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# People, Events, Techniques

American Institute of Certified Public Accountants

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# people, events, techniques

## New Management Advisory Services Committee Head Appeals For Full AICPA Membership for All MAS Personnel

Even firms traditionally geared to the attest and tax functions will have to depend on management services specialists in the years of the seventies, Irvin R. Squires, A. M. Pullen & Co., Greensboro, N. C., told AICPA members attending the management services session at the Institute's annual meeting, held in New York September 20-23.

They will be forced to, he went on, because the changing nature of both the attest and tax functions will require the use of experts from fields other than accounting.

"A national brewing concern recently opened up a new plant in one of our neighboring cities," he told the group. "Our state and local leaders knew how they operated and applauded their coming under a wave of advance publicity. They have hardly gotten acclimated in the community, but

they are now being sued for \$2,000,000 damages for allegedly polluting a river. A small food processor has an extremely profitable operation and seems to be in an excellent cash position. Under the laws of our state he could be insolvent if he is in violation of complex provisions relating to stream pollution. Do we have the specialist on our staff to guide us on these audit determinations if the involvement should become material or relevant?"

Questions of this sort will become much more common during the years ahead, Mr. Squires predicted.

"Some tax specialists need bolstering and specialized assistance in cost accounting, data processing, economics, statistics as well as other areas," he pointed out. "New provisions of the Revenue Act of 1969 make computer preparation of income tax returns more feasible and more desirable."

If the need for non-CPA specialists is accepted, Mr. Squires said, an accounting firm has three choices. It can try to employ such people for its own staff; it can call in outside experts in the specialty concerned; it can refer the entire question under consideration to another CPA firm equipped to deal with it.

He didn't recommend the second course, the use of outside experts, because, he said, this could create questions about the liability of the CPA firm where the specialist's opinion affected the audit function.

"It would be my preference to have our own specialist to the extent practical or refer to other CPAs if given a choice."

Mr. Squires said that his own firm has many non-CPA specialists

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on its staff but tends to group them sultants he pointed out. Certifica-Vol. be solved by Aa. variety of abate-in the fields where the firm already tion could provide such a yardstick, ment procedures, he pointed out, has a great deal of experience or engagements. Although the firm requires non-CPAs to take the CPA examination, Mr. Squires said he felt this approach had many disadvantages: the time required, the reluctance of those who had already undergone one rigorous course of study to undertake an entirely new one. He said the "throughput" of such experts into CPA firms was not good today and would probably worsen in the future unless the entire relationship of non-CPAs with the profession was altered.

### Accreditation urged

The need for non-CPAs to receive some kind of accreditation within the accounting profession was further discussed by James B. Seitz, Touche Ross & Co., Detroit, new chairman of the management advisory services committee of the Institute. Stating frankly that he was an advocate of such accreditation, Mr. Seitz said there were many compelling reasons to bring management services specialists employed by CPAs under the general title CPA. Defining accreditation as the public labeling by an official body of an individual's competence in the practice of a profession, Mr. Seitz said that accounting needed some form of management services accreditation just as it had one for auditing.

He said that CPAs had some historical advantages in employing non-CPA specialists but that they were disappearing today. Traditionally, the best specialists liked to work for CPA firms, he said, because the firms are completely professional and have accepted standards of integrity. But, he said, now that other organizations are offering forms of accreditation while CPAs are not, this advantage could disappear very rapidly. The business community has accepted management consulting but up until now has had no objective yardsticks by which to measure con-

and, if it should come through some organization other than accounting licensing boards, inevitably non-CPAs in CPA employment would suffer. This danger is made more acute, he continued, because the recently organized Institute of Management Consultants, which does plan to accredit consultants, has not indicated that it would accept members of CPA firms.

"This is a clear and present danger to CPA management advisory services departments," he said.

Accreditation through the American Institute of CPAs could assure both accounting firms and their clients of improved MAS standards, he said, and it is vital to the firms themselves because management advisory services are a natural part of the profession and so important to the profes-

Associate membership in the AICPA will not be enough, he warned. Full membership would not dilute the value of the CPA certificate; rather it could be regarded as an expansion of the scope of practice represented by that certificate.

Mr. Seitz said that his management advisory services committee has discussed several ways the certificate could be granted to management services specialists and that he personally favors a situation where such specialists would take the CPA examination but not the sections on auditing. These would be replaced by questions in their own specialty.

The third speaker of the afternoon, Ellison S. Burton, was typical of exactly the sort of non-CPA specialists Seitz discussed. Head of operations research in the Washington office of Ernst & Ernst, he described an engagement for the Public Health Service, U. S. Department of Health, Education, and Welfare, in which he and his team attacked the problem of air pollution in Kansas City, Missouri.

Such ecological problems can

but someone must analyze each one, determine its total effect and its comparative cost. This was his job. Using interrelated computer programs, data files, and special techniques to simulate the sourceby-source control of air pollution in a given geographic area, his group found a least cost solution to the problem of suspended particulates in the air, a method of attaining a deliberate goal of pollution abatement at the least total annual cost.

At an earlier ceremony, Dr. Glenn A. Welsch and Dr. Edward L. Summers of the University of Texas received the Lester Witte Foundation Award for the best article in Management Services "promoting or exemplifing the practice of management services in a small or medium size firm." The Award, a plaque and a check for \$100.00, was presented for their article "How Learning Curves May be Applied to Profit Planning," which appeared in the March-April, 1970, issue of the magazine and was voted by the board of consulting editors the best article to appear in the magazine in the period, July-August, 1969, through May-June, 1970.

The award was made at the opening business session of the AICPA annual meeting by outgoing president Louis M. Kessler.

### **Home Study Courses Offered**

Home study courses in advanced management are being offered by the American Management Association. The AMA's new Extension Institute now includes four courses containing five study units each. All of the courses employ the case method of instruction.

The courses offered are "Management and the Computer," "Mar-Management," "General keting Management Skills," and "Managerial Finance and Control." Each course costs \$40 per individual study unit or \$160 if the course is taken as a whole.



ABOVE: Salesgirl at Montgomery Ward store in Ohio where NCR system was tested records essential information about a sale by passing "wand" over encoded price tag at-



tached to merchandise. RIGHT: Tags are encoded by tag printer within store. Machine automatically produces string-type, pin-on, and adhesive price labels for all types of goods.

# NCR Shows New Four-Unit Merchandising System That Captures All Needed Data at Point of Sale, Saves Salesperson's Time

A four-unit merchandising system that permits all necessary information on individual retail sales for cash and credit records and inventory updating to be automatically captured at the point of sale has just been introduced by the National Cash Register Company.

The unit at the point of sale is no larger than a normal cash register and consists of a data terminal to which is attached a wand reader which can read a salesperson's identification number, a customer's credit card, the price and description of the article being sold, and even the stock keeping unit from which the item is drawn, for transmission into the terminal and through the terminal to a central data collector. From the data collector it is sent to a central computer, nightly in the case of inventory information, on line for credit authorization.

The most unusual feature of the data terminal is the reading wand,

a pencil-like instrument connected to the terminal which scans a column of horizontal color bars on credit card, merchandise tag, or employee identification card, to record vital information from each.

### Sales steps reduced

The wand's use reduces to a minimum the number of steps the salesperson must take in recording a sale. She is still responsible for keying in on the terminal the type of sale—credit, cash, C.O.D.—and whether the item is to be delivered or the customer is taking it with him. All other information is captured by the wand.

Sales slips are prepared by the data terminal from the information read by the wand and that keyed in by the salesperson. National Cash Register says that the combination of data scanned by the wand and punched in by the sales clerk can take care of any conceivable retail transaction and can

complete the entire transaction in seconds compared to the manual and cash register procedures that are now standard.

The "back office" components of the new 280 merchandising system are a data collector that accepts information from the data terminals for eventual transmission to a central computer and the NCR 747 tag printer which is used to prepare sales tags for each item of merchandise and to print the color-bar-coded description of the item designed for reading by the wand when the item is sold. The 747 can prepare string-type or pinon tags as well as pressure-sensitive labels to attach to the goods sold. Each label in turn can be read by the wand without being detached.

The 280 System was field tested successfully at Montgomery Ward's retail store in Lima, Ohio, for about two months before the public introduction of the system

(To page 12)

# NCR Shows News Merchandising of Planning, Systems, and Controls, Volndand Wolf North, Art. designing equip-System For Use at Point of Sale

(From page 9)

last month, NCR officials said. Kermit A. Pickett, vice president and corporate system director of Ward's, said that, although the tests at Lima had not as yet been completed, preliminary results indicated the system was well suited to do the selling job claimed for it by NCR.

The system does not include the central computer, which eventually accepts all data originated at the point of sale. NCR says that its system will produce input acceptable to any computer and explains that its data collector, which is generally designed to feed information from the data terminals over phone lines to the computer at the close of the business day, can be adapted to furnish on-line service for credit inquiries from the sales floor.

NCR explained that it had used a data collector in its system rather than gearing the terminal for direct on line transmission to a computer because on line processing systems are generally not economical for retail stores.

### Daily inventory adequate

"For example," one spokesman said, "the cost of establishing and operating a system that maintains an absolutely current department store inventory control system would be substantially greater than the cost of a system that updated inventory after the store closed at the end of each business day. Yet the mechanics of replenishing stock are so cumbersome that the difference in results obtained by the two systems is insignificant or non-existent."

The point-of-sale terminal unit has display boards that show all information being entered, either by wand or sales clerk, visually to both salesperson and customer and a cash drawer that is activated

whenever the sale is for cash. It automatically calculates whatever taxes are applicable to the goods purchased as directed by the sales clerk and automatically multiplies unit price whenever more than one unit of any sale is involved.

The system, which NCR expects will be most useful to department stores, mass merchandisers, variety chain stores, and the larger specialty and apparel shops, will sell for \$25,000 to \$1,000,000, depending on the number of point-of sales terminals ordered and the amount of information that must be entered on the sales tags and recorded by the data collector. Deliveries will begin in mid-1971.

### **Computer Programer Association Launched** In New York

Software specialists are often blamed when computer operations fail to meet company objectives. A new organization, the Association of Computer Programmers and Analysts, is launching a program to make its members less likely scapegoats.

"Top executives have been thoroughly disappointed in the performance of their EDP operations," explains Paul Notari, ACPA president. "They have turned to the computer manufacturers for an explanation, and the manufacturers have suggested that the personnel who are designing systems and programing the computer are incompetent.

"To some limited degree this may be true, but it is far from the total picture. The real problem, as ACPA sees it, is threefold," he said. Mr. Notari explained his organization believes new equipment and systems have been introduced without allowing time for adequate

staff education. Also, hardware ment with little regard for the existing skills of the personnel involved.

### Installations poorly managed

"The final element of the problem is the lack of data processing know how on the part of data processing management," Mr. Notari said. "Thousands of EDP installations today are being headed by managers who came up through the ranks of accounting, finance, electrical accounting machine administration, and the like and who are befuddled by the complexities of modern EDP system analysis and programing."

ACPA intends to establish direct liaison with the hardware manufacturers, and to apply for membership on the American National Standards Institute's X3 Data Processing Standards Committee. The organization has also set rigid educational qualifications for its members and hopes to conduct a continuing education program for them.

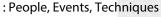
"And thirdly," Mr. Notari said, "we will launch an extensive public relations campaign to convince upper management that EDP operations must be managed by EDP professionals."

The Association of Computer Programmers and Analysts has its headquarters in Suite 1500, 2 Penn Plaza, New York, New York 10001.

# **Congress Crippling** Small Business Growth, Executive Tells Bar

Congress is crippling the growth of small businesses by adopting legislation which discourages investment in high-risk enterprises, Stanley M. Rubel, executive director of the National Venture Capital Foundation, told a recent American Bar Association convention in St. Louis.

Mr. Rubel cited several dis-







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A Division of Success Motivation® Institute, Inc. An international publicly held corporation P.O. Box 7657 Waco, Texas 76710 817-752-9711 couraging Congressional actions, ernment continually cuts off neces-"The capital gains tax rate was re- sary funding, of existing SBICs, cently increased," he said, "without special provision for the high-risk investment in small business.

"Over the years, the rules on use of tax loss carry forwards have been greatly tightened. Yet there is always a major risk that a small growing company will incur an operating loss which in most cases now can't be utilized.

"The SEC is continually tightening the rules on restricted stock held in publicly held companies. Thus investors are subjected to greater restrictions when they try to realize gains generated after successfully surmounting the high risk of small business investing or even getting reinvestment capital back for that matter."

Congress established the small business investment companies industry in 1958, Mr. Rubel said, but despite the SBICs' better than anticipated performance "the gov-

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which discourages the companies in the field as well as organization of new firms."

The increasing domination of the economy by big businesses is due in part to the unavailability of risk capital to small high-risk firms, Mr. Rubel believes. "Yet big business often seems to run contrary to the needs and human drives of people in this country—self determination, independence to make their own way, the ego satisfaction of sowing the fruits of one's own labor, and many more," he observed. However, the small business investment companies and the venture capital firms can only "scratch the surface of the great needs of small business" because of their investment mechanism and financial capabilities.

# Top Management Use Of Computers Lagging, Consultant Says

In the past five years U.S. companies have tripled their spending for computer operations, but use of EDP by their top managements has scarcely increased at all, David B. Hertz told a group of corporate managers in Japan recently.

Dr. Hertz, a director of McKinsey & Company, Inc., a New York management consulting firm, conducted a two-day seminar with the Japan Computer Usage Development Institute in Tokyo August 19 and 20.

"Throughout U.S. business and industry," Dr. Hertz said, "the percentage of computer resources allocated to produce output for top management will average only 18 per cent of the total this year, with 38 per cent going to middle management and 44 per cent to operating supervisors. This 18 per cent figure is up only slightly from 14 per cent in 1965 and will increase no more than about 25 per cent in 1975."

Most executives are only obtaining information from accountingoriented data bases, rather than from decision-oriented data bases. Dr. Hertz pointed out. Computers are reducing administrative and accounting costs, but they are not being used to aid in corporate decision making, he said.

"The few companies that are taking the lead in building computerbased management information systems are largely in the high-technology industries such as aerospace. petroleum, and chemicals," Dr. Hertz said. "The chief executive officers of many of these companies are taking effective steps in utilizing computers to gain 'management lead time' over competitors.'

Dr. Hertz suggested that chief executives in all industries could more effectively use computers if they addressed themselves to three basic issues. First, the critical factors that significantly affect their companies' profit and loss statements must be determined. Then management information systems should be planned and evaluated as they relate to these factors. Finally, executives should implement these plans with the aid of computer professionals who understand how the programs contribute to the company's overall profit picture.

# **Nader Says Data** Banks Could Make U.S. A 'Nation of Slaves'

The United States will become "a nation of slaves" unless some action is taken to regulate the use of computers, Ralph Nader told the annual convention of the Association of Computing Machinery, held in New York in September.

Data banks containing personal information about millions of people are a "perilous threat to civil liberties," Mr. Nader said. "Human considerations and values" should begin to play a part in the use of computers, he told the ACM.

Mr. Nader suggested three steps

to regulate computer users. He urged that an agency to supervise all data bank operations be created on the Federal and state levels.

He also proposed that citizens be protected under an "Information Bill of Rights." This would allow an individual to see, challenge, and correct all his personal information kept in a data bank and would allow him to know who was using the information, why, when, and how.

### Government abuse cited

Finally Mr. Nader suggested Congressional hearings be held to look into abuses in the use of computers committed by Government and industry.

"The problem of doing something constructive in this area is that there aren't enough people who care," Mr. Nader said, in a press conference following his address. "The stakes are very high in terms of ignoring the whole question."

Mr. Nader told the ACM he does not intend to personally champion the rights of the individual consumer against the computer

Ralph Nader is a member of the National Academy of Sciences committee which is investigating the relationship of computerized data banks to the survival of civil liberties. (See M/S, May-June, '70, p. 15.)

# Physical Distribution **Centralization Could** Save Millions: Diebold

Physical distribution, as a concept embracing all movement of goods from production to ultimate consumer, is actually an interrelated series of activities that could, if handled by a single autonomous department, save industry many millions of dollars a year, the Diebold Research Program has concluded.

Y Beople Events Techniques ion of organizing integrated departmental control over this series of activities is sufficiently radical in most business organizations to make establishment of such departments extremely difficult, the same report states.

The Diebold Research Program, conducted by the consulting staff of The Diebold Group, is an industry-sponsored continuing study of the impact of change in management and information systems on business decisions and planning.

### Three-stage evolution

The report defines physical dishaving evolved tribution as through several stages, from traditional shipping department functions through those that include warehousing responsibilities and finally to those of fully integrated physical distribution.

It breaks the evolution down into these stages:

- 1. First stages represent evolution of the transportation aspects of physical distribution and occur through gradual acquisition of functions by transportation managers.
- 2. Later stages are associated with firms in industries in which transportation costs are a significant percentage of total cost of sales, such as industrial chemicals (14 per cent of sales).
- 3. In the final stage an integration of all activities associated with the movement of goods from supplier to customer and all related information processing is accomplished. Physical distribution inventory control, customer order processing, and production planning are added to the responsibilities.

Most companies have not progressed through most of these stages, the Diebold report continues, since the latter ones include warehousing, traffic, and order entry, which have traditionally been marketing and production activities. Reluctance on the part of marketing and production departEveryone interested in DATA PROCESSING needs

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results in compromises when integration into full physical distribution under one department is attempted.

"The result has been a variety of physical distribution departments which do not generally represent attainment of the physical distribution phase," the report concludes.

The degree to which a firm achieves the final phase of development and the pattern of organization that emerges will generally be determined by the philosophy and attitude of senior management, the Diebold group says. Because several years are necessary to offset the cost of regrouping activities, true physical distribution is only attained when senior management is determined to achieve it and persistent in its interest.

The report's conclusions are based on interviews with firms representing several industry groups in various stages of evolution in the drive toward integrated physical distribution.

# AT&T Promises **National Digital** Network by Mid-'70s

By the middle of this decade AT&T will have a digital network serving 60 major cities, William M. Ellinghaus, the company's new president, told the "Conference on the Revolution in Transmission of Business Information," sponsored at the end of August by the Con-Institute ference International, New York.

In late 1973 or early 1974 AT&T expects to have a data network in operation, but on a private line basis only, Mr. Ellinghaus told the gathering of 200 business executives.

The new network in 1975 "will use long haul digital carrier systems operating over both microand will provide a variety of data speeds, including something in every speed range that equipment manufacturers say they will need over the next decade," AT&T's president said.

### Picturephone use expanded

Another service AT&T is expanding is the picturephone. This utilizes a high-speed digital transmission system that can carry data as well as face-to-face communications. By 1973 AT&T expects to have an eight-city network in operation, Mr. Ellinghaus said.

"With communications technology so widely available and the market for communications so extensive, it is not surprising that the communications field should become increasingly competitive," President Ellinghaus said. grand old monopoly I work for is in fact a highly competitive outfit and I don't think anybody need worry about our ability to take care of ourselves in fast company."

The Data Transmission Company will be one AT&T competitor. Earlier this year it announced its plans to form Datran, a 35-city data transmission network. (See M/S, May-June '70, p. 12.)

# **RCA Shows More Powerful Computers** To Combat IBM

RCA is trying to get the number two position in the computer market with a new line of computers and a new business policy aimed specifically at present users of IBM 360/30, 40, and 50 models, which represent more than half of the existing IBM third-generation installations.

The new RCA computers, RCA 2, 3, 6, and 7 offer better performance at the same cost as present third-generation systems, claims. The RCA 3 and the RCA 7 both feature "virtual memory" sys-

ments to Managament Services in Magazine of Planning System conditions, Volter 1970 hills bearing almost unlimited memory capability without increasing main memory size, the company says.

> RCA explains that "with virtual memory, program data are segmented in blocks-called 'pages'which are stored in the backing store,' a high-speed drum system. Through the utilization of a paging technique, pages are rapidly swapped between main memory and backing store until the diffferent jobs are completed. Each time any space is available in the main memory a waiting page goes in immediately, hurrying up round robin of jobs."

> The RCA 2 provides three times the processing power of the IBM 360/30 at the same price. Twice the processing power of the IBM 360/50 is provided by the new RCA 6 for the same price, RCA maintains.

> RCA has designed standardized memory modules that are identical in design and manufacturing, resulting in a lower manufacturing cost and a lower systems cost to the consumer, an RCA spokesman explained. These allow the memory to be tailored to user requirements, and they save time when memory expansion is desired. The memory modules are interchange-

### Conversion dates guaranteed

Perhaps even more interesting than the new computer models is the new business policy. RCA's guaranteed conversion program promises current users of IBM 360/30, 40, and 50 computer systems, which are running under the 360 Disc Operating System, successful conversion of their existing system programs on the basis of mutually agreed upon time and performance specifications. If RCA does not substantially complete the conversion as specified it will pay liquidated damages for each day's delay, up to a maximum of 90 days.

The company plans to offer the guaranteed conversion program to users of other equipment at a later date.

# GE Announces Vast Expansion of Time Sharing Network

The General Electric Company, which announced that its computer manufacturing facilities had been combined with those of Honeywell earlier this year (see p. 12, M/S, July-Aug., 1970), returned to an allied field with a vengeance late in September with its announcement of a time sharing information network that will link 150 cities in the U.S., Canada, and Europe.

The company, which claims to be first in the time sharing field now, will restrict its activities mainly to North America for the next year. However, it hopes to extend the domestic network to Europe in the following year or so via COMSAT satellite. This has already been done successfully with clients in London.

### East, West Coast centers

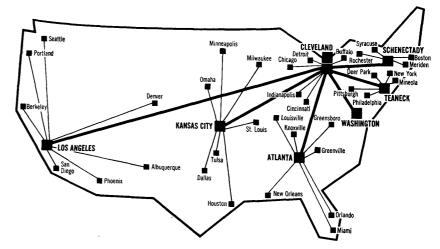
The network, which provides local telephone access to a GE "supercenter" in Cleveland, Ohio, for 42 American metropolitan areas, will be expanded by early 1971 to similar supercenters in Los Angeles and Teaneck, N.J. GE also expects, when the supercenters in the West and East are completed, to provide local telephone rate service to all points in the United States.

Each of the projected supercenters, like the one existing in Cleveland, will be built around a three-stage system: a large-scale GE-235 computer with massive file storage capacities and a GE-235 tied in with a GE-PAC 4020 process computer which controls all data feeding in from small remote computers stationed in nearby cities.

The remote computers in turn make it possible to provide local telephone service to and from the whole GE complex.

According to the company, the size of the equipment that will make up the entire complex when

### : People, Events, Techniques energi Electric NeTWork Service



The GE time sharing network as it will be at completion

it is completed in 1971 make it possible for users either to use it on line for the traditional type of "what if," one-shot questions for which time sharing has so often been used (see M/S, July-Aug. '69, p. 39) and also for tying in to company computers for mass data processing.

Arthur E. Peltosalo, general manager of GE's Information Services Division, said that the new system should be invaluable to companies with broad geographic distribution that are required to pull data together from many lo-

cations, process it, and in turn send data to many locations.

"As a result," he went on, "we now expect to see our service becoming an increasingly significant part of our customers' internal management information system, although remaining a supplementary activity."

The GE systems envisaged for the seventies, Peltosalo said, bear about the same relationship to time sharing services of the past that a brand new supermarket does to the traditional "Ma and Pa" corner grocery.

### Woman Executive Says External Data Banks Can Bridge Gap Between Inefficiency and Creativity

The needed bridge between inefficient computer usage and creative applications will be provided by external data banks, Penny Kaniclides told a September meeting of the Administrative Management Society.

Miss Kaniclides is president of Telstat Systems Inc., New York, a computer information company providing financial data. She compared her company and those offering similar services to publishers whose readership is computers.

"As compatibility and transmission problems are ironed out, such commercial data banks will free America's data processing installa-

tions from the low-level chore of accumulating information in favor of more effective use of that information," Miss Kanielides said.

"The real computer revolution the one that has been almost totally unpublicized in the mass media lies not so much in the ultra-rapid speeding up of manual data collection as in the new use processes for that information which heretofore have been unthinkable," she said.

Penny Kaniclides was Standard & Poors Corp.'s first woman vice president and was in charge of the creation and direction of its computer division before founding Telstat.