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The recent conference of AICPA computer users, held in Kansas City, drew the largest attendance of any such meeting to date. Significantly, most of the registrants represented small and medium firms —

AICPA HOLDS THIRD COMPUTER CONFERENCE

A Management Services staff report

THE RAPID emergence of CPAs in the last few years as leaders in the use and application of electronic computers was both noted and documented by authorities at a recent Midwestern meeting. Moreover, those accountants who do not familiarize themselves well enough with computers to understand their clients' automated systems are falling so hopelessly behind the times that they may eventually "pray for retirement."

This was the consensus of speakers at a two-day meeting in Kansas City in May, the third semi-annual National Conference of CPA Computer Users, of the AICPA.

Surprisingly, although most large

and many medium size firms were represented, the majority of the more than two hundred registrants were from small firms in small cities. The preponderance of the delegates were from the Midwestern states, but all segments of the country were represented.

Ream featured speaker

Norman Ream, CPA, Special Assistant to the Secretary of the Navy and a former director of the Center for Computer Sciences and Technology of the National Bureau of Standards, said of the history of CPAs and computers:

"The American Institute mem-

bership, the accounting profession, has a great deal to contribute to management in this area, and if I might say so, I only have one regret, and that is I think we got into this business about ten years too late at the speed that we are into it now. Then, on the other hand, it's never too late."

Three major changes face business management in the years ahead, said Mr. Ream.

The constant lowering of the cost of handling individual data processing problems, of the cost of image storing, and of the cost of communications will mean that "tomorrow we will be able to bring about very different results from information

ine today," he declared. "We must talk in the broader terminology of information technology or, if you will, of talking information systems and the ultimate contribution they will make to both management and, of course, eventually to our government and our whole country.

"I think that it's the process of management rather than the hardware that really requires our attention today," Mr. Ream continued, "and, as I said, I'm very, very pleased and, if I might use the term, excited to see the American Institute truly jumping into this problem with both feet."

Three areas of change

The three areas where change can be most readily detected, he said, are in the structure of the work force, the increasing tempo of innovation in business, and the marketing pattern of business. All of these areas are vital in terms of the problems of management information.

The changes in work force will be marked by a sharp increase in the number of creative, educated people within the company's personnel. This will, in turn, call for a much more sophisticated and adaptable management group than has been needed in the past, Mr. Ream believes.

"And this sophistication will only be accomplished through continuous management training," he went on, "and exposure to the new advanced techniques, as they are being introduced.

"This whole situation will continue to become increasingly fluid, and it will be essential that every successful management learn to accept rapid organizational and operational changes as vital to their economic growth," he said.

Increasing rigidity in the cost structure of businesses will also be brought on by changes in the work force, the speaker predicted. For as more technically oriented people assume a larger proportion

of the total work load, it will be necessary to ensure greater job stability for these workers.

"Management also faces an equally difficult task in respect to salaries and promotional opportunities for these technically oriented workers," he continued, "for most of them will be specialists concerned with a single field of knowledge or a single discipline, and we must develop the means to direct their work toward a common business goal in order to produce profitable results. And to be effective they will have to be managed by a very competent management team, just as the management team will need the technical knowledge and the dedication of these technical workers to be effective in its efforts. In other words, we have a real communications problem facing us."

Another challenge, he said, is the increase in the tempo of innovation.

"The accelerated increase in the rate of technological development we see will also cause some fundamental problems in the way in which technological innovations will be put to work. For instance, the life of a product is going to shorten. Whereas a manufacturer used to be able to turn out development products and perhaps have a ten-year life span in the consumer market, I think we all know that the life span is probably somewhere down around three years."

Reaction time shortened

This means that the reaction time of management must also shorten, Mr. Ream said, and the only way it can be shortened effectively is through the use and the development of good information.

Many companies today are slipping behind in the competitive race because they remain primarily product-oriented while the successful ones become more and more planning-oriented, he said.

"I'm sure that this has been a philosophy that you have been imparting to management for a long

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time," he told the CPA audience. "Our accounting systems are quite good; there's no doubt about that. It's the other type of information, the systems that create information that is not expressed in dollar terms and so on, these are the areas where we are quite weak."

What can accountants, in their role of advisors to management, do to solve these problems?

According to Mr. Ream:

"We have not experienced great difficulty in our ability to define scientific problems, and to apply the computer technology to their solution, for they can normally be expressed in mathematical terms.

"However, I think we've been sadly remiss in our ability to adequately apply computers and advanced technology to the field of management.

"Our great contribution can be the matching of computers and computer technology with the management system and its information system, in order to allow management to be more responsive and thereby to better manage the resources at its command."

Emphasis is on analysis

Past failures to achieve this fully Mr. Ream attributed to too hasty an application of hardware to what was thought to be a particular problem. Fifty to sixty per cent of the analyst's entire time should be devoted to first defining the problem and then finding the proper solution, not in attempting to impose a ready-made solution which might be inappropriate to a problem.

"If we don't do this, we're in the same position as a good doctor who fails to diagnose the case properly and kills the patient by prescribing the wrong medicine," he said.

A second reason for failure in the past has been the tendency of management to push the analyst to engage in a detailed system design too early.

"Management feels this system must be on by a certain date; as a

consequence the information technologist or the management consultant or whoever might be engaged in this systems analysis does not have the time because of management pressures to do the proper job, even though he knows that he's being pushed too fast. I think this is where as a profession we have to stand up and be counted. I think we have to tell management that they're making a fatal mistake, that actually they'll never get the return for their investment that they're seeking so hard in other areas."

Norman Ream was the opening speaker on the second day of the May 7-8 conference. The first day had been given over to panel discussions of the present state of the computer industry and AICPA plans in the computer area, a discussion of experience and prospects in working with computers by CPAs with fairly extensive experience in the field, staffing computer activities and how to train staff, and in-house preparations for computer processing of the 1040 Tax Form.

Immediately following the Ream speech on Wednesday, there was a panel discussion of the newly published AICPA book, *Auditing and EDP*, which at that time had not yet been completed and was available to conference members only in galley proof form. Panel speakers were Donald Adams, CPA, Peat, Marwick, Mitchell & Co.; Stanley Halper, CPA, S. D. Leidesdorf & Co.; John O'Donnell, CPA, Lybrand, Ross Bros. & Montgomery; and Joseph Wasserman, Bell Telephone Laboratories. Acting as moderator was Gordon Davis, CPA, now professor of information systems at the University of Minnesota and formerly consultant on computers to the AICPA.

Gordon Davis first described the origins of the book, the men who had worked on it, and its organization. He listed the book's purposes as:

- 1. To guide CPAs in auditing business enterprises that use computers for record keeping;

Fifty to sixty per cent of the analyst's entire time should be devoted to first defining the problem and then finding an adequate solution, not in attempting to impose a ready-made solution. . . .

2. To provide a starting point for building an expert consensus on auditing practice when examining such companies;

3. To suggest the utility and application of different auditing methods where there are differences or where experience is still lacking;

4. To provide source material for training and informational purposes.

Following are excerpts from the remarks of each of the speakers on the panel:

Donald Adams (Peat, Marwick, Mitchell & Co.): "Basically, I feel what we have here is a survey of current practices; principally we covered the kind of things that the members of the task force were familiar with and had been working on, the type of things that our firm had been doing. This is a broad look at the kind of things that we're doing now. I think as such it will serve as a foundation for developments in the future . . . And in some of the chapters, particularly where we talk about time sharing, remote terminals, and management information systems, we are suggesting the areas we'll have to look at in the future."

John O'Donnell (Lybrand, Ross Bros. & Montgomery): "In my opinion *Auditing and EDP* is the most comprehensive and practical treatment of a subject which has left a great deal of confusion in the minds of both auditors and EDP technicians alike. It goes a long way toward clearing the air and placing the various phases of auditing and EDP in perspective. . . .

"The theme throughout the book is that the auditor cannot ignore the computer if he is to have a sound basis for evaluating internal control. The first chapter directs the reader to new control elements found in the EDP system, new control elements to substitute for some of the traditional control elements we're used to.

"The first eight chapters in the book describe these new controls and point out how important some of the controls can be in deciding

upon the nature and extent of audit procedures. For example, the most important overall control in an EDP system is the independent control group which has responsibility for the completeness and accuracy of transactions and master file changes which are processed by the EDP specialist. In many instances this independent control group is the user department; for example, the production control department, the cost accounting department, order billing, general accounting and the like.

Individual controls

"One of the controls performed by the independent group is to see that all batches of transactions and the master file changes are sent to data processing, are processed by data processing and in their entirety.

"Another control pertains to the control over errors and rejects which must be accounted for in much the same manner as batch control. For example, in an order billing, accounts receivable type of application, if an independent control group did not exist which had a control over sales orders, shipments, credit memos, and cash receipts, the auditor would have no assurance that the data processing department received all sales orders, invoiced all shipments and credited all cash received to customers' accounts, and made all changes to the master files. In this situation a shipment could be made but not invoiced, causing an understatement of accounts receivable and possibly an overstatement of inventory. I believe that it is safe to say that in a situation or a system with this type of weakness the auditor would do much more to satisfy himself as to the accounts receivable balances at the statement date. This is obviously an oversimplified example, but it does illustrate the need for the auditor to understand outside control over the completeness of processing by the EDP group.

The most important overall control in an EDP system is the independent control group which has responsibility for the completeness and accuracy of transactions and master file changes. . . .

controls within data processing, some of which we believe may be looked upon as substituting for human judgment or human alertness. . . . Some of these controls are key verification, which improves the accuracy of transaction recording; check digits, which control coding accuracy; input editing, which can include checks for valid codes, valid characters, valid transactions, and valid combinations of fields. . . . The book covers in detail many other kinds of controls, including those dealing with supervision and a separation of duties. . . . It is quite important that the accountant inquire into such controls as supervision and separation of duties between the data processing department and the user departments.

“I believe that the book demonstrates that the auditor can't do his job properly if he ignores the computer. Once the auditor recognizes this new control environment and his obligation to extend his review into EDP, much of the confusion as to his role in auditing a client who uses EDP will disappear.

“If I had to point to the most important objective that this book should accomplish, it would be to remove the fear that auditors have of EDP and put the EDP system in perspective with respect to the overall client system.”

Internal auditors' functions

Joseph Wasserman (Bell Telephone Laboratories): “Auditors who don't get involved in EDP should climb upon their stools, adjust their green eyeshades, and pray for retirement.

“I feel that the most important link to any EDP system with the public accountant is the internal auditor. . . . I think that in the book a chapter on the relationship between the internal auditor and your external auditor should be included. I feel that it should define those functions for which the internal auditor should be responsible.

Felix Kauffman, Lybrand, Ross Bros. & Montgomery, New York, although not scheduled on the program, talked on the implications of time sharing for CPAs early in the conference. The editors were so impressed with the content of his talk that Mr. Kaufman was asked to develop his remarks into an article for MANAGEMENT SERVICES. This is being done and the article will appear in an early issue.

“We say that we are responsible for the appraisal of controls being built into a system. That's appraisal. We don't design them. I don't feel that this should be our responsibility. I feel the systems people should be the best qualified. If I can throw a little bomb out here, I don't think the CPA should come into a company and design the internal controls for a computer system and then come back six months later and say ‘They're great,’ because I'm sure that's all they're going to say.

“Secondly, how do we insure that future systems before they are implemented are properly tested? And again we are not responsible from an auditing point of view for testing these systems, developing all the test media—we're there to make sure the proper test is developed, or a parallel test is run or however you're going to accomplish this.

“Third, how do we insure that proper controls are provided for the conversion from either a manual or an existing computerized system to your new system? We want to make sure that we do convert all records, and only once. We've got a few instances where we converted records twice and it makes your file bigger and it's not too economical.

“Next, how do we ensure the auditability of the system? And in this regard, we are looking to the building end of audit techniques within the system. Now, this will

solve many of your problems because you won't have to design audit techniques if you have an internal audit staff to work with. There are only a certain number of techniques that we know about. You have sampling, you have extraction, you have comparison, compiling, and you have test media. Now, these things can be built in, and this really is nothing more than saying to the systems people that these are the audit requirements. The systems man who designed a payroll system, for example, goes to all the payroll people to find out how do you process payroll. And from this he designs a system to process payroll and to give that information to management that it needs, from a reports point of view, and hopefully to give at least one check to all employees. But I think we drop the ball—we don't tell them that these are our requirements.

“And the next is to coordinate with the public accountant in the area of controls and audit techniques. This may mean reviewing your own audit procedures for a particular company. And how can you automate your particular audit procedures with that system?”

(First of two parts.)

The next AICPA computer conference will be held November 12-13 at the Marriott-Twin Bridges Hotel, Washington, D. C.