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Cover illustration by Donna Overberg
Editor's Notes

Wavering lines and indefinite edges

We have just invested a lifetime, or the better part of it, in making obeisance to the exactitudes of accounting only to find that somehow the icons have been vandalized. What looked authentic, the very image of reality, is twisted out of recognition. Reality itself has become suspect and blurred at the edges.

There was a time when we thought we knew an asset when we saw one, or saw its abstraction, on a statement of financial position. Liabilities were similarly identifiable albeit sometimes menacing. Assets and liabilities were, respectively, stores of probable future benefits, or probable sacrifices of future benefits. They still are, only it is a puzzlement just how much, or when, the probabilities will assert themselves. And if you can't be sure how much, or when, it is hard to keep the balance sheet from resembling a politician's speech.

FASB Chairman Donald Kirk has observed that "The asset and liability definitions have generated recognition questions... with more immediate impact than the question of whether more current price changes should be recognized."

Citing the shibboleths of matching, and allocation, accountants often have deferred asset costs although future benefits may be questionable or, at best, indefinite. On the other hand, some liabilities that most of us deem crucially real, such as obligations for vested pensions and sick-pay, do not appear on the financial statements. Income tax accounting as prescribed by APB Opinion No. 11 gave rise to a whole array of prepaid and deferrals that have mushroomed into an opaque swirl of doubt for all concerned. At the moment the FASB is trying to clarify the cloud.

Life's two certainties, death and taxes, have both been interpreted, and manipulated, and reinterpreted almost, but not quite, out of recognition. Life's very existence in utero has become a point of debate, as has the right to die. Patients are surgically provided with new parts for aging bodies; the morbund are fed intravenously and aerated mechanically. Death used to be so much more recognizable. Acceptance of its reality was addressed by religion and philosophy; now our spirits must wrestle with questions about the quality of life in a prolonged infirmity, and we shudder at that greater obscenity than death itself— the not dying.

Less macabre but just slightly less uneasy is our accommodation to instant information from everywhere, high speed computation, tentative experiments with genetic permutation and deep celestial exploration. Children have always been strangers to their parents, usually speaking in a dialect intelligible only to their peers, but now we must admit that computer skills acquired before the age of puberty will widen the generation gap. The home computer invests our youngsters with an indisputable aura of precocity and evolvement that is beyond the reach of all but the most nimble parental minds.

We have grown accustomed to technological change in the office. Robots are replicating human skills in factories. Some careers have been dislocated, even for accountants, but we reassure ourselves that machines can never replace human intelligence. Meanwhile Susan Chace, in the Wall Street Journal, reports that "Japan has committed itself to delivering an intelligent computer by 1990 that will do something that hasn't been done; converse easily with humans in nontechnical language."

We concede that even as our nineteenth century ancestors had to adjust from their manual skills and cottage industries when the Industrial Age evolved, so must we integrate our industrial and business skills with what is popularly known as the Information Age. Flexibility is essential; or so we are counseled by such analysts of the emerging trend as Alvin Toffler (Future Shock and The Third Wave) and John Naisbitt (Megatrends). It is just that it is hard to let go of the moorings to our ordered thought, such as assets and liabilities.

Now that tax season is over perhaps we can find time to catch up on our current reading and learn something about experiments that splice coding information into a strand of living DNA, enabling a microbe to know something or do something that its ancestors did not. Of course the home computer is working a similar effect on our own species. However, the altered microbe will produce generations of new microbes that will be forever encoded with a new life form, without choice, while our own descendants will presumably have some other options available. Genetic engineering is a fact of our time, as much a part of "playing God" as abortion and artificial heart implants and it forces the same soul searching for containment.

If, some rainy Saturday, life on the planet still seems boring in spite of all the Megatrends then one can look into space with highly innovative probes like the Harvard radio telescope which scans the cosmos and videotapes results of its computerized search for E.T., or his counterparts. Actually, it is not E.T. that lures astronomers, but some radio signal of an orderly nature that would indicate an intelligent source. So exotic a find is about as likely as the emergence of artificial intelligence, true creative intelligence, in a computer. Still, it is exciting to look for it and humankind's lust for looking is probably programmed indelibly in our own DNA complexities.

As the scenario shifts around us, blurring our professional concepts of assets and liabilities as well as shifting the definition of many of life's supposed verities, we do remain sure of ultimate death and taxes, and that is so in spite of the most sophisticated deferrals. We are less certain of almost everything else.

[Signature]

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New Workplace Techniques

Can They Benefit Your Firm?

By Carole B. Cheatham

There is a quiet revolution going on in the work environment of the office. In places where people used to come in at 9:00 and go home at 5:00, new things are happening. Although many still work on a standard schedule, some are now working an eight-hour day starting and finishing at hours more convenient for them. A golfing enthusiast may start at 7:00 and leave at 3:00, in time to be on the golf course at 4:00. The office night owl may come in at 11:00 and go home at 7:00. Still other employees may not work eight hours at all. The desk occupied by Jim in the morning may be used by Susan in the afternoon in a job sharing system. Others may work in permanent part time positions.

In the new office environment some employees may, in fact, not be there at all. Some may be working at home from computer terminals and some may be away on sabbaticals and cumulative earned leave programs. The purpose of this article is to explore some of the new workplace techniques along with the technology that makes them possible. The benefits and hazards to employers seeking to implement these techniques will also be examined.

New Workplace Techniques

There are a host of new workplace techniques. Some are new in the true sense and some are just new in a professional setting. The following list gives some idea of fresh alternatives although it is by no means exhaustive.

Flexible Scheduling. Flexible scheduling or flexitime means that an employee can choose his or her own starting and quitting time as long as eight hours are worked. Lunch hours are also flexible to allow for no lunch at all or a long break period to allow for exercise or shopping or other personal activities. Newer versions of flexitime are even more flexible. They allow employees to work a flexible schedule as long as a certain number of hours are worked in a week, a month or even a year. The latter arrangements are particularly attractive to employees who want to accumulate blocks of time for child care in the summer or for vacations or personal projects.

Job Sharing. Job sharing means that two people share a full time job, working out the hours between them so that an eight-hour day is covered. More innovative approaches allow for four people to split three jobs or other ratios that apply in a particular situation. The latter arrangement is probably more properly called work sharing. In some cases work sharing has arisen as an alternative to cutting back the work force. A small refinery, faced with cutting back the number of employees, gave all employees the choice of working six-hour days rather than dismissing some. The employees elected the six-hour day and continued the practice even after the crisis passed.

Permanent Part-Time. Permanent part-time positions are obviously not a new idea, but they are new in career track positions. The idea of not getting sidetracked from their careers is particularly appealing to mothers with younger children, but students and single parents and others appreciate the permanent part-time arrangement. Maintenance of fringe benefits is another important aspect of this type of position.

Task System. The task system is an arrangement that works well when certain well-defined tasks have to be performed. This system allows people to perform their task, usually a group endeavor, and go home when it is complete. Although the task system is probably more adaptable to a production situation, it can be used in offices in which the work is well-defined and self-limiting.

Home Office. The home office has been used by professionals for years. In most cases the home office was thought of as supplemental to, rather than substituting for, an office at the regular place of business. The exciting activity in this area today is in the new technology. Communication links allow workers to use computer terminals and word processors many miles away from the office rather than just down the hall.

Sabbaticals. There is a great deal of new thinking in the area of retirement today. People are becoming increasingly aware of the fact that after age 65 may not be the best time to have free time. As pointed out by Edith L.

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The paperless office is not that far distant in the future.

Stunkel of the Kansas State University Center for Aging, "Time...is a resource, and the distribution of free time may be even less equitable than the distribution of income in a person's lifetime. Free time is most heavily concentrated in the retirement years, but for most people it would have far greater value if it were distributed throughout life."1

Several innovative approaches to retirement, or allocation of free time, have been proposed. One proposal is for sabbaticals. Sabbaticals have long been used in the academic world as a means of self-renewal. The traditional sabbatical is allowed every seven years and is usually used for professional updating, research, or other self improvement.

Cumulative Earned Leave. Cumulative earned leave is a flexible plan which allows the employee to earn time off from work in addition to vacation time. Covering all employees on Social Security, cumulative earned leave would be transferable from job to job and would allow retention of seniority and fringe benefits during periods of leave. As proposed by L. L. Suhm in 1969 the plan would be funded equally by employers, employees and the federal government.

Phased Retirement. A somewhat less radical approach to retirement is phased retirement. In phased retirement the employee works fewer hours per week as retirement approaches. For example, a worker between 60 and 65 works 32 hours a week, between 65 and 67 he or she works 24 hours a week and between 67 to 70 the transition is made to 16 hours a week. Such a plan prevents the abrupt change from working life to complete retirement and allows the employee to develop outside interests gradually.

New Office Technology

The new office technology may even be more exciting than the new work environment. Technological innovations in office equipment will make possible the new environment. The new technology makes the environment possible in two ways: 1) the communications revolution allows office workers to work wherever they are rather than forcing them to be in an office building, and 2) new techniques allow workers to be more productive, giving them more free time to be allocated in innovative ways.

Anyone who has ever been buried in computer printouts or a backlog of correspondence will appreciate the "paperless office." In the paperless office the desk becomes a workstation complete with a personal computer terminal and word processing equipment. Letters, memos, accounting records, source documents, research data can all be stored internally in the computer. Likewise they can be retrieved for reference or updating and can be sent or referred to other work stations. With the new communications links, other work stations may be down the hall, at an employee's home in the suburbs, or across the country.

The paperless office is not that far distant in the future. Richard Matteis of Citibank's Wall Street office has discussed how new techniques have speeded up the issuance of letters of credit. He points out that, using a variety of computer-controlled equipment and storage, it takes one person less than a day to receive a request and issue a letter of credit. Formerly it took more than thirty processing steps, involved fourteen people and generated a large amount of paper including a variety of forms, tickets, and file folders.2

Perhaps even more radical than the paperless office will be the electronic briefcase. The electronic briefcase will open to display a video screen with a touch sensitive electronic keyboard in the briefcase lid. The necessary hardware, including the electronics, memory chips and batteries will be in the other side of the case. A place will be provided for sensitized paper to make hard copies from the screen. Although it may call up visions of Max-well Smart talking into his shoe, a phone unit will be available to communicate with a data network or for dictation. There will even be space for the executive's lunch if he or she chooses to brown bag.3

Busy executives will also be thankful for intelligent telephones. Not only will these phones be able to serve as links with computers, but they will serve the executive in a variety of ways—screening calls so that only a specified number can come through, putting out a "do not disturb" signal and making collect, third party and credit card calls unassisted. Teleconferencing will be popular in the future, including not only audio conferencing, but also computer conferencing in which conference participants can see each other on video screens. Videotapes of these conferences can be retained for later reference. Mobile communications over long distances will be possible through satellite networks, allowing executives to keep in touch with their offices wherever they are.4

Offices of the future, if they continue to exist, may also contain a variety of robots. Webster's dictionary defines a robot as, "an automatic apparatus or device that performs functions ordinarily ascribed to human beings or operates with what appears to be almost human intelligence."5 Certainly in this sense there are robots at work in offices even today. One word processing system can check the spelling of some 50,000 English words, for example. If robots are used in the office of the future, it is doubtful they will look much like R-2, D-2 or other science fiction models. Robots in automotive factories are not humanoid in appearance but they can perform the welding necessary for body assembly. At Nissan's Zama factory in Japan 96% of the welding is done by robots. Japan, incidentally, produces 45 cars per human worker per year while the United States produces 25 cars per worker. Japan is not the only country to use robots in auto assembly, although it is the most highly automated. General Motors, for example, increased production 20% at its plant in Lordstown, Ohio, when it started using robot welders.5

Robots can be used in a variety of production tasks. General Electric uses them to spray the coating on
refrigerators and expects to have as many as 1,000 robots performing a variety of tasks by 1990. If robots can be used in delicate production tasks, then it seems likely that some office functions can likewise be done by robots. *Robotics in Practice* tells of one robot worker in an automotive plant which the human workers referred to as "Clyde the Claw." One day "Clyde the Claw" suffered the robot equivalent of a nervous breakdown. By the time repairmen came to the robot's aid, Clyde was heaped with flowers and get well cards. Perhaps in the not-too-distant future a group of office workers will have a welcoming party for "Willie the Word Processor" or a retirement party for "Clara the Copier."

**Hazards and Benefits of the New Workplace Techniques**

The new workplace techniques are frequently extolled from the standpoint of the employee with little attention to the advantages and disadvantages to the firm employing them. Questions that occur to employers are concerns such as "Will productivity increase enough to justify the increased costs?", "Will any workers have to be dismissed?", "Can I evaluate the performance of a worker I seldom see?", "With a host of communications links to my data bases, can I be assured of adequate security controls?", "How do I motivate workers and will some try to beat the system?". These are legitimate concerns and questions that employers must ask before implementing any radical new office systems.

**Productivity.** Productivity of the office has lagged behind that of the factory dramatically. During the 1970s office productivity increased only 4% while factory productivity rose 85%. By the same token, only $5 to $10 per white collar worker was invested in capital equipment for the office while $100 per blue collar worker was spent for capital equipment in the factory. The moral is that the office is ripe for productivity increases, but more money must be spent to gain these increases. Obviously, there is no simple answer to whether or not a particular project is worth the cost. A careful analysis through use of capital budgeting techniques or cost/benefit ratios is required. The fascination with some of the new tools is so great that some executives may be motivated to purchase unnecessary equipment just to be the first to have it, to keep up with competitors, or because it is fun to use.

**Displacement.** Worker displacement in the face of automation is a problem that is as old as the Industrial Revolution. There is no doubt that increases in office productivity will bring about some worker displacement in the short run. However, in the long run productivity increases should bring about new jobs and shorter hours for those who continue to work. The productivity increases will make possible the new systems of phased retirement, sabbaticals, cumulative earned leave, and other innovative approaches to work scheduling.

Temporarily the adjustment may be painful as old jobs are adjusted or eliminated. Lest anyone should think that the adjustment will merely affect clerical workers it might be noted that, according to a study done for the British government, the jobs most likely to be affected by the microelectronics revolution are accountants, financial analysts, and administrators along with secretaries, billing clerks, keypunchers, filing clerks, and twenty other occupations. In *The Micro Millennium* Christopher Evans points out that, by the late 1980s, books can be available in microchip form and encyclopedias can do their own research and act as study partners. He predicts this will lead to the erosion of such professions as doctors, lawyers, teachers and accountants.

**Performance evaluation.** Theoretically performance evaluation should be based solely on performance, and it should not matter whether the supervisor has face-to-face contact with the employee at all. Thus, it should not matter that a particular employee is only in the office a few hours a week or that he or she is not there at all. Most managers have a little difficulty in accepting the total elimination of subjectivity in the performance evaluation process. Although objective measures may suffice for consideration for merit raises or bonuses, it is difficult to assess whether or not an individual has the maturity to move on to a more responsible position by just evaluating his or her work. An individual may handle programming well but be at a total loss if put in an administrative position.

Accountants and administrators can be displaced in the microelectronics revolution.

The other side of this coin is that employees who have little contact with the office may find this a significant career barrier, in the same way that someone in the home office may be promoted before an equally qualified individual in a distant branch just because the boss knows him.

**Security.** Security is a concern no matter where employees work; but the more communications links there are, the more security of data becomes a problem. Control of input devices has always been one means of internal control with computers and this control is decreased when terminals are at remote locations. Besides security of data, security of the equipment itself is a concern. Not only may thieves break in and steal the video terminal, but the toddler may dump an ice cream cone into the word processor.

Privacy is a somewhat related concern. Legal restrictions on privacy require controls on a great deal of personnel and customer data. As with security, the problems multiply with the number of communication links. William Renfro tells of one office system that allowed executives to call on the phone and dictate memos. In this way it was possible to get a memo done in a few hours. However, the system was not used because nobody trusted its privacy. This type of situation may occur when workers are at dispersed locations.

Not having face-to-face contact with employees makes it difficult to maintain security and privacy controls. Employers are still prone to trust people they know more than people they never see or see infrequently. This trust is important to a good working relationship. If the informal control of

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Motivation. One motivating factor to perform in an office is the supervisor's eye. If employees are to work at remote locations such as at home, or in a hotel room, other motivation must be present. Anyone who has worked at home can vouch for the difficulty of maintaining concentration while other family members go about their business. Even when alone it is hard to ignore other tasks and distractions.

An office has a sense of community and, to varying degrees, a sense of working toward common goals. These are also motivating factors that are lost to a person working at a remote location. When a good day's work is finished at an office somebody is usually there to recognize it. For the employee at a remote location there can only be self-recognition.

Motivation is also a problem for workers who take off several days in a row through one of the flexible work scheduling or cumulative earned leave systems. The phenomenon of the Monday morning slump can be even worse after several days absence. The "head of steam" gained through an extended period of several consecutive days of work may be more difficult to maintain with some of the new plans.

The motivation problem is not likely to be solved by any kind of incentive plan although bonuses, merit raises, and variations of piece rate systems may help some. The problem with incentive plans is that they represent "pie in the sky by and by" and what the home worker or the employee who is facing Monday morning blues needs is a way to get motivated until lunch.

The key to the motivation problem lies in the selection of the employee in the first place. Some people are self-starters and can maintain a strict self discipline. Others need a more structured atmosphere to do their best work. The increased freedom of the new plans will be motivating to some individuals, but it will be a disincentive for others.

Carole B. Cheatham, CPA, Ph.D., is professor of accountancy at Mississippi State University. She is a former associate editor of The Woman CPA, is the author of a book entitled Cost Management For Profit Centers, and has published in various accounting journals.

Implications of the New Workplace Techniques

The new workplace techniques will soon be a fact of life. Some will, of course, be more popular than others. The firm that wishes to compete for quality people will need to consider the work environment because the firm offering flextime or the task system or some other innovative scheduling will have a distinct advantage. Now is the time to become aware of the new systems with a view toward implementing them when it becomes advantageous to do so.

FOOTNOTES

5Norman, op. cit., pp. 33-34.
6Ibid.
8Kornbluh, op. cit., p. 37.
9Norman, op. cit., p. 40.
An Organized Approach For Tax Shelter Selection

Analysis of Internal Rate of Return

By Manson P. Dillaway, Cherie J. O’Neil, and Donald V. Saftner

Tax advisors are frequently faced with a dilemma. A client with earnings subject to taxation at high tax rates seeks advice on which among a diverse group of tax shelters will suit his particular needs. This individual has probably been given informal advice by business associates, social acquaintances, stock brokers, and others. Overburdened by misinformation, exaggeration, and doubt, the client expects help in making this decision. Often the request for help will be in the form of asking the tax advisor to pick the best tax shelter from a large group, represented by a stack of prospectuses.

Making comparisons among alternate tax shelters would not be nearly as difficult if they were all designed to do the same thing in the same way; but the objectives and means of attainment in popular tax shelters leave abundant room for variety. In addition to the diversity of tax shelter forms, there is, of course, an equally important factor, assessing relative risk, which will not be addressed here. It requires experience and judgment. The tax advisor should be cautious in allowing his recommendations to include an evaluation of risk without explicit evidence or reliable information to back up the evaluation.

Tax Shelter Objectives

Generally, three objectives are met by tax shelters. One objective is to facilitate the taxpayer’s deferral of income into future tax years. While many tax shelters are able to perform this function, a typical shelter that accomplishes this objective is an oil and gas drilling limited partnership. The limited partner’s initial investment may be written off almost immediately as an expense and deducted currently. If successful, the venture will produce revenues from producing wells, with the income from these recognized over several future tax years.

A second objective of tax shelters is to permit the taxpayer to convert ordinary income into income taxed at long-term capital gain rates. Real estate limited partnerships accomplish this result and with the new depreciation rules available under the Economic Recovery Tax Act of 1981, they should be able to meet this objective even better. A limited partner provides the injection of fresh capital for the purchase or construction of depreciable realty. Income of the partner may be offset by taxes, interest, management fees, and, most important of all, depreciation. The largest element of profit in the venture does not accrue until the property is sold; and, if depreciation has been entirely straight-line, the gain on the property will be taxed at long-term rates.

The third objective of tax shelters is to enable the taxpayer to use borrowed funds to finance expenses giving rise to deductions which exceed the taxpayer’s cash investment. Equipment leases are frequently employed to this end. A taxpayer with a strong credit standing purchases equipment needed by another organization for a limited cash outlay and the assumption of the equipment loan. Accelerated depreciation and other expenses of the venture more than offset the income and usually provide deductions at an early date that far exceed the taxpayer’s cash investment.

Tax Shelter Evaluation

Unfortunately, a frequently ignored aspect of tax shelters is the ability of the venture to stand on its own merits, economically. At least, this is the impression that one gets when reviewing promotional materials for tax shelters which, typically, stress the deferral, conversion, or leverage aspects of the plan. All of these features, as well as the economic merits of the tax shelter, can be incorporated into one pattern of analysis—the internal rate of return (IRR) of the investment. By computing and combining the present values of cash outlays, tax savings from deductible expenses, cost of additional taxable income and tax preference items, and cash distributions, diverse tax shelters may be compared with each other by this common measure.

In order to compute the IRR of a proposed investment, the tax advisor will be required to make estimates of the cash outflows and inflows and also of the gross income and deductions that the venture will generate for the investor, in terms of both timing and amount. Normally a prospectus will include results of previous limited partnerships engaging in similar ventures. This should provide the tax advisor with a starting point for arriving at estimates; however, it should not be considered sufficient by itself. For example, consideration must be given to changes in the tax law, general economic conditions, and specific industry trends. The advice of others should be sought with regard to the track record of the general partner in similar ventures in the past, the legal implications of the partnership agreement proposed, and any other potentially
A frequently ignored aspect of tax shelters is the ability of the venture to stand on its own merits economically.

troublesome aspect of the scheme. If expert advice is available, it should be obtained.

When the available sources of information have been tapped, the tax advisor is in a position to make his best estimate of the expected taxable income or deductible loss, tax preference item amounts, and cash distributions for a given amount of cash contribution in terms of both year and amount. The present value of the contributions and distributions may be computed and these in turn combined with the present value of the tax savings or tax expenses attributable to the noncash items having tax effects (See Exhibit No. 1).

**Exhibit No. 1**

\[
PV = \frac{n}{t=1} \frac{CF_t + TS_t - TE_t}{(1 + i)^t}
\]

where

- \( PV \) = present value of tax shelter
- \( n \) = number of years
- \( CF_t \) = cash flow in period \( t \)
- \( TS_t \) = tax savings in period \( t \) (cash flow equivalent)
- \( TE_t \) = tax expense in period \( t \) (cash flow equivalent)
- \( i \) = discount rate

The discount rate is then adjusted until the present value is zero. At this point the discount rate is equal to the internal rate of return. Three examples will follow to illustrate this technique with typical tax shelters.

**Using Internal Rate of Return (IRR) to Evaluate Real Estate Tax Shelter**

A pattern of cash flows for a real estate tax shelter was constructed by referring to actual prospectuses and averaging the results of many shelters. No attempt was made to insure that the resulting pattern is a replication of a particular real estate shelter. The only claim is that investors might obtain similar results if they invest in a real estate shelter. The model called for initial cash investments of either $1,000 or $100,000. Since most tax shelters require initial investments of amounts somewhere between these two figures, it was decided to compute the IRR on $1,000 and $100,000 investments for all levels of taxable income for purposes of ease in comparison between the results. For a $1,000 investment, the taxable income and deductible loss allocable to the investor (presumably a limited partner) was estimated to be ordinary losses for years 1 through 7 of $226, $295, $265, $199, $130, $59, and $47 and ordinary income in year 8 of $140. A long-term capital gain of $3,269 was passed to the investor in year 8; providing a tax preference item of $1,961 (60%). Cash distributions were assumed to be made at the end of each year and amount to $10, $39, $47, $53, $41, $69, $91, $102, $2,508, and $25 for years 1 through 10, respectively. The large distribution in year nine includes $2,397 of funds from the sale of real properties. Amounts were increased one hundred times for the $100,000 investment. As can be noted in this example, the primary advantage in a real estate shelter is to convert income into a form that is taxed at long-term capital gain rates. An additional advantage is to provide deductible losses during the years in which the property is being managed that more than offset the cash distributions to the investor.

Figure No. 1 shows the internal rate of return for taxpayers with incomes from $0 to $250,000. The IRR increases as the investor (married, filing a joint return in 1982) has increasing levels of taxable income providing for higher marginal tax brackets. For the example used, the IRR goes from about 14.1 to 16.9% for a $1,000 investment and 10.9% to 16.9% for a $100,000 investment.

Real estate tax shelters may generate two types of tax preference items; accelerated depreciation in excess of straight-line and long-term capital gain deductions. The former might cause an additional payment under the regular minimum tax and the latter under the alternative minimum tax. In the example used, the only tax preference was a long-term capital gain deduction ($1,961 per thousand invested to be deducted in year 8). Since the alternative minimum tax has a $20,000 base, it would not apply in this particular example. If the investor has other preference items, the minimum tax may apply. The tax advisor must maintain a record of projected tax preferences for each client and, where additional minimum taxes are generated by any tax shelter, include these amounts as cash outlays in the computation of the IRR for the tax shelter.

**Oil and Gas Tax Shelter**

A schedule of cash flows for an oil and gas tax shelter was constructed in the same fashion as was done for the real estate tax shelter. A number of prospectuses were reviewed and a schedule was constructed to reflect the average results reported in the prospectuses, based on $1,000 initial and $100,000 of investment. For a $1,000 investment, deductible losses of $800 and $350 were estimated for years 1 and 2; ordinary income of $140 per year, for years 3 through 10. Cash contributions of $1,000 and $150 were required in years 1 and 2. Annual cash distributions of $84 were made in each of years 3 through 10. For each of last eight years the $1,000 investment was assumed to produce gross income for the investor of $215, which was reduced by percentage depletion of 15% (which is the percentage depletion for 1984 and later years) and operating expense of 20%, yielding a taxable income of $140. Since the taxable income (which increases the investor’s basis) was always larger than the sum of the cash distribution and the depletion deduction ($84 + $32 = $116, which is less than $140), there is always a positive basis in the investment; hence, the investment is not depleted below cost which would create a tax preference amount. These amounts were multiplied by one hundred to achieve the effective cash flows for a $100,000 initial investment.
Figure No. 2 shows the IRR which is a negative 8% for the zero bracket and ranges to a negative 18.5% for the highest income investor for a $1,000 investment.

The lowest IRR for a $1,000 investment is for taxable income of $60,000 where it bottoms out at a negative 19.3%. For an investment of $100,000, the IRR ranges from a negative 10.9% for the zero bracket to a negative 18.5% for the highest income taxpayer. The lowest IRR is a negative 22.9% for taxable income of $60,000. The reason $60,000 is the taxable income level which results in the lowest IRR is that it represents the point where the income tax cost of the taxable earnings in years 3 through 10 is largest in relation to the tax savings of the losses in years 1 and 2. As taxable income increases beyond $60,000, the additional penalty of the taxable income generated by the shelter in years 3 through 10 is more than offset by the early year savings from writing off the drilling costs. The $100,000 investment computations were made without including the effects of a possible net operating loss carryover for those situations where the early deductions ($80,000 and $35,000 in years 1 and 2) exceed the taxable income. In these cases, the negative IRR would approach that for the $1,000 investment.

Equipment Leasing Tax Shelter

An equipment leasing tax shelter was constructed based upon the following hypothetical situation. Part-
FIGURE NO. 2
OIL AND GAS TAX SHELTER

FIGURE NO. 3
EQUIPMENT LEASING TAX SHELTER
ner A (the investor) contributed cash of $2,000 and his signature on a $20,000 18% equipment loan to purchase an asset costing $20,000 to be leased to a third party. Partner B (the managing partner) contributed services to the venture with an agreed fair value of $2,200. The leased asset is to be depreciated over five years (from 1-1-82 to 12-31-86) under ACRS. Investment tax credit of $1,800 is passed through to Partner A (90%) and $200 to Partner B (10%) in the first year. The lease lasts for five years, and, in each year, there are other expenses (insurance, maintenance, etc.) amounting to $2,000 per year. The entire management fee is charged to expense in the first year ($2,200). Capital cost recovery is $3,000, $4,400, $4,200, $4,200, and $4,200 for the five years, respectively. Rental income is $720 per month which results in annual gross rents of $8,640. Loan payments of $6,160 are made at the end of each year. Partner A receives cash payments of $792 per year, which represent 90% of the annual rental income net of loan and expense payments. After deducting depreciation, the management fee, interest expense, and other expenses from each $8,640 annual rental payment, the taxable income or (loss) available to Partner A is ($1,944), ($576), $252, $900, and $1,548, respectively. Note that as the interest expense on the unpaid balance declines, the venture becomes profitable. Cumulative net income for the venture was set at $200, since there is a requirement for equipment leasing tax shelters to have a positive cash flow if they are to meet IRS scrutiny.

Figure No. 3 shows that for a $1,000 investment the IRR ranges from 70.2% to 106.6% for taxpayers from the lowest to the highest brackets for marginal income. A $100,000 investment yields from 66.0% to 106.6%. As in the previous examples, it is assumed that the taxpayer is married and filing a joint return. The 1982 tax rate schedule applies.

Summary

Comparing the possible benefits to be derived from different types of tax shelters is possible by using an IRR. By estimating the taxable income or loss, cash distributions, and cash contributions of each tax shelter and computing the IRRs, a common base for comparison can be determined. The tax preference item picture must be analyzed separately for each taxpayer, and the computation of the minimum tax then computed. This would then be treated as an additional tax expenditure by the prospective investor. The ultimate usefulness of these IRRs depends to a great extent on the accuracy to which the analyst can estimate future tax effects and distributions. The initial contribution to most tax shelters is known, and only in special cases will the investor be required to contribute more. Investment decisions based upon IRR computations can be more reliable than uninformed guesses. The discipline involved in putting together an analysis in terms of an IRR should tend to give the tax advisor an advantage over less scientific advisors.Δ

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Purchased Goodwill Should Not Be Reported As An Asset

An Advocacy for Equity Adjustment

By Wayne Higley and Connie Rasmussen

The problem of how to account for and report purchased goodwill is still with us. The Financial Accounting Standards Board (FASB) has provided us with the objectives of financial statements and has defined the elements of financial statements, but the best method of accounting for purchased goodwill has not been established. After a review of the accounting treatment of goodwill and a discussion of its nature, characteristics, and relationship to financial statement objectives and concepts, this paper will provide additional support for recognizing goodwill as a reduction of stockholders’ equity.

Treatment of Goodwill

Prior to APB Opinion No. 17, "Accounting for Intangible Assets," (1970) goodwill was accounted for by a variety of generally accepted methods. Presently, Opinion No. 17 requires the recognition of intangible assets acquired from other firms as assets to be systematically amortized to income over the periods estimated to be benefited but not to exceed forty years.

The Accounting Principles Board has explained the determination of goodwill as follows:

First, all identifiable assets acquired...and liabilities assumed in a business combination...should be assigned a portion of the cost of the acquired company, normally equal to their fair values at date of acquisition.

Second, the excess of the cost of the acquired company over the sum of the amounts assigned to identifiable assets acquired less liabilities assumed should be recorded as goodwill.

Goodwill may also result from normal operating activities. However, this nonpurchased goodwill is generally expensed as it is incurred. The recording of internally generated goodwill is not an accepted practice.

Nature of Goodwill

Many diverse views and opinions have been presented on the nature of goodwill. The two most prevalent views are that goodwill represents excess future earning potential and that it represents certain intangible resources.

When entering into business combinations, the primary aim is to procure additional future earnings. The excess cost over the current value of the acquired firm’s net assets represents this future earning power. If it were not for this future earning potential, no payment would be made for goodwill.

The U. S. Treasury Department, Internal Revenue Service Revenue Ruling 59-60 defines goodwill as an expectation of earnings in excess of a fair return on the capital invested in tangibles or other means of production. This view is in agreement with the future earning power concept of goodwill.

Walker states that an enterprise is purchased, not primarily as a means of securing a group of assets, but as a means of securing a stream of income in the future.

Catlett and Olson agree with the future earning power concept as being the most relevant one in today’s business environment. However, they stress the difference in the nature of goodwill versus other resources. Goodwill cannot be determined as a separate, identifiable element as can other assets. Instead it is an integral part of the whole business unit. Therefore, the determination of goodwill involves the evaluation of the business as a whole.

The second view of goodwill is that it represents many factors of the acquired firm that contribute to the excess future earning potential. Some of the factors that result in goodwill are a superior management team, effective advertising, and a top-flight training program. Smith emphasized that the reason for excess profit cannot be identified with specific causes. If such a cause could be identified, then an asset should be established and all or a part of the excess assigned to it.

In business combinations, the value of goodwill represents the sum of all the factors and elements that contributed to goodwill. The total amount of goodwill will vary according to the number and interrelatedness of the goodwill elements. If some of these intangibles can be identified and measured, they should not be part of the recorded goodwill.

Characteristics of Goodwill

Once the cost of purchased goodwill has been determined, the problem of accounting for it becomes paramount. In order to resolve the question of the best method of goodwill accounting, a clear understanding of the characteristics of goodwill is necessary. These characteristics are outlined below.

1. The value of goodwill has no reliable or predictable relationship to costs which may have been incurred in
its creation. Also, the individual intangible factors which may contribute to goodwill cannot be valued.

2. Goodwill is a value which attaches only to a business as a whole. It does not exist apart from the business and it has no specified term of existence.

3. The value of goodwill may, and does, fluctuate suddenly and widely because of innumerable factors—factors affecting earning power or investor opinion about earning power—which influence that value. Goodwill value may rise, fall, expire, and be recreated by those factors many times and in unpredictable ways during the life of a business.

4. Goodwill value is not consumed or used in the production of earnings as are the economic resources of a business. Rather, goodwill is the result of earnings or the expectation of them, and its value fluctuates as earnings and expectations of earnings vary. Changes in the value of goodwill cannot be associated with the revenue of any period nor can they be assigned to a period on a rational or logical basis.

5. Goodwill is an element of value which runs directly to the investor or owner in a business enterprise.7

Financial Statement Objectives

The accounting for goodwill must satisfy the objectives of financial reporting. The Financial Accounting Standards Board stated that financial reporting should provide information to investors and creditors and other users about an enterprise’s financial performance during a period. The primary focus is information provided by measures of earnings. Also, financial reporting should provide information about an enterprise’s economic resources, obligations, and owners’ equity.8

According to the results of Nelson and Strawser’s questionnaire on methods of accounting for goodwill, the direct write-off to stockholders’ equity was favored by a clear majority of the respondents (64.7 percent). In fact, the direct write-off method proposed by Arthur Andersen & Co. was the first choice of American Accounting Association members (60.4 percent), Certified Financial Analysts (78.7 percent), and CPAs (55.8 percent).9 The respondents to this survey on accounting for goodwill clearly favor an alternative different from the one issued by the Accounting Principles Board.

Comparison of the alternative methods of accounting for goodwill will show which one best achieves the objectives of financial reporting.

Accounting for Business Combinations

The APB has permitted two methods of recording business combinations—the pooling of interests and purchase methods. A pooling of interests is a business combination in which the holders of substantially all of the ownership interests in the constituent corporations become the owners of a single corporation which owns the assets and businesses of the constituent corporations. An ownership change in the acquired firm has not occurred and no new basis of accountability has arisen.10 Therefore, the pre-acquisition retained earnings and other capital accounts are carried forward. The assets are carried forward at their book values. The result is that no goodwill is recorded.

The purchase method, however, often results in an excess of cost which is called goodwill. The basic characteristic of the purchase method is the change in ownership of the acquired firm which requires a new basis of accountability. The acquired firm’s pre-acquisition retained earnings and other related accounts are eliminated while the net assets are carried forward at their current fair value. Goodwill is the excess of the purchase price paid over the market values of the acquired firm’s net assets.

Thus, goodwill is recorded only when using the purchase method. This recognition of goodwill as an asset is not consistent with the accounting for a pooling of interests or with the treatment of internally developed or non-purchased goodwill.

A controversy arises among theorists, practitioners, and users about the best method of accounting for goodwill. The Accounting Principles Board issued Opinion No. 17 which requires the recognition of goodwill as an asset that is systematically amortized over the asset’s beneficial life to the firm. The FASB has stated the objectives of financial reporting and defined the elements of financial statements. These pronouncements have led theorists to reassess the situation. Three ideas need to be evaluated: (1) recognition of goodwill as an asset, (2) recognition of goodwill in stockholders’ equity, and (3) amortization of goodwill.

Goodwill should not be shown with other resources that are useful for carrying out economic activities.

Is Goodwill an Asset?

Assets are probably future economic benefits obtained or controlled by a particular entity as a result of past transactions or events.11

The FASB stated that “probable” is used to acknowledge that business activities occur in an environment in which few outcomes are certain. The scope of Statement of Concepts No. 3 was to provide definitions, not criteria for recognizing assets. Therefore, “probable” was not used to describe a criterion for recognizing assets which will be provided in other phases of the Board’s conceptual framework project. During this time before the criteria for recognizing assets are available, the definition of assets is the best clue as to whether or not goodwill is an asset.

How probable are the future economic benefits from goodwill? Future normal earnings are quite probable, but future excess earnings are much less certain. In calculating goodwill, some think that the normal industry rate of return is appropriate only for tangible assets. Thus, they would capitalize excess earnings at a higher rate to reflect the higher risk inherent in goodwill.12

The excess future earnings might be compared to a contingency gain. FASB Statement No. 5 defines a contingency as an existing condition, situation, or a group of circumstances involving uncertainty as a possible gain or loss to an enterprise that will ultimately be resolved when one or more future events occur or fail to occur. Treatment of gain contingencies shall be:

a) Contingencies that might result in gains usually are not reflected in the accounts since to do so might be to recognize revenue prior to its realization.
Amortization of goodwill is internally inconsistent.

b) Adequate disclosure shall be made of contingencies that might result in gains, but care shall be exercised to avoid misleading implications as to the likelihood of realization.

The recording of goodwill as an asset might be misleading. However, it should be recorded in an account that will appear in the financial statements so that attention can be directed to the disclosure of information about it.

The FASB also stated that one of the essential characteristics of an asset is that it embodies a capacity to contribute directly or indirectly to future net cash flows. Goodwill defined as either future excess earning power or as a group of intangible resources is not utilized in production. Therefore, goodwill should not be shown with other economic resources that are useful for carrying out economic activities, such as consumption, production, and exchange.

Smith said that goodwill should be treated in the financial statements as an investment. The value of the goodwill asset would be equal to the sum of the discounted future excess earnings.13 The difficulties with this treatment include the estimation of future excess earnings, the determination of the number of years they will continue, and the selection of the interest rate to use for the discounting.

Recording goodwill as an asset requires a determination of its value. This valuation is more uncertain than other accounting estimates such as the amount of uncollectible accounts or the life of operating assets. The valuation of goodwill is similar to forecasting future earnings. Forecasts are not entered in the accounts and are usually communicated by means of financial reporting other than the financial statements. Since the valuation of goodwill falls somewhere between accounting estimates and forecasts, goodwill should be disclosed in the financial statements, but not as an asset.

Recognition of Goodwill in Stockholders' Equity

Amounts given for goodwill in business combinations represent expenditures of resources for additional earnings in the future. The payments represent reductions in stockholders' equity and should be accounted for accordingly.14 Chambers also contends that the excess is the equivalent of a distribution by the stockholders in anticipation of future earnings and represents a reduction in stockholders' equity.15

Accounting for purchased goodwill as a reduction of stockholders' equity is consistent with the treatment of nonpurchased goodwill. The expenditures which create internal goodwill reduce earnings and stockholders' equity. Purchased goodwill becomes merged with the nonpurchased goodwill and the reporting of it separately as an asset makes valuation a necessity, but arbitrary.

This method is also consistent with the accounting for the goodwill of a combiner company of a pooling of interests. In mergers accounted for as poolings of interest, no goodwill is recorded. Since assets are recorded at a lower amount, it has the effect of reducing stockholders' equity.16 Recognition of goodwill in stockholders' equity would eliminate from assets an amount that represents the value of only a portion of the goodwill of an entity.

This method of recognizing goodwill is similar to the treatment of treasury stock. One reason a company acquires treasury stock is to increase the earnings for the remaining shares outstanding. In other words, there is a reduction in stockholders' equity to obtain higher future earnings. It is interesting to note that treasury stock was considered an asset at one time. It is now considered a reduction of stockholders' equity, and goodwill should be considered the same.

Another comparison is with the treatment of unrealized losses in the noncurrent portfolio of marketable equity securities. A number of respondents to the exposure draft on accounting for marketable securities argued that a decline in market value of long-term investments should not be reflected in income. The FASB concluded that accumulated changes in the valuation allowance (unrealized losses) for the noncurrent portfolio should be reported in the equity section of the balance sheet. Purchases that result in goodwill are a type of long-term investment, and goodwill is the excess of cost over the market value of the net assets acquired. Since the unrealized losses represent the excess of cost over market value for marketable securities, goodwill is very similar and should be accounted for by the same methods.

Although goodwill should not be reported as an asset, it should not be written off immediately, either. It should be disclosed as a contra account in stockholders' equity so that users will be directed to additional disclosures in the notes. If the original evaluation of the goodwill was reasonably accurate, the reduction in equity will be offset by future excess earnings. If in future years additional goodwill is not purchased, the importance of the disclosures will diminish and would become unnecessary after a reasonable number of years.

Amortization of Goodwill

The argument for amortization of goodwill rests primarily on the concept that goodwill represents the cost of an asset with limited life and that the cost should be charged against the income expected to be realized from the asset. It is stipulated that the life of the asset can be reasonably estimated. Since it can not, the amortization is arbitrary and the resulting charge to income is likely to be erroneous and misleading.17

If goodwill is not recorded as an asset, the problem of an arbitrary charge to income is eliminated. However, it may be contended that goodwill recorded as a reduction to stockholders' equity should be amortized. The following are some of the arguments against amortization.

Goodwill is not a resource that is consumed in the production of revenue. Instead, it is a result of earnings or of the expectations of them. Amortization of goodwill has an improper circular effect in that it affects the values that earnings help to determine.18 Since goodwill is based on the expectations of investors, it is
subject to wide and sudden fluctuations. The amortization charge would be inconsistent and misleading.

The purchased goodwill becomes merged with nonpurchased goodwill. The total goodwill of an entity may be increasing because of current expenditures. If the value is increasing, amortization would be misleading. Also, since the current expenditures are not capitalized, there would be a double charge in the current period.

There is not a logical method of associating the costs of goodwill with the revenues of any specific period in the future. Amortization by arbitrary procedures is of doubtful validity.

Amortization of goodwill is not allowed by the Internal Revenue Service. The reason given is that goodwill, trade names, trade marks, and trade brands have an indefinite duration of their usefulness.

Arthur Andersen & Co. points out that the amortization of goodwill seems to be based on the "venture" concept of accounting; in other words, the original investment must be recovered first. This is contrary to the "earning power" concept; under such a concept, a charge is not made for the capital dedicated to obtain earnings. A fallacy in this argument is that a charge is made to stockholders' equity for dividends, but the point is that it is based on actual declarations and not on arbitrary calculations.

Another point by AA&Co. is that goodwill arising prior to the effective date of Opinion No. 17 continues to be accounted for according to practices accepted at that time. Thus, if such goodwill was determined to have an unlimited life, it could be carried indefinitely; alternatively, the cost could be amortized over an arbitrary number of years. Nor is a company permitted to elect to follow Opinion No. 17 on a retroactive basis and restate prior years, income for goodwill amortization which would have been taken. Consistency is lacking between the treatment of goodwill recognized before Opinion No. 17 and that recognized after the pronouncement.

It must be concluded that goodwill should not be amortized since amortization of purchased goodwill is internally inconsistent, there is no logical method of determining the amount to charge a period, and the number of periods benefited is indeterminate.

Recommendations

Goodwill should not be recorded as an asset because it is based on excess future earnings, realization of which is not highly probable. The excess future earnings are more like gain contingencies which are not reflected in the accounts but are adequately disclosed. Goodwill is not like other assets that are consumed or utilized in the production of revenues. Furthermore, there are too many valuation problems related to recording goodwill as an investment as some have suggested. The valuation of goodwill, since it is based on excess future earnings, is similar to forecasting. Therefore, goodwill should not be recorded as an asset. If goodwill is not recorded as an asset, the problem of determining how much to charge to income each period is eliminated.

Goodwill should be recorded as a reduction in stockholders' equity because the excess payment is a distribution of stockholders' equity to obtain additional earnings. This method would be consistent with the treatment of nonpurchased goodwill and with pooling of interests. Also, it would be similar to the disclosure of treasury stock that was purchased to increase earnings for the remaining shares. The purchased goodwill should not be immediately written off, but should be shown in the balance sheet to direct the reader's attention to the notes which will contain adequate disclosures about the goodwill.

The goodwill should not be amortized because it has an indeterminate life, it is not consumed or utilized, and its value may be increasing. If the forecast was accurate, the reduction in stockholders' equity will be gradually offset by the excess earnings transferred to retained earnings. Goodwill is based on expectations and intangibles and there is no rational means of associating it with specific periods.

NOTES

1APB Opinion No. 16, Paragraph 87.
2FASB Discussion Memorandum, Accounting for Business Combinations and Purchased Intangibles, p. 48.
5ibid., pp. 17-18.
7Catlett and Olson, op. cit., pp. 20-21, as quoted by Arthur Andersen & Co. in Accounting and Reporting Problems of the Accounting Profession, fifth edition, 1976, p. 176.
13Smith, op. cit., p. 21.
14Catlett and Olson, op. cit., p. 90.
16Arthur Andersen & Co., Accounting and Reporting Problems of the Accounting Profession, p. 178.
17ibid., p. 177.
18Catlett and Olson, op. cit., p. 90.
19Arthur Andersen & Co., op. cit., p. 178.

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The Woman CPA, April, 1983/15
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Communication Between Predecessor and Successor Accountants

SSARS No. 4

By Richard A. Scott

Statement on Standards for Accounting and Review Services No. 4 (SSARS 4) is an amendment to SSARS No. 2. The latter document, in discussing comparative financial statements involving predecessor accountants, suggests that successor accountants may wish to consider the guidance in SAS No. 7, “Communications Between Predecessor and Successor Auditors.” However, the objective of SAS No. 7 is to provide guidance when a change in auditors has occurred, or is in process, and the successor auditors are to perform an examination in accordance with generally accepted auditing standards. The inappropriateness of this auditing standard made it necessary to issue a pronouncement expressly for compilation and review situations, and SSARS No. 4 was the result.

There are three principal directives contained in this standard which offer successor accountants guidance on:

- communications they may wish to have with the predecessor accountants before accepting an engagement.
- additional communications they may wish to have with the predecessor accountants to facilitate the engagement.
- situations discovered during the successors' engagement that seem to call for revision of prior period statements reported on by the predecessor.

Predecessor accountants are instructed how to respond to the first two types of communications. SSARS 4 applies when there are successor and predecessor accountants of a non-public entity. The successor accountants are the ones who have been invited to propose on a compilation or review engagement or who have already accepted it. The predecessors are those who have resigned or been dismissed by the client. A minimum requirement, however, is that the predecessor accountants had compiled the client's financial statements (1) for the prior year or (2) for a period ended within 12 months of the date of the financial statements to be compiled or reviewed by the successors.

Pre-Acceptance Communications

CPA firms are required to have a system of quality controls to ensure that their accounting and auditing work meets professional standards. One element of quality control concerns acceptance (and continuation) of clients. Statement on Quality Control Standards No. 1 specifies that a firm's quality controls should minimize the likelihood of association with a client whose management lacks integrity. Successor accountants must be selective in determining their professional relationships. Consequently, they may want to question the predecessor accountants about the integrity of management (owners) before accepting the engagement. It is not required that the successors communicate with the predecessors, however. They may also want to hear the predecessors' opinion of why accountants are being changed. Is this a case of "shopping" for accountants who will sanction accounting principles that the predecessors disagreed with, or who will not insist on performing certain procedures to which the client is opposed? It may also be useful to know whether the client is cooperative when it comes to providing additional or revised information, if necessary. Answers to these questions can be most readily obtained by communicating with the predecessor accountants.

SSARS No. 4 describes other circumstances when it may be advisable to communicate with the predecessor accountants before accepting the engagement. These include communicating when:

- information from other sources is limited or seems to require special attention.
- the change in accountants occurs well after the end of the fiscal reporting period.
- there have been frequent changes in accountants.

Pre-acceptance communications by successor accountants can be made orally or in writing, and may take place even before a proposal is made.

Steps To Follow

Because Ethics Rule 301 prohibits the disclosure of any confidential information, except with the client's consent, the predecessor accountants cannot tell the successors anything about the client or their experiences with the engagement unless given permission to do so. Successor accountants must request permission of the prospective client to communicate with the predecessors, if that has been the course of action they have decided upon. They also should ask the client to authorize the predecessor accountants to reply fully to their questions. In
the event that the successors' requests are denied, they should ask for an explanation and consider the implications of the prospective client's behavior as they make their decision whether to accept the engagement.

Normally, it would be expected that permission would be granted and the successor accountants would question the predecessors. The latter are required to respond promptly, fully and factually. There may be occasions when the predecessor accountants will not respond fully, such as when a lawsuit is pending—although unpaid fees would not be considered a legitimate basis for reticence. When this occurs, the predecessors are required to indicate that their response is limited. If a limited response is encountered, the successor accountants must consider its implications in deciding whether to accept the engagement.

Facilitating Communications

If no reason to reject the engagement surfaces out of the communications described above, the successor accountants may find it beneficial to have other communications with the predecessor. These might be thought of as "second stage" communications to obtain information that will facilitate the compilation or review. They may be held either before or after accepting the engagement.

For example, the successors might question whether any phases of the job were particularly troublesome or unusually time-consuming. They might also inquire whether the client's records and books of account were deficient and whether other accounting services had to be performed (e.g., making adjustments or providing consultation).

Another tactic that can facilitate the engagement is reviewing the predecessors' working papers. However, the form and content of working papers—particularly those for a compilation—may not have progressed to the point where it is a foregone conclusion that access to them will be useful. Preliminary questioning about the nature of the predecessors' working papers will prove expedient before requesting access. Predecessor accountants will customarily stand ready to participate in these communications and to make certain of their working papers available, providing, of course, that the client has given its authorization.2

Those working papers that have continuing accounting significance, or that relate to contingencies, are the ones of interest to the successor accountant. Agreement should be reached beforehand by the accountants as to which working papers can be reviewed and copied. No mention of this review, the predecessors' work or their report is to be made in the successor accountants' report, except as permitted.3 All information exchanged by the predecessor and successor accountants whether through inquiry or working paper review, is to be held confidential.

Before the successor accountants were appointed, there may have been several firms competing for the engagement. It could be burdensome for the predecessor accountants to have second stage exchanges or to make their working papers accessible to every competing firm. Consequently, the predecessor accountants may require them to wait until one firm is awarded the engagement.

Subsequent Discoveries By Successor

During the engagement, the successor accountants may discover information, considered reliable, suggesting that the prior financial statements compiled or reviewed by the predecessor accountants may require revision. The predecessor accountants have prescribed responsibilities if the information existed at the date of their report and would have affected it accordingly. Therefore, the successor accountants should request their client to inform the predecessors of this information. Failure to do so to the satisfaction of the successors would probably warrant legal consultation.Ω

NOTES

1Paragraph 42 of SSARS 1 and SAS 1, section 561, guide the predecessor accountants in determining an appropriate course of action if "subsequent discoveries" are made by the successors.
2If there are valid business reasons, such as unpaid fees, the predecessor accountants may refuse to allow their working papers to be reviewed.
3To allow for presentation of comparative financial statements when a predecessor accountants' report on the statements of a prior period is not reissued, successors can refer to it in their report as described in SSARS 2 paragraph 17 (for a nonpublic entity) and SAS 26, paragraphs 15 and 17 (for an unaudited public entity).

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Accounting is the process of identifying, evaluating, recording, and communicating financial information about an economic entity. Accounting controls may be characterized as a system of procedures designed to facilitate the proper discharge of accounting responsibilities for the protection of company assets and the creation of a satisfactory audit trail. These control procedures should document all transactions and insure that only correct and authorized data enter the accounting records. Further, once the source data is identified and recorded, proper control procedures require that the use of that data be restricted to legitimate needs of the organization. Care must be taken that any operations performed on the data are done accurately and in a time frame that will produce usable results.

These concerns for proper collection and control of data extend beyond just the accounting records. They include all of the information and records that must be collected and organized for operational control of an organization. As organizations grow in size and complexity, the process of management has come to depend less on individual communication between people and increasingly on the formalized recording, organization, and reporting of data. The process of information flow and use encompasses the entire organization, and in dealing with the question of data collection, verification, and control, it is important to recognize that data processing and the use of computers is only one step in this process. In fact, much information flow never reaches the computer department at all but consists of communications between non-computer departments and between individuals of those departments. Further, even in those areas where the data involved does in fact move through the data processing department, it is important to keep in mind that it is usually generated outside of that department.

The Impact of EDP on Accounting

As computers have become more numerous, and have developed more data collection and communication ability, the impact of computers on management activities and the accounting process has increased significantly. Modern computers have provided an environment where it has been possible to service ever larger portions of a company's information system and to generate more detailed, accurate information for management in a shorter period of time. Today this can be done through several different approaches. In some large organizations a marriage of telecommunications and mainframe computers facilitate strongly centralized systems. For other large organizations, the advent of the mini and micro-computers have created distributed processing systems that facilitate centralization of some information elements while allowing decentralization of others.

Without question, these same developments have made computerized financial systems a reality for small companies.

The computer has facilitated the standardization and integration of total company information systems. Increasingly these information systems are expanding beyond the limits of classical financial and accounting data to encompass a broad range of operating information useful for decision-making. Many of these systems are shortening the recording and processing cycle to an environment in which transactions are recorded and processed as they occur and through which management can continuously monitor company performance and make immediate operating decisions in response to any exceptional conditions.

As data-processing operations assume great significance in the overall operation and financial activities of organizations, the exercise of firm control over the data-processing function becomes critically important. Similarly, the substantial impact of data processing on the financial records and data dictates the need for a greater involvement and expertise by the management accountant and the auditor.

The changes introduced by these computerized information systems have in turn often influenced the procedures used to collect, analyze, and report on accounting data. The extension of computer techniques to the very small-scale user and the expansion of computer applications to all facets of operations for larger organizations has put the computer into a position to exert substantial influence on the actual operation of the organizations using it. As a result, persons who have (or intend to have) responsibilities for developing or managing computerized information systems, or for auditing, evaluating, or controlling computer services, find themselves faced with two conditions:

1. A large portion of the organization's accounting and operating information flow, and at times even much of its decision making, are embodied in the computer applications. To effectively perform their responsibilities, these persons must adjust to this new technology, and, at times, force this new technology to adjust to their needs.
2. The major opportunity to achieve improved utilization of the computer is now open to them. There is a wide
and growing appreciation for the skills and objectivity of accountants and auditors which are vital components in the effective selection, design, implementation, and evaluation of computer applications.

Responsibilities of Management and Auditors

Although their perspectives may differ, the professional concerns and responsibilities of accountants and auditors require both to develop a working knowledge, and in some cases, a mastery of the functions of computerized information and control systems.

Management, especially accounting management, has the primary responsibility for instituting control procedures to ensure that all data is properly recorded, that the recording process includes proper verification procedures, that safeguards exist to prevent duplication of proper data or inclusion of extraneous data, and that proper security and classification of the data so recorded is maintained. Management is also responsible for the exercise of continuing supervision to determine that these controls are functioning as prescribed and are modified as appropriate for changes in operating conditions.

Auditing (whether performed by the external auditor or the internal auditor) is an attest function involving objective review and evaluation of an organization’s records and operations. In a financial audit the review and evaluation is primarily concerned with the fairness and authenticity of the records, measurements, and financial reports prepared by and for the management of an organization and for other users of the organization’s financial reports. An operational audit is the review and evaluation of controls from a management viewpoint, considering such factors as efficiency, economy, and effectiveness of operations. An important part of this attest process is determining the adequacy of the controls in effect and the level of compliance with them, because these controls influence the accuracy and reliability of the resulting financial and operational information.

The General Audit Standards outlined by the American Institute of Certified Public Accountants in SAS 1 (which specify adequate technical training and proficiency, an independence in mental attitude, and due professional care) and SAS 3, “The Effects of EDP on the Auditor’s Study and Evaluation of Internal Control,” require that the independent auditor have a functional knowledge of computer systems, including an understanding of when to use those systems for the audit function and how to test the systems to evaluate their adequacy.

Although the professional standards discussed in the preceding paragraph were written specifically for the independent auditor, it is important to recognize that the principles involved apply equally to the qualifications of the internal auditor and management accountant. Further, these standards have significance for the executive, manager, or supervisor whose activities impact the financial (or operational) information systems of the organization. In fact, management’s responsibilities are even broader than those of the auditor, for management has responsibility for adopting sound accounting policies to maintain an adequate and effective system of accounts, for the safeguarding of assets, and for devising a system of internal controls.

Computer-Based Accounting Applications

The computer has changed many of the techniques employed in conducting an audit and has also made significant changes in the physical nature of financial records. This in turn has important implications for the nature and timing of audit procedures, as well as the nature of effective internal control. The increase in file integration and the introduction of new techniques such as those employed in data base systems and real-time systems is quickly making it impractical to limit the effective internal controls to manual procedures for capturing and transmitting data. Increasingly, controls are being incorporated into the computer programs themselves. Consequently, both the management accountant and the auditor must be able to understand, evaluate, and even use these control techniques.

Underlying the ability to effectively use and control the computer or to perform computer auditing tasks is an understanding of the basic elements of an accounting application which is computer processed. Accountants and auditors are not designers of such systems but they must be knowledgeable about their fundamental properties in order to effectively and efficiently use and/or audit them.

Knowledge of computer technology is the underlying foundation upon which an understanding of accounting applications is built, and from which computerized accounting and audit skills develop. However, a computer science orientation is not needed. The accountant is interested in computer technology only insofar as it has direct bearing on accounting controls, accuracy of results, and the eventual auditability of the system.

EDP Knowledge Requirements

There have been several attempts to define the necessary EDP knowledge for accountants and auditors. In the development or subsequent evaluation of many accounting applications, there is a required spectrum of technical knowledge and competency that is frequently beyond the capability of any one individual. Often the development or evaluation effort requires the cooperative efforts of several professionals each contributing to the overall objective. The emphasis on one discipline or another can be shifted, depending upon the technical demands generated by the specific environment. This allows for varying levels of expertise, experience and supervisory ability, including varying levels of technical EDP knowledge, among the individuals participating in any given project.

The amount of EDP technical knowledge which an accountant or auditor must possess in a given business environment will vary directly with the technical sophistication and complexity of the EDP processing involved in the significant accounting applications. In some instances, advanced specialized EDP knowledge may be required to meet the responsibilities involved. This EDP “knowledge/expertise” may be provided by the same individual directly responsible for planning and supervising the project or it may be provided by a separate individual with specialized expertise acting in a support capacity.

In reviewing the levels of EDP competency needed in an accounting or auditing staff one can visualize a continuing spectrum of EDP capabilities represented by the different members of the staff. However, rather than attempting to focus on the EDP knowledge of specific individuals this article will explore the EDP knowledge associated with levels of responsibili-
It is important to keep in mind that in some instances one individual may perform several of these responsibility levels and thus would need the EDP competency associated with the highest responsibility assumed. In other instances, each of the responsibilities could be met by separate individuals who would each need only the EDP competence specified for that role.

In categorizing the levels of EDP competency required in an accounting staff, three levels of responsibility will be used as reference points. These three are:

1. Minimum responsibility
   Minimum responsibility represents the minimum EDP knowledge required of all members of the staff. This level is usually associated with the entry level staff member. This responsibility level requires no or very limited accounting or auditing experience and rarely involves independent judgmental or evaluative functions.

2. Responsibility for supervision of the accounting or auditing function
   Responsibility for supervision requires a level of EDP knowledge sufficient to plan and manage the accounting or auditing function. This level requires a combination of knowledge and experience to make judgment regarding the effectiveness of, and to supervise and evaluate the work of, the rest of the professional and support staff.

3. EDP technical support
   Responsibility for EDP technical support requires specialized EDP expertise which can be a resource to the rest of the accounting/auditing group. This support is critical when additional, specialized technical knowledge is needed for the planning and implementation of a computerized accounting application or the audit of these applications.

   A basic knowledge of computer technology is a critical element in an understanding of computerized accounting systems. But this knowledge must extend beyond mere exposure to how computers work. It must also include a basic understanding of the flow of data through typical computer based accounting systems. This includes an understanding of data capture and data verification techniques, file maintenance and updating, report generation, and the systems design and documentation process.

   Table 1 attempts to show, in matrix form, the relationship of the levels of EDP competence discussed above and the elements of computer-based accounting applications. Table 1 outlines the fundamental elements of computer-based accounting application systems under the following main headings:

   A. Basic Application System Steps
   B. Characteristics of Common Application Systems
   C. Application System Development Life Cycle
   D. Application System Documentation Elements

   Each of these elements are analyzed in terms of the EDP knowledge required at each of three levels of professional responsibility discussed above.

   It is important to note that the EDP technical support level may be met by a member of the data processing department (i.e., a computer professional) or by a member of the accounting staff who is basically an accountant who has developed, through extensive training and actual experience, proficiency in the actual use of computers and the development of computerized accounting systems. The functions addressed in Table 1 deal with the contributions the individual performing at the level would make to the accounting function. The responsibilities for actual programming and computer operations are not included, for these are functions of the data processing organization.

Understanding Controls in EDP Systems

In addition to understanding the basic elements of an application system (which reflect the flow of data and the processing sequence), accountants and auditors must understand the system of controls which protect the system from compromise due to error or fraud.

Table 2 shows the general and application controls in a computerized accounting system. With some experience, individuals at the “Minimum Responsibility Level” should develop the ability to recognize the existence of particular controls in a given installation environment and take into consideration the impact of such factors as organization size, equipment and software environment, and systems design. Individuals at the supervisory level should be able to determine which controls are appropriate, to assess their adequacy and impact on the effectiveness of the application, and to perform the instruction, guidance, and evaluation functions.

Implications for Accounting Education

Technical competence is the result of both education and experience. The “minimum responsibility level,” which usually characterizes the entry level staff accountants, deals with an understanding of basic concepts. While the knowledge requirements at this level are sometimes described as an ability to “understand” a task, and at other times, an ability to “perform” a task, the performance alluded to is mainly a vehicle for demonstrating understanding. It is contemplated that any actual performance at this level will be limited to specified tasks and will be subject to considerable instruction, guidance, and critical evaluation by an auditor at the supervisory level.

In a real sense today, academic or collegiate programs provide the raw material of the profession. The abilities and knowledge level that “entry level” junior accountants obtain in their collegiate programs and carry with them into their initial professional respon-
sibilities will affect not only the quality of their initial performance and the extent of supervision they require but also the degree to which continuing education programs can be devoted to advanced professional work rather than more basic material.

Individuals at the entry level, will utilize their computer auditing knowledge initially under direct supervision, followed by progressively more independence and greater levels of responsibility. It should be expected that on-the-job experience will provide practical knowledge to compliment and reenforce the understanding and knowledge gained through formal academic training. The academic programs can provide basic understanding of computerized accounting systems—experience should help develop competence in designing, controlling and/or auditing computerized financial information systems.

Thus the role of formal academic training is to provide adequate knowledge of computers and computerized accounting systems to understand those systems, to understand the controls in those systems (both general and application), and to at least be aware of the implications of those systems. Actual ability to evaluate adequacy of these systems and their controls, and to plan and manage the systems will develop as the individual acquires the additional insights and experience through actual participation in these professional assignments.

No one anticipates that students will develop functional expertise in the areas of computer technology, computerized accounting applications or controls as a result of a typical undergraduate program. However it should be possible, and it is necessary, that students be given a basic understanding of these functions upon which to begin their professional expertise. Despite an already crowded curriculum, coverage of these aspects of EDP must be incorporated into accounting programs. A simple programming course (usually featuring FORTRAN) is not adequate to provide an understanding of processing system.

Summary

Computer technology and the operations of the EDP Department can directly influence (1) the design and operation of accounting application systems, and (2) the accounting and auditing functions as performed in a computer environment. Thus, the accounting and auditing staffs should include person(s) who know enough about computer technology and procedures to perform competent evaluations of the controls needed as computerized applications are developed, to design and effect the implementation of effective computerized accounting systems, to adequately evaluate the effectiveness of the controls actually in effect, and to evaluate the effectiveness and accuracy of the accounting results produced by the computerized applications.

The purpose in focusing on the three "responsibility levels" discussed above is to identify the basic roles of education and experience in the development of professional competence, and to attempt to identify the responsibilities of collegial education in the spectrum of EDP abilities required in today's environment.

The author wishes to thank the following individuals for their thoughtful reviews, comments, and constructive suggestions: Donald A. Beanston, Robert V. Boos, Jeffrey D. Green, Eugene H. Kramer, James C. Kinard, Robert B. Nadel, P. Jarlath O'Neill-Dunne, and George Tucker.

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### Table 1

**Suggested EDP Knowledge Necessary To Review & Understand Computer Based Accounting Application Systems**

<table>
<thead>
<tr>
<th>Elements of an Application System</th>
<th>Minimum Responsibility</th>
<th>Responsibility for EDP Technical Support</th>
<th>Supervisory Responsibilities</th>
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<tbody>
<tr>
<td><strong>A. Basic Application System</strong></td>
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<tr>
<td><strong>Steps</strong></td>
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<tr>
<td>1. Job Preparation</td>
<td>Be able to understand the purpose of the processing schedule.</td>
<td>Be able to test that jobs were processed in accordance with the schedule.</td>
<td>Be able to understand and evaluate the use of the schedule as part of the control procedures.</td>
</tr>
<tr>
<td>a. Scheduling</td>
<td>Be able to identify common data control techniques and be able to test compliance, e.g. reconciliations of dollar totals or record counts.</td>
<td>Be able to design and perform compliance tests of control procedures requiring technical knowledge, e.g. checking operating system output for verification of correct use of files, programs and job control.</td>
<td>Be able to recognize and evaluate the effect on internal control of the data control procedures.</td>
</tr>
<tr>
<td>b. Data Control</td>
<td>Be able to understand the impact of the job set-up procedures on the application, job control, and operating instructions.</td>
<td>Be able to review job control operating instructions to detect incorrect job set-up.</td>
<td>Be able to recognize and evaluate the effect on internal controls of the job set-up procedures.</td>
</tr>
<tr>
<td>c. Job Set-Up</td>
<td>Be able to identify and describe the common methods of data capture, including but not limited to: — Keyed off-line entry — Keyed on-line entry — Machine readable documents — Automatic transaction initiation</td>
<td>Be able to identify potential control weaknesses and recommend procedures to minimize and/or compensate for those weaknesses. Be able to design and implement tests of data capture procedures.</td>
<td>Be able to evaluate the effect on internal controls of the data capture procedures used.</td>
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<tr>
<td>2. Transaction Data Processing</td>
<td>Be able to identify the purpose of and need for typical internal processing steps such as computation, selection and generation of new data.</td>
<td>Be able to identify and describe to the supervisor the internal functions of a system; be able to design and execute tests of these functions.</td>
<td>Be able to recognize and evaluate the effect on internal controls of the internal processing steps performed.</td>
</tr>
<tr>
<td>a. Data Capture</td>
<td>Be able to identify and describe the common methods of data validation.</td>
<td>Be able to evaluate procedures in effect to ensure control effectiveness and efficiency; be able to design and implement tests of control strengths; be able to recommend appropriate validation procedures for programs and hardware.</td>
<td>Be able to recognize and evaluate the effect on internal controls of the data validation procedures used.</td>
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<tr>
<td>b. Data Validation</td>
<td>Be able to identify the basic differences between updating a sequential file and a direct access file.</td>
<td>Be able to review and evaluate sort procedures for accuracy and potential internal control problems; be able to design and implement tests of sort procedures.</td>
<td>Be able to recognize and evaluate the effect on internal control of the particular sorting procedure used.</td>
</tr>
<tr>
<td>c. File Processing</td>
<td>Be able to understand why the back-up procedures are needed.</td>
<td>Be able to identify the potential control problems in the back-up procedures in both batch and on-line systems and to suggest corrective measures; be able to design and implement tests of control strengths.</td>
<td>Be able to recognize and evaluate the effect on control of the particular back-up and recovery procedures used.</td>
</tr>
<tr>
<td>a. File Sorting</td>
<td>Given the contents of a master file and the types of events affecting the file, be able to understand the need for maintenance procedures.</td>
<td>Be able to review and identify sources of potential inaccuracy and to recommend corrective procedures; be able to evaluate maintenance procedures for control weaknesses; be able to design and implement tests of maintenance procedures.</td>
<td>Be able to recognize and evaluate the effect on control of the particular maintenance procedures used.</td>
</tr>
<tr>
<td>b. Updating a Master File</td>
<td>Be able to understand the general nature of shared data and the potential control and auditing problems introduced by shared data.</td>
<td>Be able to read and understand data base documentation to identify shared data items, authorized use of such shared data items, and potential effect of such sharing on data integrity. Be able to identify and describe controls related to objectives specified by the auditor. Be able to design and implement any required tests.</td>
<td>Be able to identify significant data items and describe their significance for audit purposes and control objectives to EDP technical personnel on the audit team. Be able to understand control procedures described by EDP technical personnel, and evaluate these control procedures for their effect on the audit.</td>
</tr>
<tr>
<td>d. File Back-up and Recovery Procedures</td>
<td>Be able to understand the relationships between data output and the data in transactions and files.</td>
<td>Be able to review and evaluate output generation procedures for accuracy and potential internal control problems; be able to design and implement tests of such procedures.</td>
<td>Same as Minimum responsibility.</td>
</tr>
<tr>
<td>Elements of an Application System</td>
<td>Minimum Responsibility</td>
<td>Responsibility for EDP Technical Support</td>
<td>Supervisory Responsibilities</td>
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<tr>
<td>B. Characteristics of Common Application Systems</td>
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<tr>
<td>1. Payroll</td>
<td>Be able to describe a typical system in the following manner: - identify typical transaction input - identify typical data elements - identify typical output reports - prepare a simple system flowchart showing typical processing steps. Describe common processing methods such as batch, online, distributed and data base systems.</td>
<td>Be able to describe the characteristics of complex systems, including the program steps; be able to evaluate accuracy and effectiveness in existing systems with particular attention to adequacy of general and application controls.</td>
<td>Be able to identify the common control problems inherent in each application system.</td>
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<tr>
<td>2. Inventory</td>
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<td>3. Accounts Receivable</td>
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<td>4. Accounts Payable</td>
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<tr>
<td>5. General Ledger and Financial Statements</td>
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<tr>
<td>C. Applications System Development Life Cycle</td>
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</tr>
<tr>
<td>1. Feasibility Study</td>
<td>Be able to describe the different stages of the life cycle.</td>
<td>No additional EDP knowledge needed.</td>
<td>Be able to understand the application life cycle and be able to identify the steps where auditor involvement is called for.</td>
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<tr>
<td>2. Analysis</td>
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<td>3. Design</td>
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<td>4. Programming</td>
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<tr>
<td>5. Program and System Testing</td>
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<td>6. Conversion</td>
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<tr>
<td>7. Operation</td>
<td>Be able to describe the different stages of the life cycle.</td>
<td>Be able to evaluate procedures to convert files from one medium to another, with specific attention to controls which prevent loss or distortion of data during the process.</td>
<td>Be able to understand the application life cycle and be able to identify the steps where auditor involvement is called for.</td>
</tr>
<tr>
<td>8. Applications which use Integrated File Systems and/or Data Base Management Systems</td>
<td>Does not apply</td>
<td>Be able to identify data base administrator (DBA) functions over application design and maintenance and describe these to the supervisory level.</td>
<td>Be able to evaluate effect on audit of DBA control functions over data base application design and maintenance.</td>
</tr>
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<td></td>
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<td>Be able to identify and describe the separation of functions of controlling data in the data base from application program development and maintenance.</td>
<td>Be able to identify and specify data items to be accessed with audit software (any kind) and be able to describe control requirements for using such software on data base.</td>
</tr>
<tr>
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<td>Be able to identify, describe and evaluate planning, control and support functions which apply to data base oriented applications, and the effect of these on data base applications.</td>
<td>Be able to determine the impact on controls and auditing of the findings of the EDP technical ability level.</td>
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<td></td>
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<td>Be able to understand the logical view of the data base. Be able to correlate data items to be accessed with logical view and communicate auditor's needs to data base administration personnel to obtain necessary authorizations. Be able to use appropriate data manipulation language (DML) (but not data description language-DDL). Be able to determine that proper data items are to be accessed as a result of communication with client.</td>
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<td>Be able to communicate with client's data processing personnel, vendors, and others, and perform research as appropriate to understand technological innovations used by client and explain them to the supervisory level to enable him to evaluate their effect on the financial statements and the audit.</td>
<td></td>
</tr>
</tbody>
</table>
### TABLE 1 (Con't)
Suggested EDP Knowledge Necessary To Review & Understand Computer Based Accounting Application Systems

<table>
<thead>
<tr>
<th>Elements of an Application System</th>
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<th>Supervisory Responsibilities</th>
</tr>
</thead>
<tbody>
<tr>
<td>0. Application System Documentation Elements</td>
<td>Note: The application documentation which the minimum ability level should be able to use is that designed for use by user departments and general management.</td>
<td>Note: The application documentation which the EDP technical ability level should be able to use is that designed for use within the EDP department.</td>
<td>Note: The application documentation which the supervisory ability level should be able to use is that designed for use by user departments and general management.</td>
</tr>
<tr>
<td>1. Narrative</td>
<td>Be able to interpret a narrative description of an application system.</td>
<td>Be able to assist the supervisor in assessing the technical content of application system documentation.</td>
<td>No additional EDP knowledge needed.</td>
</tr>
<tr>
<td>2. System Flowcharts</td>
<td>Be able to interpret a system flowchart for a simple application system.</td>
<td></td>
<td>Be able to determine the control and audit significance of the system flow.</td>
</tr>
<tr>
<td>3. Logic or Program Flowcharts</td>
<td>Be able to interpret a logic flowchart for a typical program in a simple application system.</td>
<td></td>
<td>Be able to determine the control and audit significance of the logic flow.</td>
</tr>
<tr>
<td>4. File and Data Definition</td>
<td>Be able to determine how the data is stored and used within the application.</td>
<td></td>
<td>Be able to determine the control and audit significance of the data used in the system.</td>
</tr>
<tr>
<td>5. Record of Test Data and Results</td>
<td>Be able to determine the involvement of users in the testing phase.</td>
<td>Be able to review and evaluate the plan and results of testing.</td>
<td>Be able to evaluate the overall effectiveness of the testing procedures.</td>
</tr>
<tr>
<td>6. Job Set-Up and Operating Instructions</td>
<td>Does not apply.</td>
<td>Be able to interpret the effect of the job set-up and operating procedures on the application.</td>
<td>Be able to determine the overall control and audit significance of job set-up and operating instructions.</td>
</tr>
<tr>
<td>7. User Department Procedures</td>
<td>Be able to determine the effect of the user's procedures on the application.</td>
<td>No additional EDP knowledge required.</td>
<td>Be able to determine the control and audit significance of user department procedures.</td>
</tr>
</tbody>
</table>

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**Elements of an Application System**

1. **Narrative**
   - Be able to interpret a narrative description of an application system.
2. **System Flowcharts**
   - Be able to interpret a system flowchart for a simple application system.
3. **Logic or Program Flowcharts**
   - Be able to interpret a logic flowchart for a typical program in a simple application system.
4. **File and Data Definition**
   - Be able to determine how the data is stored and used within the application.
5. **Record of Test Data and Results**
   - Be able to determine the involvement of users in the testing phase.
6. **Job Set-Up and Operating Instructions**
   - Does not apply.
7. **User Department Procedures**
   - Be able to determine the effect of the user's procedures on the application.
<table>
<thead>
<tr>
<th>Control Classification*</th>
<th>Minimum Responsibility</th>
<th>Responsibility for EDP Technical Support</th>
<th>Supervisory Responsibilities</th>
</tr>
</thead>
<tbody>
<tr>
<td>A. General Controls</td>
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<tr>
<td>1. Organization and</td>
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<tr>
<td>Operation Controls</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>a. Segregation of</td>
<td>Be able to understand</td>
<td>Assist the supervisor in interpreting</td>
<td>Be able to identify possible</td>
</tr>
<tr>
<td>functions</td>
<td>the need for the</td>
<td>or analyzing the consequences of a</td>
<td>weaknesses in the system and</td>
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<tr>
<td>Between the EDP</td>
<td>segregation of</td>
<td>lack of segregation in such a situation</td>
<td>determine the effect of</td>
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<tr>
<td>Department and Users</td>
<td>functions necessary</td>
<td>i.e., to identify the potential</td>
<td>strengths and weaknesses.</td>
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<td></td>
<td>to maintain control</td>
<td>risks.</td>
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<td></td>
<td>over data passing</td>
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<td></td>
<td>through the system.</td>
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<tr>
<td>b. Authorization Over</td>
<td>Be able to understand</td>
<td>Assist the supervisor in interpreting</td>
<td>Be able to identify controls</td>
</tr>
<tr>
<td>Execution of</td>
<td>the functions necessary</td>
<td>or analyzing the consequences of a</td>
<td>which provide reasonable</td>
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<tr>
<td>Transactions</td>
<td>to maintain control</td>
<td>lack of segregation in such a situation</td>
<td>assurance that data is</td>
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<td></td>
<td>to ensure that only</td>
<td>i.e., to identify the potential</td>
<td>appropriately entering the</td>
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<tr>
<td></td>
<td>authorized transactions</td>
<td>risks.</td>
<td>system and determine the</td>
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<td></td>
<td>enter the system.</td>
<td></td>
<td>effect of strengths and</td>
</tr>
<tr>
<td>c. Segregation of EDP</td>
<td>Be able to understand</td>
<td>Be able to describe and evaluate</td>
<td>Be able to evaluate the</td>
</tr>
<tr>
<td>Functions Within the</td>
<td>the need for the</td>
<td>the organizational structure and</td>
<td>functions within the EDP</td>
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<tr>
<td>EDP Department</td>
<td>segregation of</td>
<td>functions of the EDP department,</td>
<td>department to determine the</td>
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<tr>
<td></td>
<td>functions necessary</td>
<td>assist the supervisor in interpreting</td>
<td>strengths and weaknesses of</td>
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<td></td>
<td>to maintain proper</td>
<td>or analyzing the consequences of a</td>
<td>the particular organizational</td>
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<td></td>
<td>controls within the</td>
<td>lack of segregation (i.e., to identify</td>
<td>structure.</td>
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<td></td>
<td>department.</td>
<td>potential risks) and prescribe alternate</td>
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<td></td>
<td></td>
<td>control procedures, where feasible.</td>
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<td></td>
<td></td>
<td>Be able to identify and describe</td>
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<td></td>
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<td>control functions of persons or groups</td>
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<td></td>
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<td>responsible for data base administration</td>
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<td>and to determine that adequate</td>
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<td></td>
<td></td>
<td>segregation of duties exists.</td>
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<tr>
<td>2. Systems Development</td>
<td>Be able to understand</td>
<td>Be able to serve as a resource in the</td>
<td>Be able to evaluate evidence</td>
</tr>
<tr>
<td>and Documentation</td>
<td>the need for user</td>
<td>supervisor's review of the design</td>
<td>of user participation as an</td>
</tr>
<tr>
<td>Controls</td>
<td>participation in the</td>
<td>process.</td>
<td>indication of appropriate</td>
</tr>
<tr>
<td>a. User Participation</td>
<td>design of application</td>
<td></td>
<td>authorization and inclusion of</td>
</tr>
<tr>
<td>in Design</td>
<td>systems.</td>
<td></td>
<td>proper controls.</td>
</tr>
<tr>
<td>b. User and Management</td>
<td>Be able to understand</td>
<td>Be able to serve as a resource in the</td>
<td>Given the system specifications</td>
</tr>
<tr>
<td>Approval</td>
<td>the need for user</td>
<td>supervisor's review of the design</td>
<td>and the resources of the EDP</td>
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<td></td>
<td>and management</td>
<td>process.</td>
<td>technical level, be able to</td>
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<td></td>
<td>approval in the</td>
<td></td>
<td>determine the appropriate</td>
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<td></td>
<td>design of application</td>
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<td>level of the approvals and</td>
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<td></td>
<td>systems.</td>
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<td>make recommendations for any</td>
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<td>necessary improvements in</td>
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<td></td>
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<td></td>
<td>control.</td>
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<tr>
<td>c. System Testing</td>
<td>Be able to understand</td>
<td>Given system tests, be able to evaluate</td>
<td>Given system tests, be able to</td>
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<tr>
<td></td>
<td>the need for system</td>
<td>testing procedures used to produce</td>
<td>evaluate the validity of the</td>
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<tr>
<td></td>
<td>testing to ensure</td>
<td>test results, assist the supervisor in</td>
<td>test results by reviewing,</td>
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<tr>
<td></td>
<td>that correct input will</td>
<td>determining the validity of the</td>
<td>with the assistance of the EDP</td>
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<td></td>
<td>provide desired output</td>
<td>results, and perform compliance tests</td>
<td>technical ability level, the</td>
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<tr>
<td></td>
<td>and that incorrect</td>
<td>to ensure that controls are working</td>
<td>procedures used in designing</td>
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<tr>
<td></td>
<td>input, processing or</td>
<td>properly.</td>
<td>test data and comparing</td>
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<td></td>
<td>output would be</td>
<td></td>
<td>output to predetermined</td>
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<tr>
<td></td>
<td>detected.</td>
<td></td>
<td>results.</td>
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<tr>
<td>d. Final Approval</td>
<td>Does not apply.</td>
<td>Serves as a resource in the auditor's</td>
<td>Given final approval procedures,</td>
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<tr>
<td></td>
<td></td>
<td>review of the approval process.</td>
<td>after understanding the</td>
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<tr>
<td>e. Conversion Control</td>
<td>Be able to understand</td>
<td>Be able to do so test the effectiveness</td>
<td>determine that the proper</td>
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<td></td>
<td>the errors which may</td>
<td>of the conversion controls and assist</td>
<td>personnel approved the system.</td>
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<td></td>
<td>occur in conversion.</td>
<td>the supervisor in evaluating their</td>
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<tr>
<td>f. Control of Program</td>
<td>Be able to understand</td>
<td>Be able to determine that systems</td>
<td>For a given installation,</td>
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<tr>
<td>Changes in a System</td>
<td>why program changes</td>
<td>changes are adequately controlled,</td>
<td>understand procedures in effect</td>
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<td></td>
<td>arise and the need</td>
<td>be able to perform compliance tests to</td>
<td>to prevent unauthorized</td>
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<td></td>
<td>for control over them.</td>
<td>establish that control strengths</td>
<td>changes to the processing</td>
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<tr>
<td>g. Documentation</td>
<td>Be able to understand</td>
<td>Be able to determine that systems</td>
<td>system.</td>
</tr>
<tr>
<td>Standards</td>
<td>the need for</td>
<td>changes are adequately controlled,</td>
<td></td>
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<td></td>
<td>documentation</td>
<td>be able to perform compliance tests to</td>
<td></td>
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<tr>
<td></td>
<td>standards.</td>
<td>establish that control strengths are</td>
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<td></td>
<td></td>
<td>working; be able to assist the</td>
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<td></td>
<td></td>
<td>supervisor in assessing the</td>
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<td></td>
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<td>effectiveness of specific techniques.</td>
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</tbody>
</table>
**TABLE 2 (Con’t.)**  
**Suggested EDP Knowledge Necessary For Understanding Controls in EDP Systems**

<table>
<thead>
<tr>
<th>Control Classification*</th>
<th>Minimum Responsibility</th>
<th>Responsibility for EDP Technical Support</th>
<th>Supervisory Responsibilities</th>
</tr>
</thead>
</table>
| 5. Data and Procedural Controls  
  a. Control Group | Be able to describe the functions of the control group and in the absence of a control group, be able to explain compensating user department control procedures. | Be able to review any technical functions of the control group to insure that there is an adequate separation of responsibilities. | Be able to evaluate and test the effectiveness of the control group. |
| b. Systems and Procedures Manual | Be able to evaluate the content of the manuals with respect to user department procedures and reconciliation procedures performed by the control group. | Be able to evaluate the manuals’ content and relate this to the scope of auditing procedures. Be able to perform tests (e.g., observations) to see that prescribed procedures are being performed with respect to job set-up and computer operations procedures. | Be able to relate the purpose and content of the manuals to the scope of the auditing procedures. |
| c. Internal Audit Review of Systems Design | Be able to determine the scope of the involvement of the internal audit department. | Be able to assist the supervisor in reviewing and testing the work of the internal audit department. | Be able to review and evaluate the extent and quality of the involvement of the internal audit department. |
| d. Internal Audit Review of Data Processing Activities on a Continuing Basis | Be able to determine the scope of internal audit department’s involvement. | Assist the supervisor in reviewing and testing the work of the internal audit department. | Be able to review and evaluate the extent and quality of the internal audit department’s involvement. |
| e. Physical Security | Be able to understand the need for physical security over EDP operations. | Assist the supervisor in identifying and testing physical conditions and technical procedures which impact physical security. | Be able to evaluate the impact of the physical security procedures on the accounting controls. |
| 3. Hardware and Systems Software Control  
  a. Hardware/Software | Be able to understand the role of hardware and software controls in the overall control over operations. | Be able to describe common control features in the hardware and software, including the operating systems and be able to determine that proper use is made of the existing controls. | Be able to determine the effect of potential weaknesses in the use of hardware and system software controls. |
| a1. Hardware and Software in the Data Base Environment | Does not apply. | Be able to identify and describe controls within the data base management system and the extent to which they affect the integrity of data in the data base. | Be able to evaluate the effect of data integrity controls in the data base management system. |
| b. Control of Changes | Be able to understand why hardware and software control changes arise and the need for control over them. | Given a systems flow, be able to determine that the integrity of the software has been preserved by reviewing and testing system change procedures. | For a given set of hardware and software procedures, be able to understand the controls in effect to prevent unauthorized changes and be able to determine their effect. |
| 4. Access Controls  
  a. Access to Program Documentation | Be able to understand the reasons for controls over program documentation. | Be able to determine who should have access to program documentation and assist the supervisor in assessing the effectiveness of specific procedures. | Be able to evaluate the restrictions placed on documentation access and determine their impact. |
<p>| b. Access to Data and Program Files | Be able to understand why access to data and program files is limited. | Be able to determine the adequacy of the various means of restricting access to program and data files. | Be able to evaluate the methods used to control unauthorized access to programs or data files and determine their impact. |
| b1. Access to Data and Program Files in the Data Base | Does not apply. | Be able to identify and describe controls within the data base management system used to restrict unauthorized access to items in the data base. | Be able to evaluate the effect of controls within the data base management system used to restrict unauthorized access to items in the data base. |
| c. Access to Hardware | Be able to understand the measures needed to restrict access to computer hardware. | Be able to determine the adequacy of the controls that restrict access to computer equipment and terminals. Be able to assist the supervisor in evaluating and testing the procedures. | Be able to review and evaluate the procedures necessary to restrict access to computer hardware and to determine their impact. |
| d. On-line Access to System, Data Files, and Programs | Does not apply | Be able to identify and describe software, hardware and manual procedures used by the client to restrict access to terminals and on-line data files and programs; evaluate how effectively the client prevents authorized users from performing unauthorized functions on the system. | Be able to evaluate effect of controls on significant accounting applications. |</p>
<table>
<thead>
<tr>
<th>Control Classification*</th>
<th>Minimum Responsibility</th>
<th>Responsibility for EDP Technical Support</th>
<th>Supervisory Responsibilities</th>
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</thead>
<tbody>
<tr>
<td>8. Application Controls</td>
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<tr>
<td>1. Input Controls</td>
<td></td>
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</tr>
<tr>
<td>a. Authorized Input</td>
<td>Be able to document and test the user authorization controls over data entry, file maintenance, and error corrections.</td>
<td>Be able to document the EDP procedures relating to the authorization of input and execute tests to determine that only authorized input enters the system.</td>
<td>Be able to review and evaluate controls over the sources of input and authorizations necessary to initiate a transaction.</td>
</tr>
<tr>
<td>b. Code Verification, including check digits, table look-up, consistency checks, missing fields and invalid data</td>
<td>Be able to understand the concept of code verification and how it works.</td>
<td>Be able to document EDP procedures relating to code verification procedures and be able to execute testing procedures.</td>
<td>Be able to review and evaluate procedures for the verification of codes.</td>
</tr>
<tr>
<td>c. Input Conversion</td>
<td>Be able to understand the need for specific control techniques available to minimize input conversion errors and be able to describe some of the control techniques used.</td>
<td>Be able to document EDP procedures relating to input conversion and be able to execute testing procedures.</td>
<td>Be able to review and evaluate the effectiveness of conversion controls.</td>
</tr>
<tr>
<td>d. Data Movement Between Processing Steps and/or Departments</td>
<td>Be able to understand why it is necessary to control data movement.</td>
<td>Be able to document EDP procedures relating to data movement and be able to execute testing procedures.</td>
<td>Be able to review and evaluate data movement controls.</td>
</tr>
<tr>
<td>e. Error Handling</td>
<td>Be able to understand the procedures necessary to correct and reprocess errors in a system.</td>
<td>Be able to document EDP procedures relating to error handling and be able to execute testing procedures.</td>
<td>Be able to review error handling procedures and determine their adequacy.</td>
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<tr>
<td>2. Processing Controls</td>
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<tr>
<td>a. Control Totals</td>
<td>Be able to document and test the user establishment and reconciliation of control totals.</td>
<td>Be able to determine whether control total procedures are adequate to ensure that no data is lost or incorrectly processed. Be able to design and execute tests to determine that controls are adequate.</td>
<td>Be able to review control total procedures and evaluate their effectiveness.</td>
</tr>
<tr>
<td>b. Operation Controls</td>
<td>Be able to understand the need for operation controls.</td>
<td>Be able to document, design, and execute tests of programmed and manual operation controls such as file label routines and console controls monitoring operator actions.</td>
<td>Be able to review and evaluate file and processing controls to determine their effectiveness.</td>
</tr>
<tr>
<td>c. Logic Checks</td>
<td>Be able to understand the use of typical logic checks, such as limit and reasonableness checks, that may be built into a system.</td>
<td>Be able to determine that edit, data, generation and other program procedures are properly incorporated into the system.</td>
<td>Be able to evaluate the effectiveness of the edit procedures.</td>
</tr>
<tr>
<td>d. Run-to-Run Controls</td>
<td>Be able to understand the nature and purpose of run-to-run controls and be able to document and test the user procedures.</td>
<td>Be able to determine whether run-to-run control procedures are adequate to insure that no data is lost or incorrectly processed and be able to design and execute tests (e.g., audit software, test decks) to ensure that run-to-run controls are working properly.</td>
<td>Be able to determine the effectiveness of the run-to-run controls.</td>
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<tr>
<td>3. Output Controls</td>
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<tr>
<td>a. Reconciliation of Output Total</td>
<td>Be able to document and test the user procedures for output reconciliation.</td>
<td>Be able to determine that the generation of control totals within EDP is properly performed and be able to design and execute tests to determine that control totals are being properly generated.</td>
<td>Be able to assess the effectiveness of the reconciliation procedures.</td>
</tr>
<tr>
<td>b. Output Scanning</td>
<td>Be able to document and test the use of output scanning.</td>
<td>No additional EDP knowledge required.</td>
<td>Be able to assess the effectiveness of output scanning within the context of output controls.</td>
</tr>
<tr>
<td>c. Output Distribution</td>
<td>Be able to document and test the output distribution to ascertain that only authorized users obtain output reports.</td>
<td>No additional EDP knowledge required.</td>
<td>Be able to assess the appropriateness of the distribution procedures to determine that only authorized persons are receiving data and that all copies produced are necessary.</td>
</tr>
</tbody>
</table>

*Refer to The Auditor's Study and Evaluation of Internal Control in EDP Systems for an explanation of each control.

*Note: EDP procedures in this context refers to programs, procedures and other functions performed within the EDP department.
Reports By Voluntary Health and Welfare Agencies

What Do Accountants Think Of Them?

By Ruthie G. Reynolds

On May 11, 1978 the Financial Accounting Standards Board (FASB) added the topic of nonbusiness financial accounting and reporting to its technical agenda. The move was prompted by the results of a study performed by Robert Anthony on the accounting problems of nonbusiness organizations. Anthony’s study, which was sponsored by the FASB, is entitled Financial Accounting in Nonbusiness Organizations: An Exploratory Study of Conceptual Issues (Anthony Report). Anthony’s discussion was limited to general purpose financial statements, and his approach followed that of the sponsoring group (the FASB) in that it was user-oriented. The purpose of the study was to raise issues rather than offer solutions to the problems.

Approximately one month after the topic was added to the agenda, the FASB issued a discussion memorandum, “Conceptual Framework For Financial Accounting and Reporting: Objectives of Financial Reporting by Nonbusiness Organizations.” Based upon the comments received on the discussion memorandum, an exposure draft, “Objectives of Financial Reporting by Nonbusiness Organizations,” was issued on March 14, 1980. The FASB’s final statement was issued in December 1980 as Statement of Financial Concepts No. 4. All three of the FASB documents, as well as the Anthony Report, stress the need to provide useful information to decision makers.

The purpose of this paper is to present the results of a survey designed to determine accounting experts’ opinions on what should be the role of financial information in the resource allocation decision making process of a major class of users (resource providers). The study also sought opinions on the quality of current reporting practices. The study was limited to voluntary health and welfare agencies, one of the largest groups in the nonbusiness sector.

Methodology

Various approaches have been used to study the accounting problems in the nonbusiness sector. Henke [1965] and Anthony [1978] followed a conceptual approach, defining relevant issues. Others solicited the opinions of users. Bradley conducted a series of conferences with users of information reported by small nonbusiness hospitals [1979]. Traub, in a study of private foundations, used the interviewing technique [1977]. The mail survey technique was used by Skouren, Smith, and Woodfield in their study of colleges and universities [1975]. Mail survey was also used by Luthy to gather the opinions of users of information reported by governmental units.

The present study takes a different approach to studying the accounting problems of nonbusiness organizations. An expert group, composed of practicing certified public accountants, was formed and surveyed to gather opinions on what should be the role of financial information, and what is the quality of current reporting practices.

Eight accountants, one from each of the “Big Eight” firms, were asked to respond to questions regarding the importance of types of information, information sources, types of financial reports, and the quality of current reporting practices. The major criterion used to select the subjects was active engagement in nonbusiness accounting work. Four of the accountants were partners, three were supervisors, and one was manager.

Question 1 dealt with the types of information (both financial and nonfinancial). Question 2 dealt with sources of information (both financial and nonfinancial). Question 3 dealt with types of reports (basically financial), and Question 4 dealt with the quality of reporting. Question 5 gathered demographic information, and Question 6 asked for comments.

A five-point scale was constructed to measure the perceptions of the participants. For Questions 1-3, the number 1 denotes the lowest degree of importance and number 5 the highest.

For Question 4 the number 1 denotes “poor” and the number 5 denotes “excellent.”

Analytical Tool

The two statistics computed to analyze the accountants’ responses are the mean and the standard deviation. The accountants’ responses to each question were averaged and used as a surrogate measure of the degree of importance (refer to Question 1-3) and the degree of quality (refer to Question 4).

Survey results

The mean responses and the standard deviations for the questionnaire items, along with their rank, are presented in Table 1.
Types of Information

The expert group rates the relationship between services provided by an agency and community needs as the most important type of information needed by resource providers of voluntary health and welfare agencies. The group's mean response is 4.750. Staff performance evaluations was rated the least important item in this category. The lowest rated item, however, received a rating of 3.375 which indicates that the experts consider all of the types of information listed at least moderately important.

Sources of Information

Audited financial statements received a rating of 4.750, the highest rating given to a source of information. Unaudited statements were rated much lower (mean responses of 2.625). These ratings indicate that more credibility is added to the financial information when it is subjected to an audit.

Types of Financial Reports

The accounting standards set forth by the National Health Council, Inc., the National Assembly of National Voluntary Health and Social Welfare Organizations, Inc., and the United Way of America require three types of financial statements:

1. Statement of Support, Revenue, and Expenses and Changes in Fund Balances
2. Statement of Functional Expenses

These financial statements are also recommended by the American Institute of Certified Public Accountants (AICPA) [pp. 41-42, 1974].

The questionnaire included all three statements; however, the Statement of Support, Revenue, and Expenses was listed separately from the Statement of Changes in Fund Balances. The purpose of this separation was to allow respondents to generalize the scope of voluntary health and welfare reporting to agencies which were not members of the sponsoring groups of the standards. Other types of financial reports were included in the list for the same reason.

The Statement of Support, Revenue, and Expenses received the highest rating (4.625). The Statement of Functional Expenses was highly rated, also (mean response of 4.125). The remaining types of financial statements set forth in the standards mentioned above, the Balance Sheet and the Statement of Changes in Fund Balances, were rated moderately important (mean responses of 3.875 and 3.500, respectively). The lowest rated report, the Statement of Changes in Financial Position, received a rating of 2.625.

Recommendations and current standards for financial reporting of voluntary health and welfare agencies do not include budgetary information as part of the reporting system. The group of experts rated budgetary reports which include program data very important to the resource allocation decision (mean response of 4.500). Budgetary reports which exclude program data were rated moderately important (mean response of 3.375).

Quality of Reporting

The qualitative characteristics of useful information are presented in Statement of Financial Accounting Concepts No. 2: Qualitative Characteristics of Accounting Information [FASB, 1980]. The Statement focuses on the criteria to be used in evaluating the usefulness of information provided by commercial enterprises, but the following reference was made to nonbusiness organizations:

Although the discussion of the qualities of information and the related examples in this Statement refer primarily to business enterprises, the Board has tentatively concluded that similar qualities also apply to financial information reported by nonbusiness organizations [p. 2, 1980].

Three types of qualities were defined: user-specific, primary decision-specific, and secondary and interactive. Understandability is the user-specific characteristic and should appear as a link between the characteristics of the users and the decision-specific characteristic. The primary decision-specific characteristics are relevance and reliability. The ingredients of relevance are predictive value, feedback value, and timeliness. Reliability includes verifiability, representational faithfulness, and neutrality. Comparability and consistency are secondary decision-specific characteristics which interact with the two primary characteristics to contribute to the usefulness of the information. The aforementioned qualities were used to formulate Question 4.

Budgeting reports that include program data are rated as very important.

The expert group rated the reliability of the mathematical accuracy as the most attractive quality of voluntary health and welfare reporting (mean response of 4.000). Understandability of format and understandability of terminology tied for the second highest rated quality (mean responses of 3.500). Adequacy of projected data was rated least important (mean response of 1.875).

Summary and Conclusions

The results of the survey clearly show that accounting experts consider financial information important to the allocation decision making process of resource providers. However, the results show that nonfinancial information is important, also. Staff performance evaluations and agency's reputation were included in the list of information types. Both of these nonfinancial items were considered moderately important. Another nonfinancial item, relationship between services provided and community needs, was rated the most important type of information.

While a financial item (audited statements) received the highest rating in the list of information sources, two nonfinancial items (surveys of community needs and past experience) were rated very important. Although budgetary reports may be considered financial in nature, those including program information may possibly contain a good deal of nonfinancial data. The second highest rated type of report was budgetary reports which include program data, further indicating the need for nonfinancial information.

The Woman CPA, April, 1983/31
TABLE 1
Descriptive Statistics

<table>
<thead>
<tr>
<th>Item</th>
<th>Rank</th>
<th>Mean</th>
<th>Standard Deviation</th>
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<tbody>
<tr>
<td><strong>Types of Information</strong></td>
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<tr>
<td>Relationship between services provided</td>
<td>1</td>
<td>4.750</td>
<td>0.463</td>
</tr>
<tr>
<td>and community needs</td>
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<td>4.625</td>
<td>0.518</td>
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<tr>
<td>Services rendered</td>
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<tr>
<td>Percentage of program and administrative costs</td>
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<td>0.991</td>
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<td>Management and organization performance evaluations</td>
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<td>0.707</td>
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<tr>
<td>Departure from budgets and other mandates</td>
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<td>3.625</td>
<td>0.744</td>
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<tr>
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<td>1.061</td>
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<td>Surveys of community needs</td>
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<tr>
<td>Budget reports</td>
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<td>0.756</td>
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<tr>
<td>Past experience</td>
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<td>0.756</td>
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<tr>
<td>Recommendations from members of resource provider group</td>
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<td>0.926</td>
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<tr>
<td>Recommendation from members of agency</td>
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<tr>
<td>Unaudited financial statements</td>
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<tr>
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<tr>
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<td>Rumors</td>
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Based on the findings regarding information needs, a closer look at the content of traditional financial reports of voluntary health and welfare agencies should be taken. Because of the nature of these agencies, there may be a need to expand the boundaries of present-day reporting to include more nonfinancial information. Ω

Ruthie G. Reynolds, CPA, Ph.D., is assistant professor of accounting at Georgia Institute of Technology in Atlanta.
<table>
<thead>
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<th>Item</th>
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<td>Adequacy of projected data</td>
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<td>0.641</td>
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</table>

REFERENCES


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