programs set up so we can test a series of choices. This is based on the best judgment and knowledge that we have available at a given time. By doing this we can determine if a particular event happens, what we can expect in results. To us, MIS and the information that it gives us is essential. However, the information that we put into the system must be valid. Many times, particularly in the "what if" situations, the inputs contain a judgment factor. We have, in our company, as have many other companies, a corporate planning department. One of its functions is to get the best available inputs from the appropriate sources, assemble the information and run it through our MIS system and come up with a "best estimate" of what will happen. While MIS is really important, the interpretation, the information gathering process, and the accuracy of the information are key factors, too.

MIS QUARTERLY: Is it fair to say that definitionally you consider the planning department part of your information system and it may be supported by data processing or the computer-based information system?

MR. LORENTZSEN: Very much so. The planning department will, for example, identify a need for a model; then they work with MIS people to develop the model.

MIS QUARTERLY: So, whereas you may not directly interact with the computer system in planning, you do interact with it through the planning department?

MR. LORENTZSEN: Yes, we have online programs that affect our day-to-day performance. I see many summarized reports produced by our MIS people. I do get more involved with the planning people because they try to relate the questions that I have to the "what ifs" about where our company is going. We use, like most companies today, annual plans. We also use five-year plans. We reevaluate and update them every year. On key strategic issues we go beyond the five-year period in our planning. We try to identify the key decisions that we should be making now. We also try to anticipate what will change, how much it will change, and what steps we have to take to be able to meet particular changes.

MIS QUARTERLY: On the issue of planning, since information systems or the information services area of your organization impacts upon and is impacted by all parts of the company, are they represented in the planning process from the beginning or are they more of a facilitator of the planning process?

MR. LORENTZSEN: They are involved in the planning process. As an overall corporate activity, the planning process is coordinated by the corporate planning group working with the MIS people and, of course, all the other departments in the company. For example, we start our planning for next year's capital program as soon as this year's is approved. The planning department provides the assumptions, the guidelines, and the format. It is an ongoing process. The final plan including the financial plan is put together by year-end for consideration by our Board of Directors.

MIS QUARTERLY: Is your planning process computer-supported to the extent that you can change your annual plan in the middle of the year? That is, if external events trigger something that changes your plans, can you readjust quickly?

MR. LORENTZSEN: Yes. We monitor such items as changes in revenues and changes in expenditures. Our system permits us to assess the impact of such changes.

MIS QUARTERLY: Would you care to comment on the relative importance of the flexibility or rapid response kinds of planning systems in today's business environment? It seems that many CEO's are very concerned about environmental changes that they must react to. Is it important to you or is it important for your organization that your information systems be flexible enough that you can make a rapid response to these changes?

MR. LORENTZSEN: It is very, very important to us. As I mentioned earlier, either through change by congressional action, state laws, or state legislative action, our business is impacted in dozens of different ways. We probably have right now a dozen key issues and an equivalent amount of other major issues which could impact us. We're trying to assess the "what if this happens" type of question. If we didn't have the ability to get all the information that has to go into these issues, retrieve it, and come up with what the results will be in a short period of time, it would be very difficult to manage a company. If we did not have computers and an MIS system, we might be so long in getting the information that we would have missed the opportunity to take appropriate action.

MIS QUARTERLY: Let's change directions. What criteria or method do you employ in evaluating the information systems function in your company? How do you tell whether it's doing the job it ought to do or whether in some sense it's deficient?

MR. LORENTZSEN: Timeliness is important. For example, to augment our MIS system, we use a system of scenarios that corporate planning has developed. We can, for example, in the middle of the month, make an evaluation. We will do this periodically. We may be doing very well in a given month, but begin to see some changes or trends which indicate that something has happened. For example, the movement of grain may decline, the government may do something about the grain support price, or Russia may buy some grain. We expect some impact from these events. We can, by using scenarios, put in key data and the model will project the effect of the events. We try to get information based on recent changes and then use that information to make judgments about what actions to take.

MIS QUARTERLY: If you were looking for an individual to serve as the lead executive for your information services function, what kind of a person would you be looking for?

MR. LORENTZSEN: Essentially we must have someone who understands the uses of computers. Equally important would be a person who can sit down and work with other people to develop the types of systems that will be responsive to the needs of our managers.

MIS QUARTERLY: How are priorities set within your company for the allocation of resources for the information systems function? In other words, how do you decide how much to spend on your MIS function?

MR. LORENTZSEN: Every program we put together has to first have a purpose. We weigh how important these programs are and what the contribution to the company could be. It's weighed in most cases in terms of benefits that will result from these programs.

MIS QUARTERLY: Some companies have gone to the chart or information room concept. Do you see this as a trend?

MR. LORENTZSEN: We've looked at this repeatedly. We do have, for the operating people, a sort of control room. But we do not have, as some people call it, a "war room" or a "data room" which has all the charts that tell every-thing that's going on. We have not felt that we

should go this direction. However, we constantly have meetings of senior officers to keep up to date on where we are today, what's happening now, and what changes are going on. We fit our system to our managerial needs.

MIS QUARTERLY: Do you think it is a matter of managerial style?

MR. LORENTZSEN: That is one factor. The key questions to be answered are: How current can the information be? What is the value of it? Can a value be placed on it? Is it worthwhile? In our case, we think that because so many of us have grown up with the industry, we have a feel for what is going on. I guess it is a question of how much money a company wants to spend and the use of the data produced.

MIS QUARTERLY: As you look to the 1980's, what problems do you think face business in general that perhaps information systems might help solve?

MR. LORENTZSEN: One problem is the ever increasing demands of government. We are also subject to more public scrutiny at what com-panies are trying to do. Maybe some of the computer systems can be helpful in providing answers. This is particularly true with respect to the environmental questions. Certainly computer systems can be a great help in this area. What we are trying to do is assess these "what if" questions; however, we do not have enough people to put all that information together manually. Using MIS, we get an advance look at what might happen two years, four years, or five years from now.

MIS QUARTERLY: Most of the people who will be reading this interview in our journal carry the title of Vice President of, Director of, or Manager of Administrative Services or Information Services. Do you have any advice for these people which you would like to offer — particularly as they might be helpful to a Chief Executive Officer?

MR. LORENTZSEN: Just because information has been produced historically, or produced in a certain way, that is no reason for accepting this as the best information that is available. There is

a need to be constantly alert to change. If there is a program, a model, or a series of reports that are prepared, there is the need for updating this activity and keeping it current and to fitting it to the needs of our managers. I know in our company we constantly look at the reports we produce — who uses them, what is their value, and are they needed. I think if there's anything that a management information systems officer wants to avoid, it is to get into a situation where even 10% of the data produced is meaningless.

Everything ought to have some meaning. The challenge then is reducing that data to the simplest format and the least amount of paper. I cannot have a stack of reports coming in here for review. I have to have a report that says, hopefully on one piece of paper, that this is what's happening and precisely what changes have or have not occurred — the facts. I think, too, that accuracy is very important. However, accuracy should be geared to needs. What is important is getting timely information.