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American Woman's Society of Certified Public Accountants

American Society of Women Accountants

The Woman CPA

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VOLUME 53
NUMBER 4

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AWSCPA & ASWA: A 50 Year Perspective

The Changing Profession

Accountants as Change Agents

A Guide to Analytical Procedures

Editorial

It is with mixed emotions that we write this editorial for *The Woman CPA* informing you that the American Woman's Society of Certified Public Accountants and the American Society of Women Accountants have decided to suspend publication of TWCPA.

During this suspension, a reevaluation of the purpose, format and financial feasibility of continuing *The Woman CPA* will take place. ASWA will then determine whether to resume publication based on the cost/benefit to its membership.

Begun in December 1937 as AWSCPA's membership bulletin, TWCPA became a professional and scholarly journal in 1950 under a memorandum of understanding between AWSCPA and ASWA. It has served the two societies very well.

As a scholarly journal TWCPA has provided opportunities for members of both ASWA and AWSCPA to serve as editors and members of the editorial board – important activities to the career progression of women faculty members. Here was the opportunity for members to publish their papers. More recently, research results on how women are perceived and accepted in the accounting profession and actual comparisons of women's accomplishments and rewards with those of men in accounting have been forums of discussion.

Over more than half a century, the publication has seen many changes. The business environment has changed, the nature of the accounting profession has changed, both organizations have changed, and the needs of the members have greatly changed. AWSCPA and ASWA believe now is the time for reevaluation.

We thank the staff of TWCPA for their dedication and loyalty and the many contributors for their enlightenment on countless topics. While we are saddened by the end of a long tradition that ASWA and AWSCPA have shared in TWCPA, we are at the same time proud of the achievement of providing opportunities to our members by our 53 years of publishing *The Woman CPA.*

Joyce Simon, AWSCPA President   Theodora A. Sherman, ASWA President

Back copies of The Woman CPA *are available for $3.00 per copy. These may be obtained from AWSCPA in Chicago or ASWA in Memphis.*

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DEPARTMENTS

AWSCPA & ASWA: A 50 Year Perspective

By Sally Czaja and Rita Czaja

For over 50 years, the American Woman's Society of Certified Public Accountants (AWSCPA) and the American Society of Women Accountants (ASWA) have jointly and separately served the needs of women in the accounting profession.

Background

In the 1930s and before, women who wanted a career in accounting faced serious obstacles. Many colleges and universities would not accept women in day classes, forcing them to rely on correspondence courses for their education. Experience was a requirement for certification, but most practitioners were men and most of them did not want women on their professional staff. In 1937, less than one percent of all CPAs were women [*The Woman CPA,* 1983]. Some male accountants said they would go out of business before they employed a woman [Palen, undated, circa 1946]. Ida Broo, an accountant in Indianapolis in the 1920s, finally worked for someone for two years without pay, just to obtain the experience that she needed to become certified. (Broo would go on to be president of the Indiana Board of Accountancy in 1955-56.) Margaret Lauer received her CPA certificate in 1932 in Louisiana but was told by two CPA firms that they could hire her only for "write-up" work and the office's own accounting because clients would be opposed to having a woman auditor. (Lauer would be president of AWSCPA in 1964-65.)

Anna Grace Francis, a CPA practicing in Chicago, thought it would be a good idea to have a professional organization for women accountants so they could meet and help each other. Francis and her friend Grace Schwartz invited other women CPAs in the area to a meeting on January 4, 1933, and founded the American Woman's Society of Certified Public Accountants. The objectives of the new organization were:

- to encourage women accountants in their professional advancement
- to improve knowledge within the accounting profession concerning the ability and achievements of women certified public accountants
- to increase the number of women who are members and active participants in programs of technical accounting organizations.

Francis was the first president and in just six months, the organization had grown to include 26 members in nine states.

Broo believed that much could be gained from having local as well as national meetings of women in the accounting profession. However, such meetings could not be held in most cities unless the 17,000 non-certified women accountants were included. An organization for these women would also be a means of encouraging women to enter the field and to work towards certification. At its 1937 annual meeting, AWSCPA decided to form an auxiliary group. Broo, Charlotte Liszt (Minneapolis), Anne Lord (Aurora, Illinois), and Ruth Peabody Waschau (Chicago) were appointed to finalize plans for the new organization. The proposed name for this group was the American Woman's Society of Junior Accountants. (The word "junior" probably meant entry-level, not "young" – it is the lowest professional level in the typical CPA firm hierarchy.) The original intent was for membership to be open only to women who planned to become CPAs. It was decided, however, that this restriction would limit the group too much and that women who were not working toward certification should also be included. The purpose of the American Society of Women Accountants was:

- to improve the efficiency of its members in their profession,
- to further the opportunities in the profession for women, and
- to establish a good fellowship among women members of the accounting profession.

Broo led the effort by holding an organizational meeting in her own city of Indianapolis in May, 1938. On

September 17, 1938, ASWA was officially instituted at the annual meeting of AWSCPA. Forty women from Indianapolis were the charter members. Broo was the first president.

Overview

It is not unusual for one professional organization, or some of its members, to start another organization. However, AWSCPA and ASWA have had an unusually close relationship over the last 50 years. Jennie M. Palen (AWSCPA President, 1946-47) noted at the 1947 joint annual meeting that the two societies had received compliments from high sources on holding joint meetings, publishing a joint magazine, and otherwise cooperating in the closest harmony. This was at a time when certified and non-certified accountants were clashing all over the country over standards for certification. For this she said, we have been credited with making a unique contribution to accounting history.

Some of the activities referred to by Palen are still performed jointly: holding joint annual meetings, publishing *The Woman CPA,* and sponsoring a variety of educational activities. Due to the growth of ASWA, others are now handled separately by each organization.

The relationship between the two organizations is complex. Because AWSCPA founded ASWA, it had, for many years, a maternal interest in ASWA's development. This was reflected in the way ASWA was structured, in the official actions of the two organizations, and in the sentiments of individual members. Although only five years older as an organization, AWSCPA was seen initially as being in a position to guide and assist ASWA. An underlying attitude for years was that the CPAs were "more accomplished" than non-CPAs.

Like some mothers, AWSCPA sometimes worried that its offspring's actions would reflect unfavorably on itself. After all, ASWA stationery did, through 1961, include the phrase "sponsored by the American Woman's Society of Certified Public Accountants." Any positive – or negative – reaction from the general public was expected to reflect on both organizations.

AWSCPA's need for control was originally a reason for some joint activities – these activities were not simply a pooling of efforts. AWSCPA's involvement in matters of ASWA government clearly indicated an unequal relationship. The Award Program that AWSCPA established for ASWA chapters also showed greater influence from AWSCPA to ASWA than vice versa.

Initially, while ASWA was dependent in some ways on AWSCPA, the latter was dependent in other ways on the former. Because there were so few women CPAs, local meetings of women in accounting needed the participation of non-certified accountants. Also, AWSCPA's own growth depended on encouraging women to become certified – and a group of non-certified accountants was a gold mine for recruiting members! Although when ASWA was founded it was deliberately opened to women who were not seeking certification, an underlying attitude remained for years that non-CPAs ideally aspired to become CPAs. ASWA members, however, pursue a variety of certifications and other forms of professional achievement. Finally, for both organizations, there was strength in numbers for both political action and efficiency in operations.

The relationship between the two organizations has also been characterized by a desire for distance. Women accountants were often considered to be clerks rather than professionals. In the mid-1940s, an attorney told Lee Ella Costello (AWSCPA president in 1957-1958) that she should not put "CPA" after her signature because, to be able to do that, one had to pass a very, very difficult exam. He was astounded to learn that she had done just that! Accordingly, women CPAs were sometimes reluctant to be too closely associated with non-certified accountants. While those who had "made it" wanted to help other women, their professional reputations were not very well-established despite their certification.

In 1934, the New York State Society asked Gertrude Cohen to start an association for all women accountants, whether they were certified or not. Cohen had been thinking about organizing an Eastern District of AWSCPA, but found only a handful of women CPAs. Would the broader group, she asked the AWSCPA board, be a good way to start? The reply was "we are eager to promote the interests of all women accountants but do not wish our organization to be weakened by any apparent inclusion of non-certified women in our group."

Still, women accountants apparently found the gap between male and female accountants more salient than the gap between certified and non-certified accountants. As Palen had noted at the 1947 annual meeting, the issue of who could practice public accounting did not divide women as it did men. Women on both sides of the practice issue were more concerned about establishing the place of women in the accounting profession in general.

As ASWA matured as an organization, some distance from AWSCPA became important for it, too. ASWA gained control in areas in which AWSCPA had been providing guidance and became an equal partner in joint activities.

ASWA Government

On September 17, 1938, AWSCPA formally approved ASWA's first constitution and bylaws. Efforts to charter ASWA as a separate legal entity started in 1940. The requirements for chartering in the District of Columbia were the most advantageous. Shirley Moore, a member of the District of Columbia Chapter and national chair of the legislation committee, took charge of the incorporation process. ASWA proceeded carefully in drafting its charter, because this action was not intended to indicate a change in its affiliation with AWSCPA or in the location of ASWA's headquarters. According to the charter, the business of ASWA included subscribing to the purposes, standards and principles of the American Woman's Society of Certified Public Accountants. The charter also stated that "matters pertaining to the government of ASWA" were to be conducted "in cooperation" with AWSCPA. The ASWA Board approved the charter on March 20, 1953 and the AWSCPA Board approved the certificate of incorporation on April 22, 1953.

At first, ASWA chapters were

founded and sponsored by members of AWSCPA, with the latter organization specifying the duties and responsibilities of sponsors. In 1945, some members of the AWSCPA Board favored "allowing ASWA the privilege of the initiative in further development of ASWA chapters." In 1946, Grand Rapids became the first ASWA chapter to sponsor a new chapter by starting Muskegon, the 14th.

From the beginning it had been the practice for the National President and Secretary of AWSCPA to sign charters of new ASWA chapters. In 1954 the ASWA Board considered a resolution dropping this requirement. On the one hand, the requirement seemed inappropriate now that ASWA was separately chartered; on the other hand, dropping it seemed harmful to ASWA's affiliation with AWSCPA. Most leaders of the two organizations were unaware of the purpose of this procedure. Oversight by the older organization was apparently deemed necessary in the early days. Still, there was the question of whether ASWA *could* act on its own in changing this procedure. The AWSCPA Board discussed changing the practice in 1958, but it was 1970 before the requirement for AWSCPA's approval of new chapters was dropped.

The original bylaws included a provision that amendments had to be approved by the AWSCPA Board before they would become effective. This was initially dropped in a 1966 rewrite of the bylaws. However, there was concern about whether AWSCPA's approval or the membership's should be sought first and the sentence was restored. AWSCPA continued to approve amendments to ASWA bylaws until 1970, when they approved the amendment that dropped this requirement.

Award Program

AWSCPA established an award program in 1941 for ASWA chapters. Points were given for convention attendance, scrap books, local bulletins, membership increases, and chapter meeting attendance. Indianapolis received the first award, which was a silver trophy bowl. The following year, Los Angeles was honored for the greatest accomplishments during the year; the award, reflecting the times, was a $5.00 defense stamp.

The Award Program was formalized in 1945 through the efforts of two AWSCPA presidents, Ethleen Lasseter (1945-1946) and Hazel Skog (1944-1945). The Award Program's purpose was to stimulate the interest of chapters in the full scope of activities within the realm of ASWA and to create a friendly rivalry among the ASWA chapters. Rules and regulations were prescribed by an AWSCPA award committee. Submitting a feature article to *The Woman CPA* (then a joint membership newsletter) that was written by a woman, whether a member or not, was worth 50 points, while one written by a man earned only 25 points. The chapter judged "most outstanding" would receive a traveling silver trophy and a cash award. Any chapter winning the trophy for three consecutive years would be allowed to keep it and AWSCPA would obtain a replacement trophy. Three chapters, Grand Rapids in 1948, Atlanta in 1958, and Los Angeles in 1962, were successful in winning permanent possession of this trophy.

The program continued to be evaluated and revised to try to insure fairness, to be current, and to minimize work – for chapters that prepared reports, for the ASWA national committee that reviewed them, and for the AWSCPA committee that assigned discretionary points and prepared a "month and year-to-date" report for each chapter.

Usually the awards reports were destroyed one year after the end of the administrative year to which they applied. Reports from the 1957-58 and 1958-59 years were returned to the ASWA national advisory chair so she could see what the chapters were doing and where their strengths and weaknesses lay. Fearing second-guessing, it was made clear that the reports were *not* to be used to review the number of points awarded by AWSCPA or the accuracy of the reports! In 1960, AWSCPA authorized ASWA to remove publicity clippings from the Chapter Award Reports for these years for permanent filing in an ASWA scrapbook. AWSCPA asked to be notified when the rest of the reports were finally destroyed, which was done in 1961.

There was some concern in 1960 that the Award Program was no longer serving its purpose – some members complained that there was no exchange of information on what other chapters did that qualified for points, points had become an end in themselves, the rigid detailed requirements were unprofessional and reporting on them was a waste of time. ASWA referred the matter to AWSCPA "because the rules were formulated and administered by that Society." ASWA National seemed unwilling either to defend the program or to recommend nonparticipation in it. As a practical matter, ASWA National spent a lot of time and effort on the program – processing reports, providing input on the rules, and maintaining the Chapter Manual in accordance with the rules. Discussion at the award committee workshops at the regional conferences that year led to a consensus that the program should be continued. AWSCPA did, however, appoint a committee to review the program, recommend changes, and suggest ways to assure a better understanding of the program. One recommendation was that AWSCPA show greater involvement by sending letters of congratulations to the chapters receiving awards under its program. The review also highlighted the fact that the rules provided ASWA chapters with a useful outline of proper procedures to follow and the activities that they should embrace.

In 1967, the ASWA Board was concerned that chapters were not reporting changes in their programs to the national program chair, after having their beginning-of-year plan approved. A suggested solution was to ask AWSCPA to make this a requirement of the Award Program. The AWSCPA Program had become, in part, a mechanism for ASWA to control its chapters. Another concern was that points had become an end in themselves; activity fell off in some chapters when they reached the maximum points in a category.

A joint committee reviewed the program in 1967. As a result, the rules were completely rewritten in 1968 and approved in 1969. The goal was to make the program more like a budget – a means of attaining goals and evaluating activities. The competition (for points) was cited as reflecting "our American way of life!"

AWSCPA decided to discontinue its participation in the Award Program after 1970-71. In announcing this decision, it was noted that the program had always emphasized high calibre technical programs, continuing education, and preparation of articles for publication. Gradually, however, at the request of ASWA, the rules were expanded to also cover a variety of administrative matters. Beginning in 1971-72, the program was administered by ASWA. The rules continued to be rewritten and updated every few years to streamline reporting requirements.

The Woman CPA

The Woman CPA (TWCPA) has been a joint venture of AWSCPA and ASWA since 1939 – first as a membership bulletin and then as a professional journal.

Membership Bulletin

The first issue of TWCPA was published in December, 1937, as the membership bulletin of AWSCPA. It consisted of three 8½x11 inch mimeographed sheets of paper. By August 1, 1939, it was a joint bimonthly bulletin; the contents included reports on the annual meetings and on two meetings of the Junior Chapter in Chicago, and a list of the new AWSCPA members.

The bulletin was seen as representing the societies, as a source of reference for members, and as a place to express technical opinions. Members wanted to see personal items about members as well as reports on legislation of interest to women.

The appropriateness of the name, as the official bulletin not only of AWSCPA but also of ASWA, was discussed in 1941 and it was decided to keep the name. (The 1984 manual of procedures for TWCPA stated that its name denotes the professional attainment of members of AWSCPA and a likely aim or the professional attainment of members of ASWA. As noted earlier,***)

The two societies originally split the costs, with ASWA paying two-thirds, since that was roughly the proportion of bulletins distributed to each society's members. Later, a portion of dues from members of each society was allocated to a special bulletin fund, with any additional costs being divided between the two societies. In the early 1940s, voluntary contributions to the bulletin fund were also accepted.

The public relations committees of each society sent out complimentary copies as early as 1942. These were part of the bulletin's overall costs and not charged directly to the society requesting them. Since many public relations activities were done jointly, the costs had to be allocated between the two societies anyway. However, this practice meant that a public relations expense was buried in "additional costs of the bulletin." In 1970, the two societies agreed to fund the cost of these copies. In 1978, the Educational Foundation of AWSCPA-ASWA assumed the funding.

At the 1947 Joint Annual Meeting (JAM), Jennie M. Palen, Editor of TWCPA, reported that compliments on the appearance and content of the Journal had been received from London, New Zealand, the Institute of Chartered Accountants in England and Wales, and many organizations in the United States. Eight articles were reprinted in the *Accountants Digest* during 1947. The International Accountants Society, a correspondence school, was very supportive of the publication in the 1950s, generating almost 1,000 subscriptions in 1949 and advertising regularly until 1972 [Parrish, 1988].

ASWA's first National Membership Bulletin was mailed to all members in August, 1953. Its purpose was to provide a closer relationship among chapters, individual members, and national officers through a less formal means than TWCPA. It was initially bi-monthly, published in months when TWCPA was not. The Coast-to-Coast section of the journal, which featured professional news about members, later became part of the ASWA bulletin. The ASWA bulletin was sent to chapter bulletin chairs, so it could be mailed to members with the chapter's own bulletin. In 1954 this publication was re-named the *Coordinator.*

In September, 1955, AWSCPA started their own bi-monthly membership newsletter. Its purpose was to bring the membership closer to the Society through knowledge of the activities of the Society and its membership.

Professional Journal

Beginning 1956, TWCPA focused on technical materials of interest to members and non-members alike. The purpose of the journal was reviewed in the mid-1960s. Was it to inform the readers or to display the talents of members? Should it cease publishing "how to do it" articles and focus on theoretical issues instead? Should it fill the technical needs of members who did not belong to other accounting organizations (and, thus, did not receive other accounting literature)? In the 1970s, objectives included printing professional articles authored primarily by members – to assist them in developing this facet of their professional skills and as a public relations vehicle. Education was another goal: providing members with technical and other information about the accounting profession. In 1984, the journal's purpose was expanded to also include publishing articles of interest to, and about, women accountants; publishing articles which are useful, and of interest, to members of both societies on nontechnical, but business-related (management, leadership, marketing, etc.) subjects; and providing important, timely information to its readers about the two societies. In 1987, a joint AWSCPA/ASWA ad hoc committee, chaired by Lillian Parrish (editor), was formed to study TWCPA and recommend changes to it in order to best serve the interests of the members. Recommendations covered style and layout, full-color advertising, and content. The journal's updated objectives include providing members with information on accounting, the profession, and women accountants; serving as a promotional vehicle for women in accounting and for the two organizations; and providing opportunities for membership to publish articles.

Originally, all matters pertaining to TWCPA required action by the presidents of AWSCPA and ASWA and/or the two boards. This included finances, advertising contracts, and subscription campaigns, as well as the appointment of the editor, editorial staff, editorial board, and the business manager. In 1979, a new business manager position was created to handle advertising, circulation, and accounting duties, in accordance with a procedures manual approved by the two boards. Up to this point, the two presidents had still been responsible for approving all expenditures and signing all correspondence, as well as making appointments and determining compensation. A joint executive committee was formed in 1989, consisting of a national director from both ASWA and AWSCPA and the TWCPA editor, associate editor, treasurer, and business manager. It was charged with management and oversight of all aspects of the journal, including setting and implementing policy.

Financial arrangements changed over the years. Starting in 1956, AWSCPA and ASWA allocated part of the national office costs to TWCPA because the office supervisor also served as business manager of the journal. AWSCPA billed the journal for 15% of this amount and ASWA billed 85%. (ASWA paid a greater percentage of national office costs and thus was reimbursed for more.) Any deficit incurred by TWCPA would be split between the two societies based on the proportion of their paid subscriptions to total paid subscriptions. In 1972, the capital of the journal was established at $3,000, with AWSCPA contributing 20% and ASWA, 80%; this represented the approximate ratio of the membership of the two societies. Additional contributions in subsequent years would be in proportion to the membership ratio. While splitting the journal's costs based on membership made sense (at least to the extent they were driven by volume), there was some dissatisfaction over each society having an equal say in the journal's operations. In 1976, AWSCPA agreed to 50% responsibility for complimentary subscriptions, 50% sharing in operating expenses, and 50% share of equity. The annual subscription rate for members was increased from $1.00 to $1.25 in 1958, $1.50 in 1966, and $3.00 in 1975, $3.40 in 1986, and $4.00 in 1990.

Roster

At the 1939 JAM, a joint publications committee was formed to handle publications, bulletins to members, yearbooks (rosters), and similar matters. The September 1940 National Yearbook contained a complete history of both societies, the national constitution of each, abridged minutes of the 1940 annual meeting, and a complete list of the memberships at year-end, with their names and addresses. Each society paid half of the cost because, while ASWA needed more copies for its members, AWSCPA sent copies to state and other professional societies. Titles (Miss or Mrs.) were included in the 1941 book (covering September, 1940, to September, 1941) "to avoid embarrassment in addressing members." Starting in 1947, the cost was split based on the number of pages used by each society. In 1950, ASWA paid for 75% of the book's cost.

New technology was used for the joint 1952 book. It was "planographed," a process by which typed pages were photographed and then reduced in size to a 5½" by 8½" page. This process eliminated verifying a printer's proof – no small savings on a 216 page document! (Xerox's first copier with reduction capabilities was not available until 1974 [Xerox, 1988].)

Headquarters

In 1947, ASWA and AWSCPA established a national office in New York City, with dual member Helen Lord as office manager. The overlap in membership between the two organizations and the joint publication, TWCPA, made a joint office very practical. During Lord's tenure, ASWA and AWSCPA split the charges for office space, the office manager's services, and, initially, out of pocket expenses. Since ASWA had the larger membership, it paid two-thirds of the costs in 1948 and three-fourths of the rent charge and two-thirds of service charges for hours spent on TWCPA. Each organization then paid for hours spent on their work and for their own expenses.

Lord resigned in 1953 as office manager for both societies, as business manager for TWCPA, and as a member of AWSCPA. The two organizations hired the firm Secretarial Assistance, headed by Beatrice Langley, to provide administrative services for them and TWCPA. Langley contracted separately with each organization.

In 1974, AWSCPA established its own national office in Columbus because Langley had indicated a desire to concentrate on ASWA activities. Member Barbara Rausch became the office manager.

At the 1974 annual meeting, both organizations authorized committees to assess the feasibility of reuniting the national offices. Aside from operating efficiencies, AWSCPA and dual members were concerned about a proposed ASWA dues increase. Dual members had "paid" for national office services through their AWSCPA dues; now that the office was separate, they would have to pay full dues to both organizations (an increase from $3.00 to $14.00 or, if the increase passed, $15.50). In 1977, the committees and boards recommended that the freedom and flexibility of having separate offices, and the efficiencies of management allowed by the growth of both societies, outweighed any advantages of reuniting the offices.

When Langley retired in October, 1975, ASWA moved its office to Wacker Drive in Chicago and hired its own personnel.

AWSCPA moved its national office to Chicago in July, 1980, contracting with P.M. Haeger & Associates to provide these services. In 1987, Smith, Bucklin & Associates assumed these duties, with Bonnie Sweetman serving as executive director.

Membership

"Helping" has worked both ways in the relationship between ASWA and AWSCPA. While AWSCPA has helped ASWA through the Awards Program, ASWA has helped AWSCPA with membership.

1933-1960

AWSCPA bylaws originally provided for local chapters. A Chicago chapter of AWSCPA was formed in November, 1933. Presidents of the Chicago group included Clara Stahl (1939), Josephine Kroll (1940, 1941), Maxie Bryan (1943) and Alma Rasmussen (also 1943). There was also a group in New York, whose presidents included Vera Edelstein (1939), Phyllis O'Hara (1940, 1941) and Helen Lord (1943, 1945). These groups had regular meetings, sometimes jointly with the local ASWA chapter. In 1944, AWSCPA completely rewrote its bylaws and dropped the provision for chapters. Broo chaired the committee that drafted these bylaws. While the minutes of meetings at this time do not describe the discussion that took place, it is possible that AWSCPA wanted to avoid competing with ASWA on a local level.

The close relationship between the two organizations is also shown in a change made at this time in ASWA's bylaws. Starting in 1945, ASWA's bylaws provided that a woman CPA had to join AWSCPA (and remain a member of that organization) in order to be a member of ASWA. This applied to women who were already certified when they applied for ASWA membership and to those who became certified after they joined ASWA. The change may have been made because previously many members of ASWA had not chosen to join AWSCPA after they became certified. ASWA was obviously seen not only as a means of encouraging women accountants to become certified, but as a means of increasing AWSCPA's membership.

Most AWSCPA members qualified for membership in ASWA. At this time, if they were "actively engaged in accounting work" and had two years of accounting experience, they qualified for regular membership. With less experience, they could be junior members of ASWA. AWSCPA members were never, however, required to join ASWA.

ASWA grew rapidly in the early 1950s, leading to greater differences in the needs of the two organizations and to meeting those needs separately. Rosters became a separate expense for each society – the last joint roster was for the year ending June 30, 1952. In 1953, ASWA started its own national membership bulletin, the *Coordinator.* (Not until 1959, though, were dual members assessed a subscription fee (50 cents) for a national expense that was not jointly incurred with AWSCPA.)

Effective July 1, 1948, dual members only had to pay chapter dues to ASWA. National dues were waived on the grounds that they primarily covered joint functions, such as the national office and membership bulletin. In prorating expenses, these members were counted as AWSCPA members since they paid national dues to AWSCPA. The waiver was instituted to encourage new CPAs to join ASWA chapters.

In 1951, the requirement was changed so that a woman CPA had to join AWSCPA only to *become* a member of ASWA. If an ASWA member became certified, membership in AWSCPA was optional. Of course, if she did not pay national dues through AWSCPA, she had to pay ASWA national dues.

The Chicago group of CPAs apparently continued to meet informally through the 1940s. At the 1951 annual meeting, Grace Schwartz Keats, a member from Chicago and AWSCPA national president in 1943-1944 moved that the provision for local chapters be reinstated so that the Chicago group of CPAs might be officially recognized as a chapter of AWSCPA. The question was referred to committee. In 1952, the committee moved that the resolution be rejected, but a motion was passed which required that a proposal for chapters be presented to the membership accompanied by one page of arguments for and against. The membership, however, rejected the idea. Still, in 1957, the Chicago members of AWSCPA and the Chicago Chapter of ASWA sponsored a *joint* public relations dinner.

In 1952, there were over 1,600 ASWA members and approximately 300 AWSCPA members; both of these figures include the 100 dual members.

In 1955, at AWSCPA's suggestion, application blanks for both AWSCPA and ASWA were included in ASWA's chapter development kits and provided to its chapter membership chairs. This procedure was intended to assist chapters in complying with the membership requirement in the bylaws, although there were mixed feelings about the provision. This practice was reaffirmed in 1970.

1961-1962

In 1961, there was some concern that dual members were receiving national services directly from ASWA without paying for them. Approaching the 1961 JAM, ASWA had incurred small but growing deficits for three years. It was suspected that dual members contributed to the deficits because, over the years, some national services that had been done jointly (such as the roster) had been separated and new national services had been added. Yet dual members continued to pay national dues only to AWSCPA, which covered their share of the remaining joint national expenses. There were over 300 dual members now, representing almost 10% of ASWA's membership but over half of AWSCPA's membership.

There were undercurrents of resentment among ASWA members, who perhaps felt that AWSCPA dictated to ASWA and who did not particularly want to be affiliated any longer. Some AWSCPA members thought that ASWA members should appreciate what had been done for them by the CPAs (i.e., the dual members and the other members of AWSCPA) and not quibble over the division of costs; the situation was compared to "a child who takes care of the mother" later in life. Some CPAs (including dual members) pointed out that it was ASWA's own bylaws that waived national dues for dual members – perhaps overlooking the fact that their organization still had the right to approve or disapprove changes in ASWA's bylaws. Also, the dues may have been waived, in part, because of the requirement (also in ASWA's bylaws) that CPAs who wanted to belong to ASWA had to join AWSCPA.

There was a suggestion that ASWA dues could be held down by making the subscription to *The Woman CPA* optional. It was thought, though, that many ASWA members would not subscribe and – if this happened – it would be detrimental to the publication which would then no longer be a joint venture. Some chapters were worried about losing members (certified or not) if the dues increase passed. AWSCPA members thought dual members might drop out of ASWA if their dues were disproportionately raised and that ASWA chapters would thus lose many of their leaders. A dues increase, from $8 to $12, was proposed but was defeated by the ASWA membership in 1961.

Ida Broo proposed a committee to survey the joint operating expenses, to make recommendations as to an equitable division, and to prepare balanced forecasts of realistic, expected income and desirable expenditures for the coming year for consideration prior to the 1962 annual meeting. Committees were elected by both organizations to determine if the existing financial arrangement was still equitable. The AWSCPA committee consisted of Broo; Grace Hinds (ASWA president 1955-56); and Elizabeth Sterling (AWSCPA president 1956-57 and dual member). The ASWA committee consisted of Hazel Brooks Scott (1951-52 secretary); Zosia Edwards Stege (ASWA president 1956-57); and Leatrice Harpster (ASWA treasurer 1960-62).

The report of the ASWA committee in 1962 recognized AWSCPA's ongoing support of ASWA and its role in assisting ASWA in becoming a recognized professional organization. It also noted that the dual member benefited from her membership in ASWA and that AWSCPA gained many new members from ASWA members who passed the CPA exam. It was determined that services to dual members cost each non-dual ASWA member 68 cents. The committee recommended that, if dual members were charged national dues, dual member dues be set at 25% of regular member dues. It does not appear that dual dues at this rate would have eliminated the non-dual subsidy. Nearly half of ASWA's expenses at this time were not allocations from joint operations; these expenses included administrative and travel expenses of officers, committee expenses, stationery, postage, *Coordinator,* and the roster.

The report of the AWSCPA committee attempted to present a balanced view but nevertheless reflected a maternal attitude. It was noted that the dual member provided "leadership, inspiration, opportunity, and a definite status to the Society which otherwise could scarcely attain professional status." At the same time, the dual member received "unexpected dividends – fellowship and inspiration ... a more influential voice in the community; and a wider recognition of her place in the profession." The report also noted the unique relationship between the two societies – "where one who has reached a certain milestone attempts to chart a path and offer help to others struggling on that path." The committee recommended that the AWSCPA board approve any change in ASWA bylaws that provided reasonable dues to be paid by dual members.

ASWA did approve a four dollar dues increase for regular members (with corresponding increases for junior and partial year dues) at ASWA's 1962 annual meeting. A proposal for dual member dues of 25% of the regular member amount was made at the 1963 annual meeting; it failed. Opinions were mixed, ranging from requiring dual members to pay equal dues, to feeling that the good that ASWA received from AWSCPA's association was worth too much to risk losing their assistance over a relatively small amount of money, to wanting to hear what the AWSCPA board thought first. Requiring dues from dual members would probably also mean dropping the requirement that CPAs join AWSCPA before they could join ASWA.

AWSCPA had been sending a congratulatory letter to women when they passed the CPA exam, along with a brochure about the two societies and an application for AWSCPA membership. In 1962, AWSCPA offered to send copies of these letters to ASWA chapters so that they could also contact these prospective members.

1963-1988

In 1970, ASWA approved a five dollar dues increase for regular members, with corresponding increases for junior members and partial year dues. Dual members were assessed three dollars (including one dollar for the *Coordinator*). Not only had ASWA's membership growth tapered off (instead of 229 per year, as projected in 1963, it was 105 per year), but more members were passing the CPA exam – meaning a decrease in regular members.

In 1972, ASWA decided that all applicants, including CPAs, should have three reference letters with their ASWA membership application. However, in 1976, ASWA decided to rely more on the AWSCPA membership chair and to require only one character reference for AWSCPA members who were applying for ASWA membership.

When AWSCPA moved its national office to Columbus in 1974-75, ASWA considered instituting full ASWA national dues for dual members. However, it was not until July 1, 1978 that dues for dual members were raised to the amount of regular dues (less the subscription to TWCPA). The requirement that CPAs join AWSCPA was also dropped at this time. The AWSCPA board discussed this change in ASWA's bylaws but had no official position on it.

In 1978, ASWA obtained mailing labels from AWSCPA in order to invite its members to join ASWA.

In the 1970s, a growing number of woman CPAs expressed interest in having local organization that would provide them with more contact with other women CPAs than a national society could provide. Unlike the situation in the 1930s, there were enough women CPAs in enough cities for this idea to be implemented. A 1977 survey showed widespread support for local affiliates, and AWSCPA responded by amending its bylaws in December, 1981, to provide for the formulation of local affiliate groups. These groups were separately incorporated but met standards set by AWSCPA and shared in the benefits of a national organization. By 1988, there were 38 affiliate groups of AWSCPA throughout the country.

ASWA's "new chapter organization kits" subsequently stopped including membership applications for AWSCPA.

In 1988, the provision that AWSCPA membership qualified a person for ASWA membership was clarified to state that holding a CPA certificate qualified a person for regular membership. CPAs who were not members of AWSCPA could more easily be approved for membership this way than under education provisions.

Joint Annual Meetings

Annual business meetings are part of most organizations and ASWA and AWSCPA have always held theirs as part of a single conference. The meetings not only bring members together within each organization, but also facilitate cooperation between the two societies. Educational sessions, board meetings, and social events round out the programs.

Traditions

From ASWA's first annual meeting in 1939, the meetings have been held jointly every year that either organization held an annual meeting. (Meetings were not held in 1943 and 1945 because of travel restrictions due to World War II.) Meetings were generally held in September or October.

The 1945 JAM was scheduled for a Sunday and Monday. In 1945 and most years starting with 1948, the JAM was held immediately prior to the American Institute of Accountants' (AIA) annual meeting (this was the predecessor organization to the American Institute of Certified Public Accountants). In 1955, the policy was changed to "a place and time that will make it convenient for members to also attend the AIA meeting."

In 1969 and 1970, there were discussions on separating the JAM and the AICPA meeting. Advantages included greater flexibility in dates, cities, and hotels. It was also less of a burden on chapters in cities favored by the AICPA. Disadvantages included breaking a tradition and not having some AICPA officers at the JAM. There was also some motivation to avoid the AICPA because of remarks that members overheard or were confronted with at AICPA meetings. It was felt that separation from a predominately male organization would enhance the professionalism of women accountants. On the other hand, the AICPA had, in 1966, changed the wording on its meeting tickets from "Men's Tickets" to "Members' Tickets" – after prompting by AWSCPA. In 1972, citing member service on AICPA committees and the excellent cooperation that the two organizations were now receiving from the AICPA, the two boards decided to continue holding the JAM prior to the AICPA meeting.

The tradition of joint meetings was almost broken in 1978. AWSCPA passed a resolution to boycott cities that had not passed the Equal Rights Amendment, starting with Chicago in 1981. ASWA did not pass such a resolution, but the Chicago chapter withdrew its invitation and Memphis was chosen for the JAM that year.

The issue came up again in the 1980s, as JAMs in 1982, 1983 and 1985 were held away from the AICPA location due to lack of invitations by chapters in the AICPA cities. The 1988 JAM was also planned to be in a different city – Indianapolis – to celebrate ASWA's 50th anniversary. While some members felt they could not attend both meetings unless they were back to back and in the same city, others felt having to spend such a large block of time away from the office was a problem. In any case, the proportion of members for whom this scheduling was relevant was (and is) very different for AWSCPA and ASWA. The 1991 JAM in Chicago will be the first to follow the new resolution whereby JAM will not be held in conjunction with the AICPA annual meeting.

Program

Activities at the annual meetings as well as regional conferences reflect stages in the development of the Societies. As the societies matured, the relative importance given to social, administrative, and educational activities shifted.

• **1940s.** Conferences in the 1940s were primarily devoted to social functions and organizational matters.

• **1950s.** In the 1950s, the length of the conferences increased to accommodate more technical sessions, allowing members to feel justified in taking time away from their offices.

ASWA workshops covering different committees were held concurrently with the AWSCPA business meeting, which forced dual members to choose between activities of the two Societies. National board meetings had their own time slots (rather than being held before the convention officially starts, as they are today). The two boards had concurrent meetings on one day and consecutive meetings on another day. Tours were arranged for other members during this time, although, in general, social activities were playing less of a role at meetings.

In 1956, less time was allotted to the joint annual business meeting – two hours vs. all afternoon, as in 1955 – and the two national boards met simultaneously for both of their sessions. There were also two concurrent technical sessions. Members continued to stress the need for technical programs to convince their companies to pay their expenses and to avoid charging the time against their vacation. A different school of thought was to "not get carried away" with technical sessions at the ASWA/AWSCPA meeting because the AICPA program was available the following week. Of course, this only applied to members who were CPAs.

The joint annual business meeting was Thursday afternoon in the mid-1950s. Unlike today's Thursday morning opening session, it included reports of joint committees and discussions of common issues which the two Societies would later vote on in their respective business meetings.

• **1960s.** Annual meetings in the 1960s divided time evenly among organizational activities (such as business meetings and workshops), social events, and technical programs. At the 1961 JAM, a technical session was held at 9 p.m., following the AWSCPA dinner. For the 1969 JAM, changes were made in the programming and scheduling, with the objective of having more members participate as speakers and to increase attendance.

• **1970s.** In the 1970s, business meetings of the two Societies and chapter officer workshops began to be scheduled concurrently with other activities, requiring dual members and organization leaders to make choices as to what to attend.

Coordination

At various times, the two boards had joint meetings (1940s) and exchanged minutes (1950s and mid-1970s), rosters (mid 1970s), and newsletters (early 1980s). Officers from each society met regularly (1980s) to improve and maintain good relations.

Legislation and Public Relations

The joint public relations committee issued its first pamphlets in 1946. One was entitled "Women's Accounting Societies" and the other was a reprint of two articles, "The Position of the Woman Accountant in the Postwar Era" and "Will Women Hold Their Place in Public Accounting." Subsequent editions of "Women's Accounting Societies" were produced every few years. Statistics on the total number of CPA certificates and the number issued to women were updated each time. The numbers were 26,000 CPAs and 400 women in 1946 and 84,000 CPAs and 1,900 women in 1965.

AWSCPA and ASWA national legislation committees have worked together on researching and supporting or opposing laws that affected employment opportunities for women and for accountants. This activity peaked during the 1950s.

National public relations committees worked together on career literature and other projects in the 1960s and 1970s.

In 1963, AWSCPA initiated a project to create a speakers bureau for members who were available to speak on various accounting topics. ASWA was invited to participate. Information about the speakers and their topics would be distributed to organizations such as chambers of commerce, state CPA societies, and ASWA chapters. Collecting the information, writing it up, and classifying it for easy reference took four years. Printing costs were almost prohibitive, but the two organizations continued the project. ASWA paid for the printing and sold copies to AWSCPA at cost as needed. AWSCPA decided in 1969 to pay for half of the printing and discontinue its involvement in the project. Although public relations value was received through distribution of the packets, few, if any, speaking engagements resulted from them. ASWA dropped the project in 1970.

In 1964, AWSCPA developed a handbook for treasurers of not-for-profit organizations. In 1965, AWSCPA asked ASWA to join in distributing it. AWSCPA sold the handbook to ASWA at cost; participants in workshops sponsored by chapters would pay slightly more for the handbooks. By 1974 the project was ASWA's; AWSCPA was no longer involved in revising and distributing the handbook. A new manual, "How to be a Good Treasurer" by Lucille Terry Morris from the Ventura-Santa Barbara chapter, was made available starting in 1976.

In 1972, a new joint membership brochure was developed, "An Introduction to the American Woman's Society of Certified Public Accountants and the American Society of Women Accountants." ASWA printed 15,000 copies and AWSCPA bought 3,000 of them. In 1976 and 1977, the brochure was reprinted (10,000 copies each time).

The Educational Foundation of AWSCPA-ASWA

ASWA and AWSCPA have always believed it was important to disseminate information about women in the accounting profession. Related activities included statistical surveys on women in accounting, career literature, and complimentary subscriptions to TWCPA. Scholarships were awarded to encourage women to enter the profession. Many of these activities were initiated by the public relations committees as a way to gain visibility for women accountants as well as to provide a service.

In 1966, a bequest made by Anna Grace Francis, the first president of AWSCPA, was used to establish a tax-exempt organization called the AWSCPA Educational Foundation. The Foundation's purpose is to enable women to reach their true potential in accounting through education of themselves and others. Contributions from members of ASWA and AWSCPA are the primary sources of funds for Foundation projects. In 1974, the Foundation was renamed "The Educational Foundation of AWSCPA-ASWA" to reflect the participation of both societies in Foundation activities.

The relationship between the two Societies and the Foundation is complex. The Societies and the Foundation have separate boards which sometimes have different priorities and yet their operations are interdependent. The Foundation needs mailing lists and other assistance from the two organizations in promoting contributions. The two organizations benefit from having a tax-exempt vehicle for achieving some of their own objectives – the Foundation assumed funding of many educational activities that were previously included in the two organizations' operating budgets. Expenditures on Foundation projects in 1990 totaled over $43,000.

In the beginning, the Foundation was active not only in raising funds, but also in suggesting projects that could be funded. In 1973, AWSCPA and ASWA were asked to approve the addition of the management workshop to the JAM schedule. Marjorie June (who would be the Foundation president in 1979-80) developed the idea of a seminar that stressed the management skills that members would need to advance in the profession at a time when the focus was on technical skills. The seminar would be all-day, in contrast to the one and two hour sessions during the JAM itself.

Foundation goals in 1976 were to increase both its visibility and the participation of members. The Foundation asked the two societies for suggestions for new projects and encouraged them to think ahead five years. Gradually, the role of initiating projects shifted to ASWA and AWSCPA. Also, other projects were repeated annually, leaving less funding for new ones. Setting funding priorities and managing cash flow became a task for the Foundation, with the two societies providing input on their priorities and plans. Projects such as the statistical survey and career literature were occasionally done jointly, but more often each society had its own publications and scholarships.

Bylaws changes in 1981 brought more balance to the Foundation's structure. A requirement that a minimum of 70% of the board be members of AWSCPA was replaced by a provision that a minimum of 50% of the board be members of AWSCPA and a minimum of 50% be members of ASWA; dual members could count for either. The requirement that members of the executive committee be members of AWSCPA was deleted.

The Foundation now asks both organizations to submit names of potential trustees to its nominating committee. They often suggest people who are members of their respective boards, thus enhancing communication between the two organizations.

Spring Conference

From 1945-1948, ASWA and AWSCPA held Regional District Meetings that were separate from the annual meeting. Beginning in 1949 on, the spring meetings were sponsored solely by ASWA.

In 1970, the ASWA Board approved having *one* spring conference, instead of eastern and western regionals, effective in 1975. They hoped this would encourage more members to attend the remaining meeting and to make it easier for the national board to attend national meetings. (In 1990, the spring conference would be eliminated after 1992 to reduce competition for members' educational dollars, allow more attention to be paid to area meetings and the JAM, and continue the association with AWSCPA at the annual meeting.)

In 1974, AWSCPA expressed some interest in jointly sponsoring the Spring Conference. Because of the change to a single conference, action was deferred. Also, ASWA chapters had already begun plans for future years and it would not have been fair to change the rules on authorization. Finally, it was felt that the conferences were, and should remain, a valuable chapter activity. (The Board was viewed as only advising the host chapter, not as responsible for the conference – although it did approve the city, hotel, dates, budget and general chair.) In 1976, ASWA gave AWSCPA the option to review the program and add the words "Endorsed by AWSCPA for *xx* hours of CPE" if they desired. (In 1976, AWSCPA also expressed interest in attending ASWA Area Days and offered to provide mailing labels for its members if non-dual members would be invited.) In 1978, AWSCPA attendance at the conferences was supported by providing their board the option to approve the technical program. (1978 was also the first year that AWSCPA sponsored regional seminars for its members.) In 1985, AWSCPA non-dual members were exempted from a Spring Conference fee schedule that charged non-members a higher rate.

Merger

The discussions about reuniting the national offices and suggestions that AWSCPA establish chapters prompted a much broader proposal in 1978: to form a joint committee to investigate merging the two societies. Proposed advantages included having a greater impact on the accounting profession and business world and eliminating duplication of effort in programs and operations. On the other hand, AWSCPA's ability to focus on the concerns of women CPAs was important and activities such as publicity were already shared where possible. Finally, although both organizations had programs in the same areas (e.g., education, public relations, membership), ASWA worked through its chapters while AWSCPA used national committees. The resolution was passed at ASWA's annual meeting, but narrowly defeated at AWSCPA's.

Conclusion

Affection, dependence, and autonomy have characterized the relationship between AWSCPA and ASWA from 1938 to 1988. As AWSCPA past president Marie Dubke put it, there were "the usual years of peace and harmony, and the usual years of conflict between the two boards." Due to changing needs of the two organizations, some previously joint functions are now done separately (government, awards bulletins, roster, headquarters). In other areas, the two organizations continue to work together to achieve common goals.

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This history was prepared primarily from minutes of: ASWA Board of Directors meetings, 1938-88; ASWA annual business meetings, 1938-88; AWSCPA Board of Directors meetings, 1933-83; joint board meetings, 1940-42; joint annual membership meetings, 1940-74; and ASWA Chapter Presidents meetings, 1949-53. Other sources included: *Milestones and Memories: A History of American Society of Woman Accountants, 1938-1962* (Hill, Harriette Ann (Ed.), 1963); The Educational Foundation of AWSCPA-ASWA 1990 brochure; and correspondence, annual reports, and other material in AWSCPA and ASWA national files and personal files.

The Changing Profession: End of the Small Practitioner?

By Marvin J. Albin, Ph.D., CPA and James R. Crockett, DBA, CPA CIA

Professional requirements associated with CPAs who perform audit and review services have increased significantly over the past three years. The Statements on Auditing Standards (SAS) issued by the AICPA to address the "Expectation Gap" [AICPA 1988] imposed stricter requirements and in some cases caused fundamental changes in the way audits are conducted. The peer review requirements voted in by the AICPA membership [AICPA 1989] for those engaged in audit and review services resulted in additional demands and costs. The legal environment in which audit and review services are performed is unstable in the face of a rapidly changing economy and stiffer professional requirements. In combination, these factors raise the question of whether CPA firms with limited resources and clienteles consisting primarily of small businesses will find it viable to continue offering audit and review services. This article reports the results of a research project designed to evaluate how changing conditions have affected the audit and review practices of local CPA firms in a five-state area of the Midsouth.

Research Methodology and Summary of Results

A questionnaire (Figure 1) was developed to secure information from local CPA firms. The questionnaire was mailed to 529 firms selected from telephone Yellow Pages of 23 metropolitan areas – five each in Mississippi, Louisiana, Tennessee, and Alabama, and three in Arkansas. In selecting firms to be surveyed, attempts were made to choose those whose Yellow Page listings indicated they performed audits and to avoid those who appeared to practice in more than one state.

There were 189 usable responses received out of 529 surveys, resulting in a response rate of 36 percent. The response rate was high for the population surveyed, reflecting a great deal of interest in the subject. The level of concern among local practitioners was reinforced by comments written on the responses and telephone calls to the authors. The responses clearly indicate that the changing professional environment is having an important impact on the audit and review practices of local CPA firms in the region. This is exemplified by the following summary data concerning the respondent's firms: (Note: Not all of the 189 participants responded properly to every survey item.)

1. A total of 35 out of 187 respondents (19 percent) indicated their firms do not perform audits. Twenty-eight of these discontinued their audit practice during the past two years.
2. Twenty-three respondents indicated their firms are planning to discontinue performing audits.
3. Twenty-nine respondents indicated their firms were undecided about whether to discontinue performing audits.
4. Thirteen respondents indicated their firms had discontinued performing reviews during the past two years, while seven indicated their firms planned to discontinue such service.
5. Fourteen respondents indicated their firms had gained audit or review clients during the past two years from firms that had discontinued performing such services.
6. Respondents who had discontinued or planned to discontinue audit or review services indicated that peer review requirements, decreased profitability, new professional standards, and the legal environment all had contributed to their decisions to discontinue.
7. Respondents strongly indicated that new professional standards, peer review requirements, and the two in combination will make audits impractical for small firms and audits and reviews too expensive for some clients who have used such services in the past.

Impact on Audit Services

A more detailed look at the survey results better reflects the changes in audit practice. From the perspective of audit services, 42 percent of the firms with audit practices (65 of 152) have already been affected significantly by the changing environment. These firms have either discontinued audits, plan to discontinue, or have gained clients because other firms have discontinued performing audits. An additional 19 percent (29) of the respondent firms were undecided as to continuing to perform audits. Thus, potentially 61 percent of the respondent firms' audit practices either have been, or will be, significantly affected by the changing environment.

Sole practitioners responding to the survey indicated their audit practices are being severely affected. Twenty-eight (42 percent) of the 66 sole practitioner respondents discontinued conducting audits during the past two years. Another 17 (26 percent) indicated they plan to discontinue audits. Thus, a total of 45 (68 percent) are either out of audit practice or plan to discontinue. In addition, 15 others indicated they were undecided about continuing their audit practice. It should be noted that all of the respondents (28) who indicated their firms had discontinued audits during the past two years were sole practitioners.

Impact on Review Services

The review practices of sole practitioners are also being severely affected. Seven (10 percent) of the 69 sole practitioners responding indicated they had discontinued performing review services during the past two years. Another six (9 percent) indicated they planned to discontinue. An additional 22 (32 percent) indicated they were undecided about whether or not to continue performing reviews. Thus, 51 percent of the sole practitioner respondents had discontinued, planned to discontinue, or were undecided about review services.

While review services of respondents' firms have been affected, the impact does not appear to be as drastic as audit services. This can likely be attributed to the differing levels of peer review that are required for AICPA membership for audit and review services. Audit practice requires an on-site peer review every three years, with an estimated average cost of $1,200 for sole practitioners. Review services require an off-site or desk review every three years, with an estimated average cost of $750 for sole practitioners [Cottle 1988].

Change Factors

The questionnaire asked respondents whose firms had discontinued or planned to discontinue audits or reviews to rate four items as to their importance in the decision to discontinue. The rating scale was 1 to 5, with 1 indicating the item was very important and 5 indicating it was of no importance. The items and their mean ratings were as follows:

1. The legal environment = 2.61
2. The AICPA's peer review requirements = 2.01
3. The requirements imposed by new SAS = 2.35
4. Decreased profitability of such engagements = 2.34

Assuming a response of 3 to be neutral, a mean below 3 would indicate that the item was generally felt to be important. Thus, respondents generally believed that all of the items were important with respect to their decisions; the AICPA's peer review requirements were considered the most important. It is interesting to note that, overall, the legal environment was considered to be the least important. It appears decreased profitability is probably a result of a combination of the other three factors.

The questionnaire asked respondents to indicate their level of agreement with three statements concerning the practicality of small CPA firms continuing to offer audit and review services. A scale of 1 to 5 was used, with 1 indicating strong agreement and 5 indicating strong disagreement. The statements and the mean values of the responses were:

1. The requirements imposed by the new SAS will make auditing impractical for small firms = 2.38
2. The AICPA's peer review requirements will make audit and review engagements impractical for small firms = 2.46
3. The costs associated with complying with the new SAS and peer review will make audits or reviews too expensive for some clients who have used such services in the past = 2.21

Each mean value was below 3, indicating respondents generally agreed with all three statements. There was strong agreement with the statement concerning the expense of reviews for some clients.

Respondent Comments

Fifty-eight (31 percent) of the respondents added written comments to the questionnaire. The majority of these comments were decidedly negative and came primarily from sole practitioners and small partnerships or professional corporations. The following are typical comments:

It should be noted that 11 (6 percent) of the respondents indicated they expected to give up their membership in the AICPA as a result of the effect of restructuring their practices.

Conclusions and Implications

Small CPA firms are being greatly affected by the changing professional environment. Many firms are giving up the auditing and review parts of their practice. This is especially true of sole practitioners. It appears that sole practitioners believe that they either cannot, or cannot afford to, live up to the requirements of the new SASs and peer review. The legal environment, peer review requirements, new professional standards, and decreased profitability all contributed to this phenomenon. Overall, study participants believed the new professional standards and peer review requirements together are rendering audit and review services too expensive for some clients who have previously used these services.

There are some interesting implications to these findings:

1. In the face of the recent crises in banking, it appears that bankers will require audits or review for more of their clients before granting credit. With decreasing availability and increasing costs of these services, worthy small

business may not be able to obtain needed credit. This has ominous implications for the economy.

2. As noted earlier, the legal environment was considered the least important factor contributing to decisions to discontinue audit and review services. This implies that respondents believe the users of such services were generally satisfied. In turn, the respondents' clients were receiving useful professional services at affordable prices and the new professional requirements were unnecessary. The pressures resulting in discontinuance are coming from the profession itself.

While the authors seriously doubt there is a conspiracy to drive small practitioners out of auditing, there certainly seems to be such a perception among the respondents. There is no question that the new SASs and peer review will result in higher quality services. There is a real question as to whether a higher quality of service is cost-justified for clients of small practitioners.

3. Small practice units are apparently being shut out of a professional aspect of accounting practice, i.e., audit services. Their practices are being limited to financial statements, tax practice, and small systems work, none of which require a CPA certificate in most states.

The authors question whether the accounting profession and society as a whole will benefit from what is happening to small CPA firms.

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Figure I

1. In which state is your firm located? .... AL 49 AR 25 LA 42 MS 36 TN 34 MULTI STATE 3
2. What is the form of your practice?
   70 Sole practitioner
   53 Partnership (number of partners ______)
   65 Professional corporation or association (number of shareholders ______)
3. Are you or any partner or shareholder in your firm a member of the AICPA? ..... YES 180 NO 8 MULTI STATE 1
4. Does your firm conduct financial statement audits under generally accepted auditing standards (GAAS)? .... YES 152 NO 35 MULTI STATE 2
5. Does your firm conduct reviews under the statements on standards for accounting and review services (SSARS)? .... YES 154 NO 33 MULTI STATE 2
6. Has your firm discontinued conducting audits during the past two years? .... YES 28 NO 156 MULTI STATE 5
7. Is your firm planning to discontinue conducting audits in the near future? .... UNDECIDED 29 YES 23 NO 117 MULTI STATE 20
8. Has your firm discontinued conducting reviews during the past two years? .... YES 13 NO 171 MULTI STATE 20
9. Is your firm planning to discontinue conducting reviews in the near future? .... UNDECIDED 34 YES 7 NO 130 MULTI STATE 18
10. If your firm has discontinued, or plans to discontinue, conducting audits or reviews, please indicate the importance of each of the following factors in the decision to discontinue. Circle the number most closely reflecting your opinion. (1 = Very Important; 5 = No Importance).

	1	2	3	4	5
a. The legal environment.	24	11	14	10	11
b. The AICPA's peer review requirements.	39	11	10	3	8
c. The requirements imposed by the Statement on Auditing Standards issued in 1988 and 1989.	22	21	17	3	8
d. Decreased profitability of audit or review engagements.	29	14	12	4	11

11. During 1988 and 1989 did your firm gain any audit or review clients from firms that have discontinued such engagements? .... YES 14 NO 167 NUMBER 8
12. Please indicate the extent of your agreement with each of the following statements. Circle the number most closely reflecting your opinion. (1 = Strongly Agree; 5 = Strongly Disagree)

a. The requirements imposed by the new Statements on Auditing Standards will make auditing impractical for small CPA firms.	63	46	36	18	20
b. The AICPA's peer review requirements will make audit and review engagements impractical for small CPA firms.	64	39	39	21	23
c. The costs associated with complying with the new Statements on Auditing Standards and peer review will make audits or reviews too expensive for some clients who have used such services in the past.	74	44	34	21	12

Small Business: Problems and Opportunities for Accounting Firms

By David H. Gobeli and Mary Alice Seville

Upon being complimented on a neatly maintained set of books, a small business owner responded, "My CPA loves them at tax time, but there isn't any information there that I can actually use to manage my business." The firm went out of business shortly afterwards, in part due to poor information and consequent confusion about actual costs. Poor cost information led to inaccurate bids for contracts, which in turn hurt profitability.

Unfortunately, this is not an isolated incident. Nationwide there is an alarming rate of small business failures each year which can ultimately be traced to ineffective management. Various specific causes can contribute to this problem, but one root cause is a lack of good management information — especially financial information — as explained by DeThomas and Fredenberger [1985]. Larson and Clute [1979] present a similar perspective as they describe the "failure syndrome" that is fueled, at least in part, by a critical unmet need for usable accounting information.

Where do small businesses turn for help to improve management information and avoid the failure syndrome? Arnold et al [1984] found that the CPA is considered the primary external adviser. Unfortunately, only 25% of 500 small businesses studied view that external adviser as very important in meeting management needs.

Small businesses need help, but there appears to be a gap between what is needed and what is available from accounting firms. Are accounting firms interested in better serving the small business? The answer is a resounding "yes!" according to Donna Sammons [1984]. Several CPAs interviewed as part of this study confirm a strong interest in better serving small businesses, even going beyond their traditional tax planning and preparation roles.

This article is based on a study of 148 small businesses. It was sponsored by the Benton-Linn chapter of the Oregon Society of CPAs, the Small Business Administration through the Small Business Institute Program at Oregon State University, and the Oregon Productivity and Technology Center. The CPAs provided valuable assistance in selecting questions and a wide representation of industries in their client bases. This means, of course, that the results are biased toward industries already using CPAs.

The Approach

This study was initiated as a result of experiences with over 150 small businesses participating in the Small Business Institute (SBI) Program. A frequent complaint was the poor quality of business information. The authors, both faculty participants in the program, began to wonder how well the accounting profession was actually serving small businesses. To find out, two MBA students performed 40 telephone interviews with randomly selected businesses in Corvallis, Oregon — a typical university town.

The interviews provided many insights but raised other questions, so the questionnaire was further refined for personal interviews in 148 businesses in five industries: hardware stores, optometrists, restaurants, general contractors, and grass seed farmers.

The personal interviews covered representative small businesses throughout the northwest portion of Oregon. Approximately 80% of the businesses had been in business more than five years, although the restaurants tended to be "young" with almost half having been in business less than five years. Sole proprietorship (44%) and corporations (40%) were the most popular forms of ownership. The majority of businesses had five or fewer employees; only 20 of them had more than 20 employes; and the largest had 85 employees. All were independently owned and

The research was supported jointly by the Oregon Society of CPAs and the Oregon Productivity and Technology Center of Oregon State University.

operated. No franchises were included. The interviewee was most often the owner-manager (about two-thirds of the interviews). All businesses rated themselves as average or better in level of success.

The Accountant - Small Business Relationship

First to be explored is how small businesses use accounting services. Ninety percent of the businesses used an outside accounting service for some purpose, and 79% of those used a CPA firm as that outside service. To further examine the accountant-small business relationship, information on the following items was gathered: why they were not using CPAs, how long they had used their current service, and how knowledgeable they believed accountants to be.

Reasons

The major reason for not using a CPA was that the CPA was perceived to be not as knowledgeable as others. The second most common reason was cost. These factors and the belief that "an employee can do it as well" combined to explain most of the lack of interest in using CPAs. There was a slightly greater tendency to use a CPA firm only for tax preparation (79%) than to use other types of outside accounting services only for tax preparation (74%).

Tenure

Forty-one percent of the businesses had used their current bookkeeping/accounting service for five years or less. There were, of course, some businesses that had used the same firm for as long as they had been in business, but 59% had used more than one bookkeeping/accounting firm. A primary reason for switching accounting firms was to find an accountant more knowledgeable about the industry. The two other major reasons for switching were unsatisfactory service (personality conflicts, poor communication, etc.) and an accounting service or accountant that was no longer available.

Knowledgeability

Most of the businesses were satisfied with their current accounting firm's knowledge of their business. All industries gave accountants a rating of 2.5 or higher on a 4.0 scale.[1] Grass seed farmers and optometrists perceived their outside services to be more knowledgeable than the other industries. Contrary to some popular beliefs, most businesses believed their accountants gave them very clear (3.0) explanations.

The pattern seems to be that the small business owner switches firms until one the "fits" is found. The next two sections discuss how accountants could expand their service to small businesses and provide a better fit so this relationship can be further developed.

Utility of Accounting Information Items

This research study shows there are definitely opportunities to extend current accounting services. To investigate these opportunities, the research reviewed the types of information managers actually use, the utility of different types of accounting information, the critical factors a business should monitor, and the form in which information on these factors is collected.

Information

To determine opportunities, a starting point is the kind of information, accounting and other, that business owner/managers actually use. Figure 1 presents the results from asking if a specific type of accounting information was used for either external or internal purposes, and if the business owner/manager found it not useful (1.0), somewhat useful (2.0), very useful (3.0), or extremely useful (4.0) in managing the business. The dashed line shows how useful the item is (e.g., cash flows are rated very useful with a 3.0 average rating). The solid line shows the proportion that used each information item (e.g., 55% use cash flow information). The apparent contradiction of people using information that they do not consider useful is easily reconciled; information may be used for statutory purposes (tax returns) or borrowing (financial statements) without being useful for management purposes.

The results presented in Figure 1 are interesting for another reason. The fact that financial statements and tax returns are used, but for the most part are not useful for managing a business, may indicate why clients tend to complain about fees. They are receiving information that is important for limited purposes but does not help them run the business. Education and marketing are needed to correct this situation; small business people need to know that accountants can help them, 1), get information that is truly useful in their business and, 2), use the information they are getting.Chances are they would be willing to pay for the improved service.

Critical Factors

The business manager/owners were asked to name the three critical factors about their business that they must monitor. Table 1 presents those results. The variability among industries is interesting. While "monitoring costs" was the most frequently mentioned factor for the group as a whole, it was not mentioned by hardware stores. Hardware stores were most concerned about inventory control, yet inventory control was mentioned by only a few other businesses. Thus, information must be tailored to the business.

The list of critical factors, while interesting, should not be considered definitive. The approach is more important than the end result. If the account will listen to the small business owner/manager, the accountant can fit the information to the business.

Form

Would the business owner/manager use the information if it were provided? To answer this, the question, "In what form does the information to monitor the critical factors get to you?" was asked. The results are presented in Table 2. The heavy reliance on "observation/experience" and "verbal" are indications of the old problem of getting people to pay attention to the written reports they are given.

Many opportunities exist, but educating the client on the content of

[1]The respondent was asked if the accounting service was not at all knowledgeable (1.0), somewhat (2.0), very (3.0), or extremely knowledgeable (4.0) about the business.

written reports and the benefits of that information is very important. Accountants need to build up credibility for these new services.

Perceptions About Business Needs and CPA Qualifications

To explore the opportunity for added services, the small business owner/managers were asked a series of questions to see what specific business services were needed and, whether needed or not, if CPAs were perceived as not qualified (1.0), somewhat qualified (2.0), very qualified (3.0), or extremely qualified (4.0) to provide it. The results are summarized in Figure 2. The solid bar shows the proportion needing each of the nine services (e.g., 86% need financial statements). The hatched bar presents the perceptions of CPA qualifications to provide the service (e.g., CPAs were rated an average of 3.4, between very and extremely qualified, for financial statement preparation). The figure indicates the magnitude of the opportunity for CPAs. A hatched bar that is low for a business service means that clients, current and prospective, do not think of CPAs when they need that service. This is definitely the case for New Venture Planning, Computer Systems, Business Consulting, Business Planning, and Marketing Planning. More surprisingly, there is even some doubt about the qualifications of CPAs to do Financial Planning and Tax Planning. If CPAs really are qualified to provide these services, there is a need for education and marketing to acquaint small business owner/managers with the possibilities. Of course, the most promising services to pursue are the ones needed by a high percentage of the businesses (the solid bar is long).

The services CPAs are perceived as most qualified to provide are, of course, Financial Statement Preparation and Tax Return Preparation. As we saw above, however, financial statements and tax returns do not have a lot of utility in management decision making. We also asked what other types of services CPAs are perceived as qualified to provide. While investment consulting and estate planning were mentioned most frequently, bankruptcy planning, retirement plans, financial analysis, form of business, projections, management analysis, business trends, and moral support were also mentioned.

Table 1
Critical Factors to Manage Business

	Optometry	Hardware	Seed Farm	Gen. Cont.	Restaurants	TOTAL
Costs	13	0	12	22	32	79
Personnel	8	10	0	8	10	36
Customer Service/ Quality	7	8	0	11	7	33
Cash Flow	8	12	4	6	2	32
Inventory	6	22	0	0	1	29
Sales Volume	9	11	0	0	3	23
Profit	5	7	8	1	1	22
Environment*	0	0	12	3	7	22
Marketing/Advertising	2	3	7	8	0	20

*Weather, economy, location, competition, regulations

Table 2
Form of Information to Monitor Critical Factors

	Optometry	Hardware	Seed Farm	Gen. Cont.	Restaurants	TOTAL
Observation/ Experience	0	32	5	26	25	88
Printed Summary	26	16	12	21	13	88
Verbal	11	4	30	11	30	86
Printed with detail	15	14	12	5	18	64
Computer	3	17	2	4	5	31

Table 3
Messages for Accountants from Small Businesses

Nature of Lesson	Description of Lesson
Relevance	When designing an information system, start with the factors the small business owner/manager tells you are most critical to the business's success.
Utility	Emphasize cash flow, job cost, and inventory control information since they are more useful than the traditional statements.
Multiple Uses	Design the system to get tax information and provide useful management information at the same time.
Convenience	Since the owner/manager is going to be one of the primary people collecting and entering the data, make it quick and easy to use.
Understanding	Obtain a good understanding of the industry and the particular business.
Competence	Master and then demonstrate that CPAs are qualified to provide other services. Otherwise, do not offer them.
Opportunity	Learn and communicate skills in financial planning, tax planning, business consulting, computer system design, and business planning.

Conclusion

CPAs are viewed by many small business owner/managers as preparers of tax returns and financial statements. Assuming the CPAs want and deserve a broader image, the results of this research provide several messages for CPAs and other accountants (summarized in Table 3).

Figure 1
Utility of Accounting Information

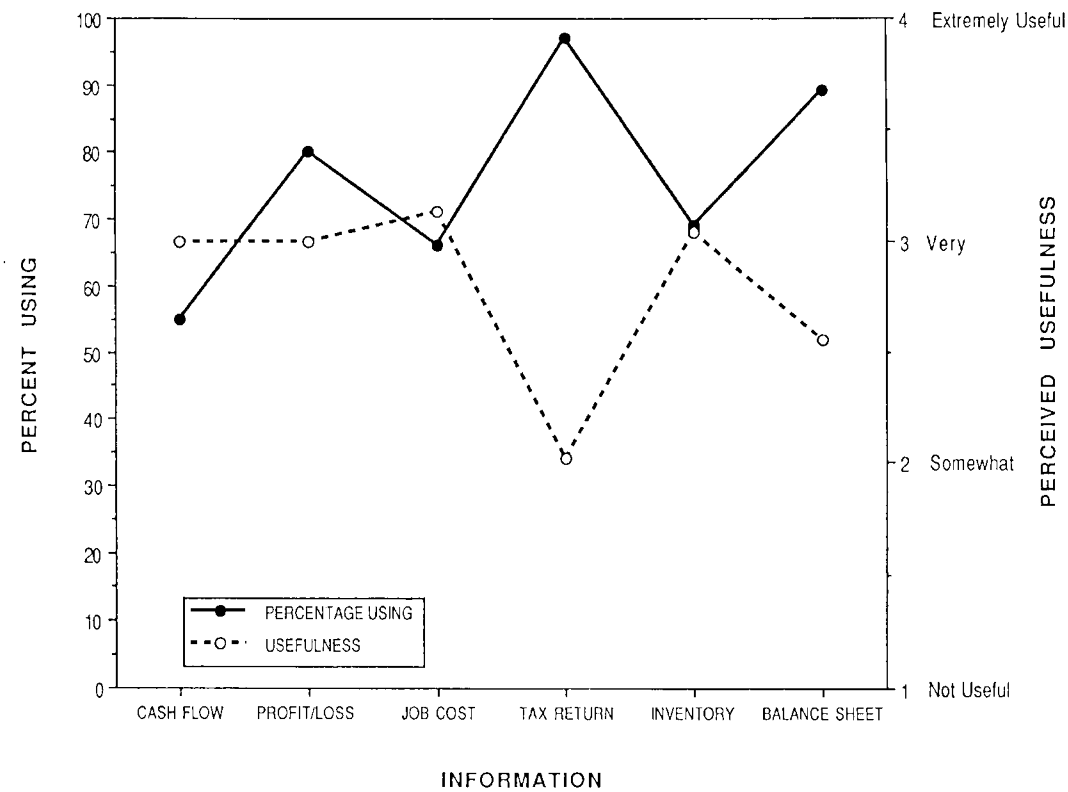
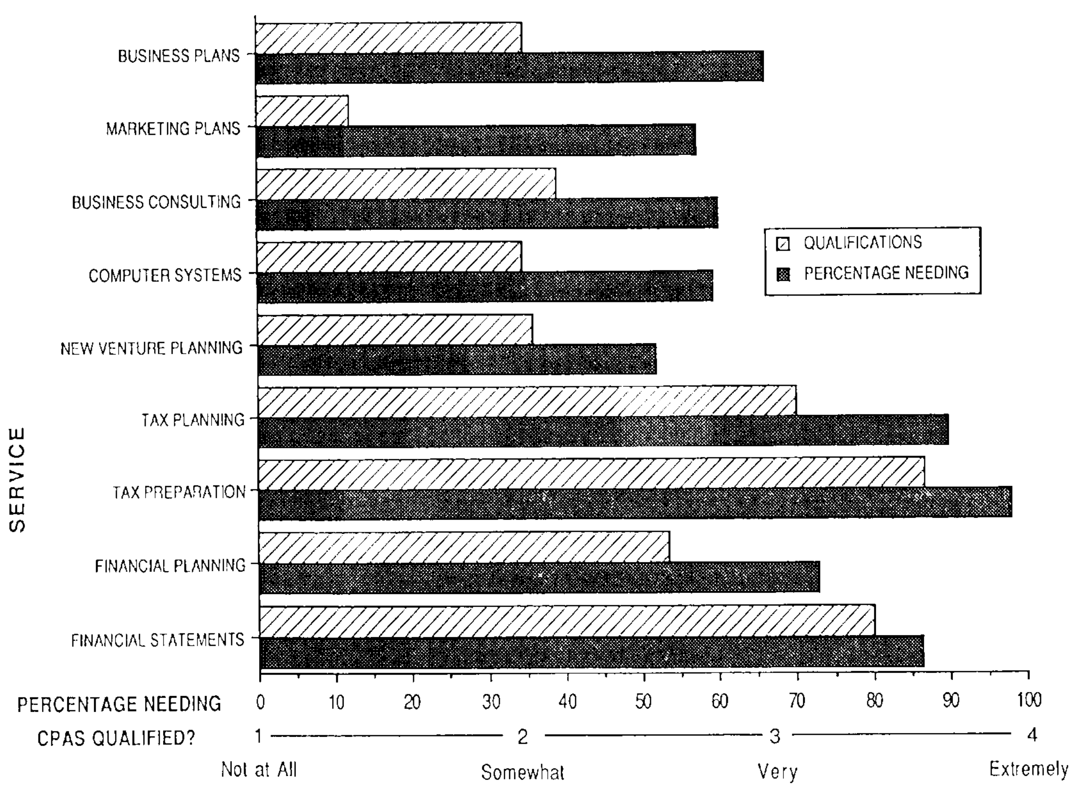


Figure 2
Service Needs and Perceptions of CPA Qualifications



Relevance

Owner/managers know the factors critical to success and can easily verbalize them. If the accountant starts with a dialogue about those critical factors when developing an information system designed for the business, the owner/manager will get the most critical information. Also, managers will be more "likely to buy into" and use the system if they have been involved in the process of its design and understand the relationship between needs and the system.

Utility

Some of the information provided by accountants is not useful, and accountants are not perceived as qualified to provide some of the information/services small businesses believe they need. Accountants are viewed primarily as preparers of financial statements and tax returns by small business owner/managers. Tax returns are seen as necessary but almost useless for management information. For financial statements, the profit and loss statement is seen as much more useful than a balance sheet. Other accounting information — cash flow, job cost, and inventory control — is viewed as useful as, or more useful than, the profit and loss statement. If accountants are going to provide useful information, they need to go beyond traditional financial statements.

Multiple Uses

Many businesses have an information system in place to gather tax information. If that system can be expanded to gather useful management information, the small business will benefit. Small businesses uniformly recognize a need for tax planning, but they perceive CPAs as less qualified to provide that service than to prepare tax returns.

Convenience

The small business owner/manager is probably involved in data gathering if not serving as the primary gatherer. The information system should be easy to use so the process is not burdensome. If the information system is too complex, it will not be used.

Understanding

In order to serve the small business effectively, the accountant needs to understand the industry and the particular business. Small business owners tend to switch accounting firms until they find one they are comfortable with. One of the primary reasons cited for switching is that the accountant was not knowledgeable about the industry.

Competence

Small business owner/managers need more than traditional accounting services, but they do not perceive CPAs as qualified to provide services such as Financial Planning, Business Consulting, Business Planning, Computer Systems, New Venture Planning, and Marketing Planning. While not every CPA will want to provide all of the mentioned services, we believe some CPAs — with proper preparation — could expand into these areas.

Opportunity

The last lesson is that the foregoing spells opportunity for accounting firms. The gap between current services and small business needs is real, as are the opportunities for more services.

Small businesses do indeed represent opportunities for accountants. Accountants can explore several avenues to expand or add services for small businesses. The problem is that small business owner/managers do not realize accountants are qualified to provide many of the services needed, or they do not recognize the benefits of the information provided. Compounding this situation is a failure of accountants to fit the information to real needs.

Accountants, individually and collectively, can help by speaking to business groups, preparing pamphlets describing what services accountants can provide, and participating in SBA workshops. Above all, however, the CPA should suggest new services to clients in the context of benefits for the business.

Community colleges and universities can also be major players by demonstrating to future accountants how they should work with small businesses. On the other hand, they can also train future small business owner/managers to work with accountants in order to ensure that useful information is provided.

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Accountants as Change Agents

By Michael D. Akers and Frank A. Wiebe

Chief financial officers and controllers need to understand the importance of becoming effective change agents. To be effective, they must have good technical and human relations skills. While the accounting literature has primarily focused on the technical aspect, management literature has recognized that good human relations skills are necessary for the implementation of change.

Although the accounting profession has recognized the importance of change, implementation appears to be lagging, and management accountants have been criticized for this [Kaplan, 1984]. An example is the implementation of variable costing for internal purposes. Accounting textbooks and leaders in the field of management accounting have indicated for several years that variable costing is the most appropriate method for internal purposes. The limited accounting research that has been conducted, however, indicates that variable costing is not a widely used technique.

Data from a field study of 48 manufacturing firms, which examined the use of variable costing for internal purposes, illustrates the change issues that accountants need to consider when implementing changes within an organization. The design and results of the study are discussed as well as the behavioral implications.

Approaches to Change

Technical

One justification for the existence of any staff manager is the manger's ability to create change. Since staff managers, including the chief financial officer and the controller, do not contribute directly to the transformation of raw materials into finished goods, they must contribute indirectly by improving the way in which that process functions.

The current primary approach for change used by those who educate accountants is very simple. The accountant learns about some new technique through a class at an educational institution, a seminar, or by reading a scholarly journal. The individual teaching the course/seminar or writing the article provides a description of the technique that is being prescribed and a justification for its use. If current or future accountants accept the justification, they are supposed to go to their work place and implement the technique.

Those who are prescribing the technique view implementation as a technical problem. They provide the staff manager with all of the knowledge about how the method works and the technical information about implementation. This usually includes information about programs and software that can be used. The individual may even be provided with examples and material for communicating the technique to others. Almost all of the assistance is technical in nature.

The technical approach to change is best evidenced by the journal articles that have been written in the last five years by leaders in the field of management accounting such as Howell, Johnson, Kaplan, and Stacy. These articles have cited deficiencies in traditional management accounting systems and identified changes that would improve these systems. The primary focus of these articles has been on the technical aspects of change. Other aspects of change, such as human relations, have been overlooked or inadequately addressed.

Human Relations

While the accounting profession has focused primarily on the technical approach to change, a very different view of implementing change is found in the management literature. This approach is based upon the premise that all change takes place to people and through people. This people-oriented view recognizes that successful change is more than a technical issue. Successful change is implemented by individuals and, consequently, those individuals are also changed.

The people-oriented approach recognizes that people may resist even the most logical attempts to implement change. The individual, when making decisions, does not always attempt to find the best alternative for the organization; instead, most seek what is called a satisfactory solution [March & Simon, 1958]. Those who are satisficers, rather than maximizers, may not be willing to change simply because they are not unhappy with the current situation. If the status quo is viewed as adequate, then the operative phrase is "if it ain't broke, don't fix it."

This approach to change also recognizes that most change attempts fail, not because the change agent is technically unqualified, but because the agent lacks the skills required to work with people. The most important skill is communication. The change agent must be able to make clear not only what the change is but also convince others of the need for that change. The people-oriented view of change puts a great deal of emphasis on motivation and group dynamics skills. The change agent needs to understand that much of the resistance to change is not technical but involves emotion and feelings. The change agent must also have a good understanding of the nature of power and the need to gain support for change from powerful persons. Recent accounting literature [Johnson & Kaplan, 1987; Lammert & Ehrsam, 1987; Smith, 1989; Briner, Truitt & Wilson, 1989] indicates that the profession is recognizing the importance of gaining support for change from powerful persons (management).

The technical and human relations approaches to change provide two different ways of implementing change within an organization. Accounting research, however, indicates that neither method has been effectively used by accountants to implement variable costing.

Table 1
Cell Frequencies

		External Reporting: Variable Costing	External Reporting: Absorption Costing	
Internal Financial Reporting	Variable Costing	4	7	11
	Absorption Costing	0	36	36
	Totals	4	43	47*

*One firm was excluded from statistical analysis after the interview revealed the firm did not meet the established criteria.

Table 2
Cell Frequencies

		External Reporting: Variable Costing	External Reporting: Absorption Costing	
Internal Budgeting	Variable Costing	2	7	9
	Absorption Costing	0	27	27
	Totals	2	34	36

Variable Costing Research

For many years accounting students have been taught that firms should use variable product costing for internal purposes even though absorption product costing is required for external reporting. This prescription is based upon the premise that the former permits more control of internal operations while the latter is considered a better method of valuing inventory and measuring income in external reports.

The limited accounting research that has been conducted indicates that absorption costing, rather than variable costing, is being used for internal purposes [Lere, 1976; Imhoff, 1978, Akers & Porter, 1988; Cooper & Kaplan, 1988] and that variable costing is not considered an important management accounting tool [Hawkins, 1983; Elmore, 1986]. Since such research is limited and primarily uses a survey approach, a field study [Akers, 1988] was conducted to determine if the prescription was being followed.

Variable Costing Field Study

The field study sought to determine the extent to which firms use absorption costing for external purposes and variable costing for internal purposes. The primary purposes of the field study were to determine: (1) the product costing method being used for external reporting purposes; (2) the product costing method used for internal financial reporting and budgeting; and (3) reasons for the methods used internally.

Forty-eight manufacturing firms located in the mid-south were visited.

External financial statements and internal financial reports were examined to determine the product costing method being used. Either the chief financial officer or the controller was interviewed to determine the reasons why a particular product costing method was being used.Firms that allocated at least 80% of their fixed manufacturing overhead for any particular use were considered absorption costers. All other firms were considered variable costers.

Table 1 presents the number of firms that were using absorption and variable costing for external reporting and internal financial reporting.

The frequencies show that the majority of the firms in this study were using absorption costing for external reporting and internal financial reporting.

Table 2 presents the number of firms that were using absorption and variable costing for external reporting and internal budgeting.

The interesting aspect of the budgeting results is that 11 firms did not use budgets. Of those firms that did, the majority used absorption costing for both external reporting and internal budgeting.

The results indicate that most of the firms in this study were not following the prescription that absorption costing is used for external purposes while variable costing should be used for internal purposes. Although most of the firms were using absorption costing for external purposes, they were not using variable costing for internal purposes. This result is consistent with the results of prior research that were previously discussed.

Results of Field Study - Reasons for Methods Used

The chief financial officers and controllers provided several reasons why they were not following the prescription. A few of the respondents were using absorption costing for both external and internal purposes because they felt the external reporting requirements dictated internal usage. The viewpoint is consistent with Kaplan's argument that "contemporary U.S. practice ... is characterized by the internal use of accounting conventions that have been developed and mandated by external reporting authorities" [Kaplan, 1984]. Some felt the arguments supporting the use of variable costing were not sufficiently persuasive. It is interesting to note that the debate concerning which product costing method is superior has continued for almost 30 years.

Some of those not following the prescription were doing so because they had not been able to successfully distinguish between fixed and variable costs. Identifying fixed and variable costs in practice is often not as easy as the accounting literature implies. Several were not using different methods because they believed the benefits did not justify the costs or they simply did not feel they had the resources necessary to implement the prescription. Others stated the time-worn reason that "this is the way we have always done it around here." Finally, many did not use two different methods because they believed the conversion to variable costing internally would require wholesale reeducation of the nonaccountancy managers. Rather than invest the time and resources to train a large number of individuals, it was easier to continue with the use of absorption costing for both internal and external reports.

With the exception of the respondents who felt absorption costing was the best method for internal purposes and those who had difficulty identifying fixed and variable costs, the reasons for not changing were basically non-technical. While several of the respondents indicated variable costing was the most appropriate method for internal purposes, they thought absorption costing was sufficient. The implication is that most of the firms in the study were seeking a satisficing rather than a maximizing solution. Consequently, most of the firms were reluctant to implement change. This is not surprising from the standpoint of human relation problems in making change. This reaction, however, is unexpected if change is seen from the technical point of view because the technical approach to change views knowledge as the primary obstacle. Since knowledge can be obtained through education, change is seen as a relatively straightforward process.

Behavioral Implications

Research [Lynn & Lynn, 1984] into the behavioral approach to change suggests that successful change includes several elements: (1) timing, (2) preparation and planning; (3) good communications, (4) support from management, (5) consideration of resistance, and (6) participation of operating personnel. Although most of the firms in the study were not following the prescription, there were some firms using absorption costing externally and variable costing internally. The ways in which they were able to implement the prescription illustrate several of the key elements of the behavioral approach to change.

The behavioral approach suggests that successful change requires good timing. This is particularly true if there exists a general feeling that the change is not justified because the current situation is acceptable. One of the firms, Martin Industries, Inc. [Briner et. al] reported that the change to variable costing for internal purposes was made possible by changes in personnel. Another firm reported that the change to variable costing for internal purposes was made possible because of declining profitability; the accountant was able to justify the change because the benefits (economic survival of the firm) exceeded the costs necessary for implementation. The behavioral model recognizes the need for unfreezing old behavior. Often,. the manager needs to be willing to wait until the right moment to suggest the change.

Successful change also requires extensive preparation, planning, and good communication. Martin Industries Inc. developed an extensive plan for implementing and communicating the need for change. Implementation and communication were accomplished through the distribution of internally developed educational materials and seminars conducted by an outside consulting firm. The educational material, which was distributed to management and appropriate production personnel, described the new approach and provided evidence justifying the use of variable costing for internal purposes. The plan of implementation was communicated to the individuals during the seminars that were led by the outside consultant.

While communication of the plan is important, the behavioral approach recognizes that continued communication is necessary if change is to be successful. This was accomplished at Martin Industries, Inc. by the establishment of a continuing education program for individuals associated with the firm.

The behavioral view of change also recognizes that successful change can not occur without the support of top management. Several of the chief financial officers and controllers indicated that the main problem in introducing variable costing was getting the support of their nonaccountancy superiors. Without this support, they were unable to convince the other nonaccountancy managers that the change they were proposing was worth the effort.

Recognition of the fact that there can be some resistance to change is another key element. Change may be seen by the individuals who must make the change as a threat to their power [Zaltman and Duncan, 1977]. Some of the firms in the field study had not implemented variable costing because manufacturing feared a reduction in its power relative to the sales department. As long as absorption costing was used, the sales department could not accurately determine the fixed and variable costs of the products. This prevented sales personnel from arguing for a sales price which was equal to the variable costs. The lack of detailed product cost information provided power to manufacturing. Installing an accounting system that made that information available to the sales department was met with resistance from manufacturing because it feared the loss of power.

To overcome resistance to change, the chief financial officer/controller (change agent) must find ways to deal with those kinds of fears. Management research [Stanislao and Stanislao, 1983]. indicates that good change agents create change in a way that reduces unnecessary negative impacts on individuals. Effective change agents also establish systems that allow those affected by the change to share in the positive results of the change. For example, the profitability of a firm should be enhanced if sales personnel are provided and use, in an appropriate manner, detailed product cost information. The rewards from increased profitability would be shared by both manufacturing and sales.

The importance of including operating personnel in the planning stages is the last element of successful change that is examined.This prescription is derived from the fact that effective change is not possible without the support of those who must implement the change. One way to gain that commitment is to actively involve, in the planning stages, those individuals who must make the change work. This participation, if it is to have the desired impact, must not be token involvement [Jenkins and Lawler, 1981]. Those implementing the plan must have an impact on the nature of the final plan that is adopted. In the case of implementing a variable cost system, the ideal way to elicit this involvement is to seek the assistance of the operating units in identifying fixed and variable costs. Leaders in the field of management accounting, such as Johnson and Kaplan, have stated that management accountants need to increase their communication with operating personnel [Johnson and Kaplan, 1987]. In addition, they argue that the operating personnel may have a better understanding of the cost structure than the management accountants. This participation would also increase commitment to the overall process.

Conclusion

The results indicate that most of the chief financial officers and controllers of the firms in this study have not implemented the prescription that organizations should use variable costing for internal purposes. Although the accounting literature has focused more on the technical approach to change, the reasons cited for not implementing variable costing were primarily nontechnical. The accountants of those firms that were successful in implementing variable costing were able to do so because they recognized that successful change requires both human relations skills and technical expertise.

The accounting profession needs to recognize the importance of the behavioral approach to change. Accounting curricula and seminars conducted by various accounting associations (AICPA, IIA, NAA, etc.) need to include material on the behavioral approach. Until this approach to change is properly recognized by the profession, accountants will not be properly trained as change agents and, therefore, cannot be expected to implement change.

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A Guide to Analytical Procedures

By Janet L. Colbert

Introduction

When utilizing analytical procedures on an engagement, the auditor studies relationships among data in order to identify accounts which may contain material errors. The auditor expects the relationships between data to be plausible. The relationships are expected to continue over time, or if conditions change, to change in a predictable manner.

SAS 56, "Analytical Procedures," [AICPA, 1988], notes that analytical procedures *may be used* at three points in the audit. The three points are:

1. during the planning phase
2. as a substantive test
3. during the review phase.

The SAS *requires* the auditor to perform analytical procedures during the planning and review phases and *recommends* their use as a substantive test.

By using analytical procedures during the planning phase or as a substantive test, the auditor is looking for questionable relationships in the unaudited data. Further work would be performed to investigate any potential errors. When utilizing analytical procedures during the review phase, the auditor is attempting to determine whether the audited figures make sense or whether material errors may still be present in the accounts.

There are numerous types of analytical procedures available to the practitioner. Some methods are relatively simple while others require more voluminous data. Some procedures may be more useful to detect errors in particular types of accounts than others.

This article explains numerous types of analytical procedures available to the auditor. The data needed to apply a particular procedure and to which accounts the procedure can be applied, are discussed. Examples are also provided for each type of procedure.

Reasonableness Tests

The auditor using reasonableness tests employs nonfinancial, or operating, data to develop an expected amount. The expected amount is compared to the client's unaudited figure to determine if the unaudited figure is reasonable. The difference between the expected amount and the unaudited balance may warrant investigation. The auditor uses judgment or a predetermined decision rule to determine whether to study differences. For example, the auditor may decide to investigate all differences of ten percent or more.

The operating data used to develop the expected amount in a reasonableness test depends on the nature of the client and the account being examined. For example, consider the examination of Revenue at a day care center. Enrollment figures and the rate schedule are used to develop the expected amount for the account. Similarly, when testing the Dues Revenue for a professional society (e.g., attorneys or physicians), the auditor utilizes membership figures and dues schedules to estimate the balance).

Reasonableness tests are relatively simple to apply. Also, the information used to estimate the expected amount is usually easy to obtain, since the operating data is from the current period, prior years's figures are not used in reasonableness tests since period comparisons are not being made. Because operating data relate to flows, reasonableness tests are generally best applied to accounts that measure those flows – revenues and expenses.

Trend Analysis

Simple Trend Analysis

When employing trend analysis, the auditor compares the client's unaudited balance to the trend in the account. The method is generally more useful for revenue and expense accounts than for asset and liability balances. Trend analysis is relatively simple to apply and is used extensively in practice.

There are two approaches to trend analysis: the diagnostic approach and the causal approach. The diagnostic approach is simpler to employ, but the causal approach may be more useful to the auditor.

When applying the diagnostic approach, the auditor compares the unaudited balance in an account to the audited balances for past periods. For example, if Sales Revenue had been increasing by 5-6% for the last four years and increases 9% in the current period, the auditor would question the change.

The auditor using the causal approach to trend analysis develops an expected amount and compares that figure to the unaudited balance. If the unaudited amount is significantly different from the expected amount, the reasons for the disparity are investigated.

The auditor may use various methods to develop the expected amount. The methods include basing the expectation on:
- last year's balance,
- last year's balance plus the percentage change between the two prior years,
- last year's balance plus the average percentage change for several previous years,
- simple average of the account for several years,
- budgeted figures,
- industry figures.

Typically, the auditor expects the account balance to behave as it has previously. However, if the auditor knows of conditions which might cause changes in the trend, the conditions must be incorporated into the expected amount. For example, assume production workers had been on strike and, late in the year, had negotiated a contract for higher wages. The auditor should consider those events when developing the expected amount for Wages Expense. These events should also be considered when auditing Cost of Goods Sold, Ending Inventory, Wages Payable, and accounts related to employee benefits.

Because the auditor must incorporate the conditions which affect an account balance into the expected amount, SAS 56, "Analytical Procedures," indicates a preference for the "causal" approach over the "diagnostic" approach for substantive tests. Still, both the causal and the diagnostic approaches are appropriate at the planning and review stages of an audit.

Regression

Regression is a type of trend analysis that is more exact than simple trend analysis. An auditor may use simple or multivariate linear regression.

When using simple linear regression, the auditor statistically develops an equation of a line. The equation represents the best-fitting line through a set of points and is in the form $y = a + bx$. The variable y represents the amount being predicted. The variable x is the independent variable which is theoretically related to y. In the equation, "a" is the intercept and "b" is the coefficient of the independent variable which establishes the relationship between x and y. The auditor uses numerous part observations of x and y to estimate the parameters a and b in the equation. The amount of x in the current period is then used to predict y for the current year.

As an example of applying simple linear regression, consider Utility Expense for a production facility. To predict the current year's Utility Expense, the auditor might use the number of hours the facility was operating as the independent variable. The auditor gathers information on operating hours and Utility Expense for past periods. The auditor then mathematically estimates the equation of a line which best fits the data.

Multivariate regression is a more sophisticated technique than simple regression; it uses two or more independent variables to establish a relationship with the dependent variable. For example, rather than using operating hours as the sole predictor of Utility Expense, the auditor may also use the number of units produced and utility rate. Depending on the strength of the relationship of the independent variables to the dependent variable, multivariate regression may provide the auditor with a better estimate of the dependent variable than would simple regression.

ARIMA

Autoregressive integrated moving average (ARIMA) is another statistical form of trend analysis. The auditor develops the ARIMA model based on patterns of data within a given period of time and over several periods. Experts in ARIMA suggest that, generally, at least 50 observations are needed to estimate the ARIMA model. However, some work has shown that it is possible to develop a useful model with fewer observations. Because ARIMA is a complex procedure and numerous observations may be needed to estimate the statistical model, ARIMA is used to a limited extent in practice. As with other trend analysis procedures, ARIMA is applicable to income statement accounts.

Ratio Analysis

When employing ratio analysis, the auditor examines the relationships among account balances by developing and analyzing financial ratios or common-size statements. Both methods are useful for examining income statement accounts as well as balance sheet accounts.

Either a time-series approach or a cross-sectional approach to ration analysis may be used. The auditor, using a time-series approach, compares financial ratios or common-size statements across a numberof periods. Cross-sectional analysis involves comparing the client's results to those of other companies or to industry "average" figures. An example of both the time-series approach and the cross-sectional approach is given in Exhibit 1.

Special care should be exercised when interpreting data which compares the client to other firms or to the industry (cross-sectional analysis). For example, the use of different accounting principles (FIFO vs. LIFO) can make financial statements of otherwise similar entities appear quite different. Besides the accounting principles used by the companies, the auditor should also consider that demographics, technology, and particularly financial leverage may affect the comparability between entities.

Financial Ratios

Financial ratios may be categorized into four groups: profitability ratios, activity ratios, liquidity ratios, and leverage ratios.

Profitability ratios measure how effective the entity is at making a profit. The gross margin percentage, return on total assets,a nd return oncommon stockholders's equity are common profitability ratios.

Activity ratios are used to analyze how well a client utilizes its resources. The inventory turnover ratio estimats how many times a year inventory is sold. Similarly, the accounts receivable turnover ratio measures how many times receivables are collected per year. Other activity ratios include the age of inventory ratio, the age of receiv-

Exhibit 1

Time-Series and Cross-Sectional Approaches to Ratio Analysis

Current Ratio (Current Assets/Current Liabilities)

		Client	Firm A	Firm B	Firm C	Industry Figure
	19X1	2.2				
	19X2	2.3				
	19X3	2.1				
	19X4	2.3				
Cross-Sectional Analysis	19X5	2.1	1.9	1.8	2.3	2.2
		Time Series Analysis				

ables ratio, and total asset turnover.

Liquidity ratios provide the auditor with both a measure of the solvency of the entity and an indication of the firm's ability to meet its short-term obligations. The current ratio and the quick ratio are examples of liquidity ratios.

Because leverage ratios measure the extent a client is financed by debt, they provide the auditor with an estimate of the riskiness of the client to its creditors. The debt ratio, the long-term debt ratio, and times interest earned are commonly computed leverage ratios.

Common-Size Statements

To develop common-size statements, the auditor calculates the percentage each of the component parts of the income statement or balance sheet is of an aggregate amount. The aggregate figure used for the income statement might be net sales; for the balance sheet, the base figure often used is total assets.

Conclusion

Analytical procedures provide the auditor with an efficient and effective means to identify areas within the client's financial statements which may contain material errors.

Reasonableness tests are fairly simple analytical procedures that involve using either financial or operating data to predict the expected amount of the account balance. Trend analysis is the most commonly used analytical procedure in practice. When utilizing simple trend analysis, the auditor either compares the client's book value to the trend in prior periods or develops an expected amount for the current period from the past trend and compares it to the book value.Regression and ARIMA are more complex approaches to trend analysis. Both methods involve utilizing prior period observations to develop a statistical model. The model is then used to predict the current amount of the account. Ratio analysis is also commonly used by practitioners. Auditors may compute various financial ratios and/or may develop common-size financial statements. Because SAS 56 requires the use of analytical procedures at two stages of the audit and recommends their use at a third stage, it is imperative that auditors be aware of the various approaches to analytical procedures which are available. This article has shwon how relatively simple techniques can be used to efficiently and effectively gather audit evidence.

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By-Product Accounting in the Extractive Industries

By Susan Ormsby and Doris M. Cook

The development of by-products in industry is one of the most outstanding phenomena in our economic life. During the earlier periods of American history our natural resources made it unnecessary from a cost standpoint to pay attention to efficient methods of production. However, rising costs of land, labor, and transportation in the last generation, coupled with the vastly increased per capita consumption of all products, have forced each industry to add to its operations, thus conserving and even synthesizing many commodities which otherwise would not have been available. From the viewpoint of individual business, this manufacture of by-products has turned waste into such a source of revenue that in many cases the by-products have proved more profitable per pound than the main product.

...hence one of the most important opportunities for gaining competitive advantage, or even for enabling an industry or individual business to maintain its position in this new competition, is to reduce its manufacturing expense by creating new credits for products previously unmarketable [Clemen].

Rudolf Clemen wrote these words in 1927, and they are as appropriate today as they were then, perhaps more so. Since that time, consumption has continued to expand, but resources have expanded at a slower rate, while the costs of producing many of the major products in industry have increased substantially.

Purpose of the Study

The purpose of this study was to examine the area of by-products and, in particular, accounting for by-products. One reason for the study is that historically, many minor products have changed to major products; e.g., gasoline was once a by-product of kerosene refining. Another reason for studying by-products and by-product accounting is the need for business to optimize profits. One firm which formerly paid a trucker to haul away waste discovered the waste was valuable as fertilizer, which became an additional source of revenue for the entire industry [Matz].

Still another reason for a current study of by-product accounting is the growing scarcity of valuable resources. The continuing depletion of oil, minerals, metal ores, etc., means that firms cannot continue to expect to have abundant resources from which to manufacture only major products. Each unit of raw material must be fully utilized; thus, by-products become important in order for firms to optimize the use of the raw materials.

Definition of By Product

A by-product is defined as an article of value incidental to the manufacture of the main product(s) or, alternatively, made from waste arising from such a manufacturing process [Lang]. A by-product is usually of minor value to the firm compared with the value of the major product(s). By-products may be classified into two major types: (1) those which need further processing, and (2) those which may be sold without additional processing.

Survey of Authoritative Literature

The first part of the study was a survey of methods for accounting for by-products which have been advocated in the past by accountants and accounting academicians. The methods most frequently found in the literature were:

1. Revenue from by-products sold is reported as additional revenue.
2. Revenue from by-products sold less separable costs of processing and disposal is reported as additional revenue.
3. Revenue from by-products sold is reported as other income.
4. Revenue from by-products sold less separable costs of processing and disposal is reported as other income.
5. Revenue from by-products sold is reported as a deduction from the cost of the major products sold.
6. Revenue from by-products sold less separable costs of processing and disposal is reported as a deduction from the cost of the major products sold.
7. Revenue from by-products sold is reported as a deduction from the cost of the major products produced.
8. Revenue from by-products sold less separable costs of processing and disposal is reported as a deduction from the cost of the major products produced.
9. Net realizable value of by-products produced is reported as a deduction from the cost of the major products produced.
10. Net realizable value less a normal profit margin of by-products produced is reported as a deduction from the cost of the major products produced.
11. Other methods.
    a. Replacement cost method.
    b. Standard cost method.

The choice of method for accounting for by-products is affected by the size of by-product sales, internal needs of management, and marketability of the by-product.

The most theoretically sound method to account for by-products generally has been concluded to be the "net realizable value" method, according to recent accounting textbooks [Horngren, Rayburn]. It advocates the deduction of net realizable value of by-products produced from the total cost of goods produced. Net realizable value is defined as expected revenues from sales of by-products, less separable costs. Separable costs may be additional costs of production after separation from the main product or selling or disposal costs. Among the drawbacks to this method are that it is more complicated and expensive to use than other methods and, it requires projections of future revenues and costs. Thus, it cannot be used in all cases. When by-product sales are small, other and less complicated methods may be used, but these methods either do not place a value on inventory or properly match revenues and expenses.

Design of the Study

The next part of the study was conducted to determine which of these accounting methods were used in practice. There are many instances when by-products became major products or additional sources of revenue for firms. For these reasons, businesses need information with which to monitor by-products for optimal profits. Since management must have sufficient information on which to base its decisions, it follows that it is the management accountant's role to provide this information.

Research Questions

This study of accounting for by-products sought to answer, in part, the following questions:

1. Are the by-product accounting methods which historically have been recommended by accountants being used in practice?
2. Do businesses believe that by-products are important?
3. Do businesses actively search for alternate methods for processing by-products or alternate markets for by-products?
4. What methods do firms use to evaluate alternate processing methods and alternate markets for by-products?
5. How is the determination made that a by-product has reached the status of a major product?
6. What is the internal process by which management officially changes the status of a by-product to a major product?

Sample and Questionnaire

Data for the study were gathered through a mail survey followed by telephone interviews. The survey included companies in the extractive industries; that is, oil and gas, coal mining, metal mining and smelting, mineral mining and refining, and forestry and forest products. These particular industries were chosen for two reasons: (1) Historically they have been involved with by-products and by-product accounting [Greer], and (2) the size of the study needed to be reduced to a reasonable level. The questionnaire was sent tot he controllers of firms chosen within these extractive industries. In addition to Parts I, II, and III, the fourth part of the questionnaire asked for general demographics of the firm.

The master list of 2,483 firms was compiled from Dun & Bradstreet's *Million Dollar Directory.* Standard Industrial Codes (SIC) were used to determine the firm's activity in the extractive industries, and a random sample of 589 firms was chosen from this list. After the responses were received, telephone interviews were then conducted to furnish additional information or clarify the data. Usable responses were received from 190 firms.

Results of the Survey - Part I

Part I of the questionnaire asked about the methods these firms used for accounting for by-product sales, inventories, and adjustments of the cost of major products. The purpose of these particular questions was to determine if the companies actually use the methods that historically have been advocated by accounting theoreticians and whether by-products were believed to be important (Research Questions 1 and 2). Respondents were asked to divide their answers between Type A and Type B by-products. Type A by-products were defined as those that are sold after separation from the main product without additional processing, and Type B by-products were defined as those that require additional processing. Of the 190 respondents, 183 had Type A by-products and 34 had Type B by-products.

Sales Accounting Methods

Some 53.0 percent of firms with Type A by-products and 58.8 percent of firms with Type B by-products reported that they frequently did not segregate total by-product sales into "other revenue" or "miscellaneous" income but included them in total sales. In addition, 19.7 percent of firms with Type A by-products and 17.6 percent of firms with Type B by-products reported that they used "other" methods. When the questionnaires were analyzed to determine what "other" methods meant, it was found that most of the firms reduced either cost of goods sold or cost of goods produced for by-product sales. When this question was analyzed by industry, for Type A by-products, oil and gas reported the highest percentage using "other revenue" (31.3 percent). For Type B by-products, minerals reported the highest percentage using "other revenue" (28.6 percent).

Methods used for Reduction of Cost of Goods Sold or Cost of Goods Produced

The second question asked for the method used for reduction of cost of goods sold or goods produced. The method most frequently used for Type A by-products (57.4 percent) and Type B by-products (44.1 percent) was "no adjustment". The second most frequently used method for firms with Type A by-products was "reduction of cost of goods produced for actual by-product sales" (16.4 percent), and for firms with Type B by-products the next most frequently used method was "joint cost allocation" (20.6 percent). Both Types A and B by-product firms in the oil and gas and coal industries used "joint cost allocation" more frequently (12.5 percent, Type A; 50 percent, Type B) than the averages for all industries in the study.

Inventory Methods

Overall, the most frequently used inventory method for Type A by-products was "no value assigned" (62.3

percent), and the next most used method was "additional costs after separation" (13.1 percent). For firms with Type B by-products, the most frequently used methods were "joint cost plus separable costs" and "additional costs after separation" (29.4 percent each).

Reasons for Choosing a Specific By-Product Accounting Method

For Type A by-products, the most frequently cited reason for selecting a specific by-product accounting method was ease (83.1 percent). The next most frequently cited reasons were the opinions of other professional accountants (76 percent) and the opinion of the independent auditor (68.9 percent). Internal Revenue Service regulations (13.7 percent) and the size of by-product sales (9.8 percent) were also listed frequently. Firms in the energy-related industries listed the Department of Energy (37.5 percent) and Federal Power Commission (18.8 percent) as having an effect upon the choice of a by-product accounting method more often than the average for all industries in the survey.

For firms with Type B by-products, the most frequently cited reason was the opinion of the independent auditor (67.7 percent), followed by the ease of the method (64.7 percent) and the opinion of other professional accountants (55.9 percent). The size of the by-product's sales (29.4 percent) and Internal Revenue Service regulations (26.5 percent) were also listed frequently. Firms in the mineral industry listed the size of the by-product's sales and the Internal Revenue Service as having an effect on their choice more frequently than the average for all industries in the survey.

Results of the Survey - Part II

Part II of the questionnaire asked questions to determine if companies actively search for alternative processing methods and markets for by-products and, if so, how this is done. Positive responses that firms do actually seek alternatives would also indicate the relative importance of by-products (Research Questions 3 and 4).

Fourteen firms (7.4 percent) reported they had experience with by-products becoming major products. Eleven of the fourteen responded that a significant increase of by-product sales as a percentage of total sales was the major determinant in the decision to reclassify a by-product to the status of a major product. Ten of the fourteen firms agreed that it took more than two years for a by-product to become a major product. Ten of the fourteen also responded that a manager or officer in the corporate headquarters had the authority to reclassify a by-product to a major product. The particular division of the company with the authority was divided among production, accounting, and administrative personnel.

Conclusions

Since there were six research questions, the conclusions based on the results above address these six questions.

Question 1: Are the by-product accounting methods which historically have been recommended by accountants being used in practice?

The answer appears to be in the negative for most companies in the study. The majority chose the lease complicated methods for reporting sales of by-products, reducing cost of goods sold or produced, and valuing by-product inventories. The methods selected were chosen because of the ease of the method, or the opinions of other accountants. From examination of the inventory methods and cost reduction methods used by firms with Type A and Type B by-products, firms in the oil and gas and coal industries were found to use "joint cost allocation" more frequently, possibly because of the influence of regulatory groups. Less than 10 percent of the firms that responded to this study used the most theoretically preferred method, "net realizable value".

Question 2: Do businesses believe that by-products are important?

From the overall results, it can be concluded that many of the firms in the survey did not assess by-products as sufficiently important to use a complicated accounting method. However, when the responses were analyzed by size of by-product sales, firms that had larger amounts of total sales of by-products or larger percentages of by-product sales did use more complicated methods more often. As total sales of by-products increased, firms more frequently used "joint cost allocation" for assigning a cost to by-products. This is logical since, as total sales of by-products increase, the by-product approaches major product status.

Question 3: Do businesses actively search for alternate methods for processing by-products or alternate markets for by-products?

Most of the firms in the survey did not look for alternative processing methods or markets for by-products, which suggests these firms do not consider by-products important enough to warrant the time and expense. However, when the responses were analyzed by size of product sales, firms with large total by-product sales and relatively large percentages of by-product sales did look for those alternates for by-products.

Question 4: What methods do firms use to evaluate alternate processing methods and alternate markets for by-products?

The survey showed that most firms (76.5 percent) relied on sales departments to suggest alternates for by-products. This suggests that they looked for new places to sell the by-products, not new ways to process them, since most marketing departments probably do not have the technical expertise necessary to derive new processing methods for by-products. Another explanation is that marketing departments reported back to management the specifications that buyers required for the purchase of by-products.

All but two companies used at least one quantitative method to determine the feasibility of new methods for by-products. This suggests that firms do commit some resources in the explanatory stages of the search for alternate by-product processing methods and markets.

Question 5: How is the determination made that a by-product has reached the status of a major product?

Since so few firms responded to Part III of the questionnaire, only limited conclusions can be made. Most of the responding firms agreed that an increase in the percentage of total sales represented by by-product sales was the major factor in deciding to reclassify a by-product to a major product. This seems logical, because sales revenue is the most commonly used measure of the importance of a product.

Question 6: What is the internal process by which management officially changes the status of a by-product to a major product?

Most firms in the survey stated that it took more than two years for a by-product to become a major product. The internal decision to change the status was generally made at the corporate level. However, the particular division which made the decision varied among administration, accounting, or production.

Overall

This study was conducted in an effort to provide some empirical evidence about accounting for by-products. The study has not provided all the answers, but it does indicate the need for more research in this neglected area of accounting.

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Application of the Zero Defect Concept to the Auditing Process

By Rodger L. Brannan and Bruce Busta

Recently there has been a great deal of concern about the quality of auditing within the accounting profession. The American Institute of Certified Public Accountants (AICPA) has issued the *Anderson Report* (1986) and the *Report of the Task Force on the Quality of Audits of Governmental Units* (1987), both illustrating the need for high quality audits. In addition to increased litigation facing the auditing profession, reports by the Dingell Committee (House Report, 1987) and Treadway Commission (1987) point out some of the problems. A recent General Accounting Office (GAO) study (GAO Reports, 1986) found that approximately 30 percent of the single audit reports examined were seriously deficient. These deficiencies included reports which were based on non-existent workpapers and conclusions where were not supported by the evidence in the workpapers; the litany of "horror stories" stemming from this study is lengthy. Even more disturbing is the fact that the GAO felt comfortable in extrapolating the survey's results to the general population of auditing firms.

These results indicate the profession has cause to worry and valid reasons to consider a radical change in thought. This paper presents a new way to view the audit process: zero defect auditing. The zero defect auditing concept places its emphasis on quality control implemented in a cost-effective manner. Just as the zero defect concept has been economically justified in the manufacturing setting, zero defect auditing also can be shown to be economically viable.

The first section of this paper examines the philosophy and cost justification of a zero defect policy in the Japanese manufacturing setting, the first application of the zero defect concept. Paralleling the manufacturing setting, the philosophy and cost justification of the zero defect concept are explored in the auditing setting. Finally, the impact of a zero defect policy on audit risk is discussed and conclusions are drawn.

Zero Defect Manufacturing

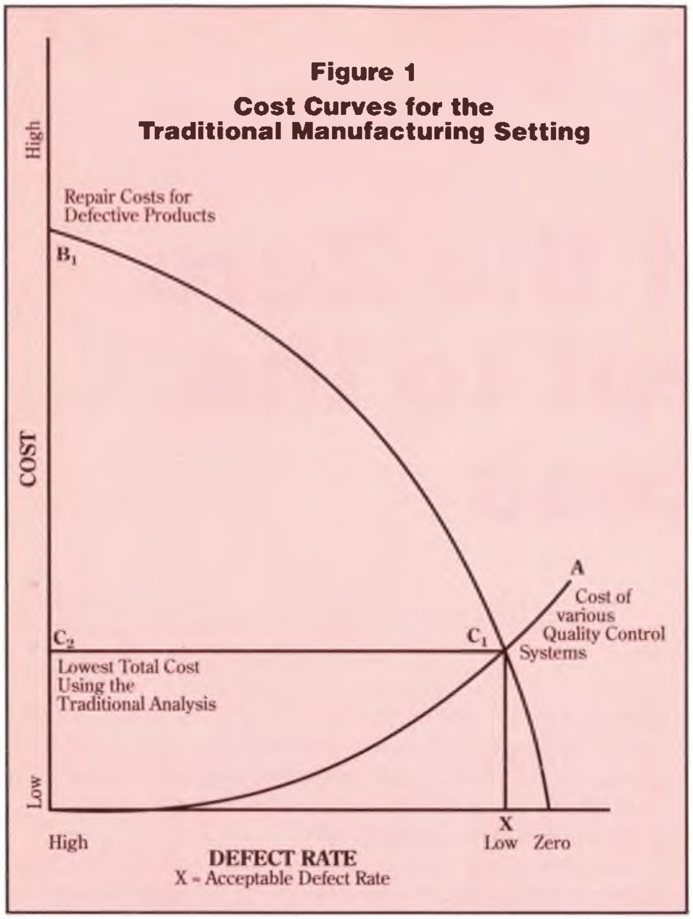
In the 1950's, Japanese products had a reputation of being cheap and shoddy. Japanese business and political leaders projected they could be successful in the world market by using superior quality as a competitive edge. Believing that a quality, or zero defect, manufacturing process would lead to high quality products, the Japanese embraced the zero defect manufacturing philosophy.

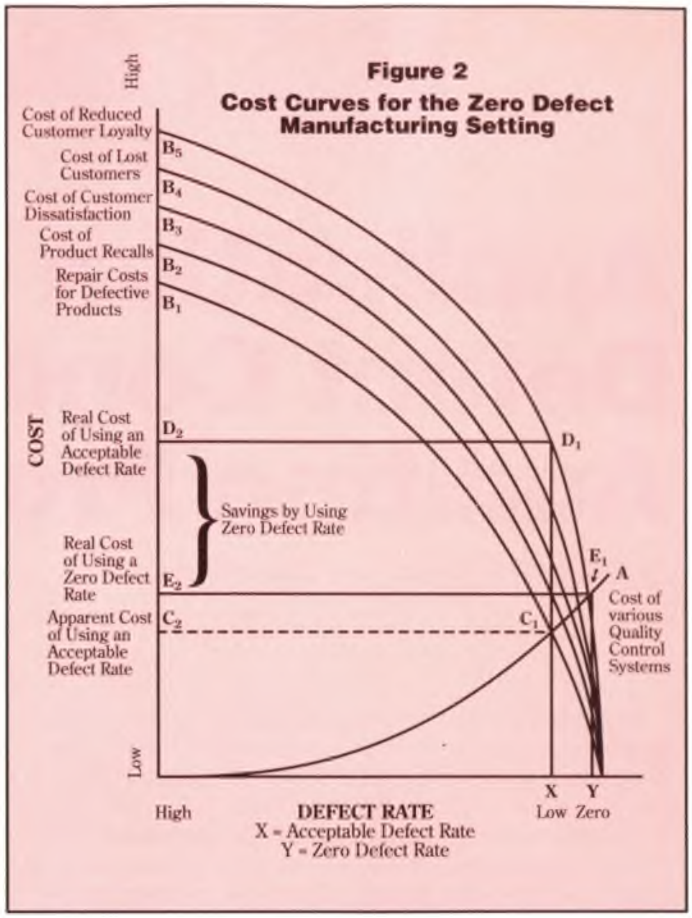
The zero defect concept starts by drawing a distinction between the *manufacturing process* and the *manufactured product.* By viewing the manufacturing setting as having two distinct elements, a process and a product, emphasis can be placed on the process which is the source of the product and the cause of any product defects.

The concept has three critical stages: planning, production, and review. In the planning stage, reliability must be designed into both the manufacturing process and the product. The production stage emphasizes minimization of errors and defects in the manufacturing process and the finished product. The third step is an inspection stage which identifies defective products and the cause of the error. During this step, both the error and its cause are corrected. This stage represents the last clear chance to detect and correct any systematic or random errors in the production process and the product.

In order to eliminate all manufacturing process defects and, accordingly, all product defects, quality is designed and planned into the product by assuring the highest manufacturing standards at every stage of production. There is no tradeoff between cost and quality.

Japanese quality control circles uncompromisingly review every aspect of the process and product. When errors are found, production is halted until the source of the problem can be identified and corrected. Corrective action focuses on the system and the cause of the error, not on correcting the specific error in the product. Thus, correction requires two steps; the defective product must be repaired, and the production process must be corrected, eliminating potential future problems. The goal among Japanese manufacturers is to eliminate all possible production defects and, consequently, all product defects.





Economic Justification of Zero Defect Manufacturing

In order to justify this "quality at any cost" philosophy, the Japanese use long-run and intangible costs in their analysis. Traditionally, the cost-quality tradeoff has been measured as shown in Figure 1. Curve A illustrates the costs and defect rates of various levels of quality control systems. Curve B1 Represents repair costs when defective products are replaced.

The traditional cost analysis (the one historically adopted by U.S. manufacturers) allows an "acceptable defect rate" (point X in Figure 1). The acceptable defect rate is determined from the intersection of the two cost curves (point C1) and represents the lowest total cost (shown by point C2 on the vertical axis).

By incorporating long-run and intangible costs into their cost analysis, the Japanese see the cost-quality tradeoff as shown in Figure 2. Curve A again depicts the costs and defect rates of various quality control systems, with the far-right side of the graph indicating a zero defect system. Curve B1 shows the repair costs when defective products are replaced, and the long-run and intangible costs of product recalls, customer dissatisfaction, lost customers, and reduced customer loyalty are illustrated by curves B2, B3, Br, and B5, respectively. This "comprehensive" cost analysis serves to justify a zero defect approach in the manufacturing setting.

In this complete analysis, the cost of an acceptable defect rate system is represented by point D2. The cost of a zero defect system is point E2. Point C2 is an illusionary cost; it represents the optimal point when long-run and intangible costs are not included in the analysis. Figure 2 demonstrates that, by shifting the defect rate from point X to point Y, a zero defect manufacturing process is cheaper than an acceptable defect rate production process. This analysis gives the Japanese a cost-quality perspective that economically justifies a zero defect manufacturing policy.

Zero Defect Auditing

The auditing profession is being criticized severely for what the public perceives as "low" quality audit work. To effectively address these criticisms, the profession could adopt the zero defect concept from the manufacturing realm to produce audit work of maximum quality. These high quality audits would represent an effective response to the severe criticism the profession is under, close the expectation gap, and address the challenges presented by the Dingell Committee and Treadway Commission.

In an auditing environment, as in manufacturing, there are two parallel elements. One involves the *process* of the audit work; the other is the resulting *product,* the audit report. As in the manufacturing setting, the product is the result of the process. Thus, the zero defect auditing philosophy stresses the procedures and processes used during the performance of the audit work.

A zero defect audit approach should parallel the three critical stages of the Japanese zero defect system: planning, performance, and review. In the audit planning stage, the overarching concern is on planning quality into the audit work before the staff begins its fieldwork.

During the performance of the zero defect audit, field work is thorough and comprehensive. The "messy"

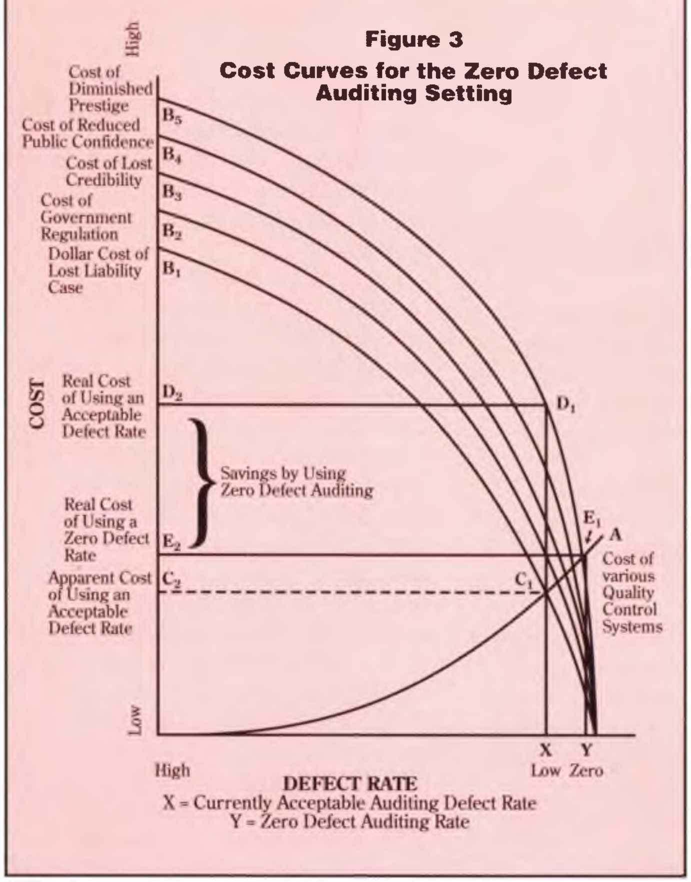


Figure 3
Cost Curves for the Zero Defect Auditing Setting

areas of an engagement are *fully analyzed,* not "generally understood." Questions that can open a Pandora's box should be asked, not avoided. Documentation must be complete in *every* respect. *All* parts of *every* workpaper should be completed fully. Shortcut phrases such as "pass as immaterial" and "same as last year" would be appropriate only in very rare situations. Zero defect auditing requires complete compliance with every auditing policy and procedure that a firm has established for the specific type of audit being undertaken.

The audit review process is the oversight and control point of a zero defect auditing policy. It makes certain that a zero defect concept begins in the planning stage and is pervasive during the implementation of the audit. As the central point of a systems approach to an error-free audit, it provides the last opportunity to uncover errors in the audit. Using the same mind-set as the Japanese use in their production processes, the reviewers meticulously inspect the pre-audit planning schedules, fieldwork, and financial statements for errors and omissions. If any are discovered, the audit is halted and a complete investigation is undertaken to determine the cause of the error or omission. Corrective action requires a fundamental change in the audit process to ensure this type of failure will not recur. This is not a "band-aid" approach where the specific error is corrected; rather, the auditing process is changed so the specific error is corrected and future errors of this type are prevented. When corrective action is taken, the audit and the review process can proceed.

A zero defect audit complies with every policy and procedure established by the firm and profession. In essence, the highest quality audit possible is performed when implementing a zero defect policy.

Economic Justification of Zero Defect Auditing

This policy may have the appearance of being excessively expensive. However, the costs to the profession, and eventually every CPA firm and practitioner, of not employing a zero defect auditing policy are even greater. By incorporating the long-run and intangible costs into the cost-quality analysis (as the Japanese have done in manufacturing) it can be shown this is a sound strategy for the long term. The success of the Japanese approach to manufacturing has demonstrated the viability of including the long-run and intangible costs in the analysis.

It is difficult to measure the long-run costs that make a zero defect auditing policy superior to one that allows anything less than perfection. Figure 3 estimates the long-run costs and illustrates why the accounting profession should adopt a zero defect auditing approach. Curve A represents the cost of various quality control systems, with the far right depicting a quality control system that allows zero defects. Curve B1 represents the traditionally computed costs of audit failure, such as the dollar amount of a successful lawsuit against the auditor. (Other traditional costs include the expense of liability insurance and a successful defense of a lawsuit against the auditor.) This traditional analysis does not incorporate all the costs of permitting audit errors; in particular, it does not include the long-run and intangible costs. It therefore results in the suboptimal decision rule that the defect rate should be set at point X. As Figure 3 shows, by incorporating only the tangible costs in the cost-quality trade-off, point X results in an apparent cost of C2. The total lost is revealed by D2, which includes the long-run and intangible costs.

This expanded analysis includes the cost curves that are currently facing the auditing profession: imposition of government regulation (B2), lost credibility of the profession (B3), reduced public confidence (B4), and diminished prestige in the business community (B5). The inclusion of these costs shifts the optimal point to Y and makes a zero defect auditing policy economically sound. These long-run and indeterminate costs are difficult to measure, but they are real!

Because of the difficulty in quantifying these costs, there is a tendency to underestimate the long-run effects of allowing an "acceptable" number of defects and the benefits of having zero defects. Since the short-run costs of more staff and review time are relatively easy to measure, the short-run costs overshadow the long-run costs. This bias to the short run could lead the auditing profession to make misguided decisions by selecting a defect rate that does not result in the lowest total cost.

Limitations of Zero Defect Auditing

This paper imports the zero defect concept from the manufacturing setting and applies it to the auditing setting. Because these two settings are not completely analogous, certain qualifying points must be explained.

In the manufacturing setting, generally less judgment is exercised by the worker than in the auditing setting. For example, the torque required on a bolt can be specified by an engineer and readily measured; the assembly of a product often must be made in a specific sequence. In the auditing setting, usually such quantifications and specifications are not available. There are no quantified specifications regarding the completeness of a bank reconciliation or the depth in which an auditor should observe inventory. The auditor can not rely on quantified guidance in determining how extensively an issue should be probed.

Despite this difference in human judgment, the fundamental goal and mind set of the workers are the same. In both settings, the individuals are doing whatever is necessary to ensure their task is completed at the highest standard possible. For the auditors, their goal and mind set should be directed so they can be certain there are no errors, and they have done everything possible to ascertain the necessary facts.

Another difference concerns the repair of a defective process. In the manufacturing setting, a defective process requires a change in machinery or operator. In the auditing setting, a repair of defective audit work generally comes in the form of additional training for the auditor or replacement of the auditor. Such training (continuing professional education) should be targeted at correcting the specific errors that arise in the audit process. Since zero defect auditing requires correction of the process which caused the error, this compels the auditor to completely understand the source and repercussions of the error. A view of the entire system is needed to ensure the identified failure has been fully corrected.

Zero Defect Auditing's Impact on Audit Risk

Zero defect auditing lowers audit risk on two levels. On an individual level, it lowers risk in each specific audit in which it is used. On a broader level, it lowers the total risk faced by the profession.

Every audit that an auditor undertakes has a certain level of risk. Audit risk is the product of three individual categories of risk, as diagrammed in Figure 4.

Inherent risk is the uncertainty that exists because of the vulnerability of an account to error or mismanagement. The control risk is the reliability of the control structure. Detection risk is the possibility that the auditing procedures will not detect flaws in the financial statements.

Zero defect auditing impacts the detection risk element of the model. Detection risk, in this paper, is broken down into controllable and uncontrollable risk. Uncontrollable detection risk (also referred to as sampling risk[1]) results from financial statement errors that go undetected when a perfect audit has been performed. This risk is the result of using audit sampling rather than a process that reviews every transaction that has occurred. Uncontrollable detection risk is a function of the confidence levels set by the auditor. A 99 percent confidence level virtually eliminates uncontrollable detection risk, however, but it cannot be eliminated completely unless confidence levels equal 100 percent.

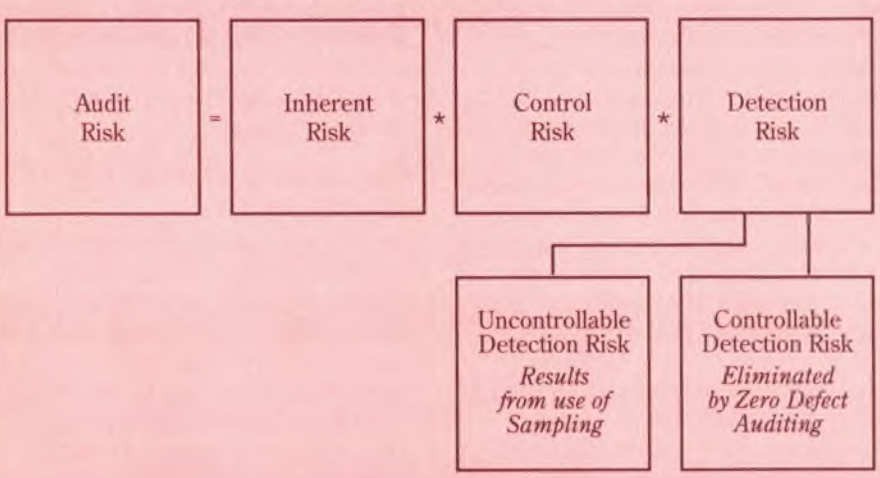
Controllable detection risk (also referred to as non-sampling risk) accounts for the other portion of overall detection risk and is a function of the quality of the planning, fieldwork, and review stages of an audit. This portion of the risk, by definition, can be eliminated completely with a zero defect auditing policy. An audit that is free of defects in terms of planning, fieldwork, documentation, preparation of financial statements, and review will detect all flaws that can be discovered with the use of auditing techniques.

Because detection risk has these two components, zero defect auditing is not 100 percent assurance. A zero defect policy will eliminate all controllable detection risk, but cannot eliminate uncontrollable detection risk. Consequently, in perfect or zero defect audit, errors will remain undiscovered only because of the use of sampling. Errors as a result of omitted policies and procedures will not exist.

A zero defect auditing policy therefore lowers audit risk in an individual audit by lowering controllable detection risk, which in turn lowers the overall detection risk.

An interesting observation can be made now that a distinction has been drawn between uncontrollable and controllable detection risk. Most auditors would not consider lowering confidence levels (increasing uncontrollable risk and total detection risk) because of staff or budgeting constraints. However, if the omission of an auditing procedure or if deficient fieldwork is occasionally tolerated because of staff or budgeting con-

Figure 4
Expanded Audit Risk Model



[1]The term "uncontrollable" is used because statistical samples are always subject to error, since they do not observe the entire population. Sampling introduces an uncontrollable element in the audit process that is not found in the manufacturing setting. Because sampling is fundamental to the auditing process and the examination of the population is economically unjustified, this type of error is considered "uncontrollable."

straints, this omission of deficiency increases controllable detection risk and, consequently, total detection risk. In other words, a shortcut in the audit (increase in controllable risk) has the same effect as lowering confidence levels (increase in uncontrollable risk), an action most auditors would not consider. In fact, a serious flaw in the audit is the same as dropping the confidence levels to dangerously low thresholds.

The profession as a whole faces a fixed level of risk. Unlike individual auditors who can accept or reject an audit engagement, the profession cannot shift its total audit risk. Because the law requires that certain entities must have their financial statements audited by certified public accountants, someone in the profession must accept that risk. Thus, from the profession's perspective, risk cannot be passed on to someone else. Consequently, the profession must look for ways to reduce the total existing audit risk.

The total audit risk that the profession faces is made up of the risk faced in each individual audit. Therefore, if the risk in each individual audit is reduced, the total audit risk faced by the profession is reduced. A zero defect auditing policy reduces the risk faced in each individual audit where it is applied. This has the impact of effectively lowering the total audit risk faced by the entire profession.

Conclusions

The auditing profession has been under severe criticism because of the public perception of substandard audits. This paper advocates a zero defect auditing policy which mandates the highest form of quality control. On the surface, zero defect auditing appears to be an "over-auditing" policy, unless one incorporates the long-term costs facing the profession. By factoring in the costs of government regulation, lost credibility, reduced public confidence, and diminished prestige, zero defect auditing is cost justified. The costs of this policy are high, but the primary benefits (self-regulation, increased credibility, public confidence, and prestige) are greater.

A zero defect auditing policy is a systems approach which concentrates on ensuring quality in the audit process. This in turn results in s high quality audit product, the audit report. A zero defect policy can be adopted on an individual basis or by the profession as a whole. In whatever way it si adopted, it lowers the audit risk in each individual audit and, consequently, the total risk imposed on the profession.

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A Note from the Editor

I wish to thank those Board members who gave me the opportunity to serve as the Editor of *The Woman CPA*. Special thanks should also be extended to Jan Colbert for her tireless efforts as Associate Editor, Elise Jancura and Roland Madison for many years of service as Department Editors and also to our new Department Editors, Ann Pushkin, Mary Alice Seville, Chris Fugate, Lisa Martin and Teresa Thamer. Our reviewers have donated many hours to reading and evaluating manuscripts and deserve our heartfelt gratitude.

Each issue of the journal would not have been possible without the timely efforts of our typesetter, Wendi Williams of D&M Graphics in Louisville, KY, and our printing representative, Tom Ladd of Democrat Printing in Little Rock, Arkansas. Other people who devoted many hours to our publication are Lynette Sarther, our business manager and Jo Anne Dooley, our Treasurer.

It took the time, talents and efforts of all of these people to produce each quarterly issue.

I have learned so much during the past two years as Editor and preceding one year as Associate Editor. Thank you, the members.

Betty Brown

SFAS 87 – Improvement in Pension Disclosure?

By Mary Ann Merryman

Introduction and Background

The Financial Accounting Standards Board (FASB) issued Statement of Financial Accounting Standards (SFAS) 87 in 1985. This project sought greater consistency in pension reporting which would subsequently provide pension information more understandable and more useful to financial statement users.

SFAS 87 was implemented in two stages. Part one (required for fiscal years beginning after December 15, 1986) changed the measurement of annual pension expense, the recognition of retroactive benefits, and the composition of the pension footnote disclosure. A more standardized method with six specified components, show below in Exhibit A, now determines annual pension expense. The transition amount shown is the unrecognized net obligation or asset at the date of implementing SFAS 87.

The remaining service life of active employees regulates the recognition of retroactive benefits. Part one also requires significant additional disclosures in the pension footnote, including the breakdown of annual pension expense by the components listed above.

This first phase of SFAS 87 had significant impact on companies' financial statements, however, the second, or delayed, requirement of the Statement (effective for fiscal years beginning after December 15, 1988) generated the most controversy. This phase required the recording of a new "minimum liability" when the accumulated benefit obligation under the pension plan exceeds the fair value of the plan assets. This paper summarizes the impact and disclosure of this additional requirement on companies' financial statements in fiscal 1989.

Exhibit A

Composition of Annual Pension Expense

1. Service cost (+)
2. Interest cost (+)
3. Return on plan assets (-)
4. Amortization of prior service cost (generally +)
5. Amortization of gains and losses (+ or -)
6. Amortization of the transition amount (+ or -)

What Is the Minimum Liability?

Prior to SFAS 87, when the amount a company paid into the plan differed from the expense recorded, a pension asset or liability appeared in the financial statements. This resulted in prepaid pension cost if payments exceeded expense, or accrued pension cost if expense exceeded payments. No reflection (except in footnotes) existed of the situation where obligations of the pension plan exceeded the assets of the pension plan. Previous pension standards argued that the assets and obligations of the plan belonged to the plan itself and not to the company. The FASB in SFAS 87, however, contended that the company does have a liability for those situations where plan assets do not sufficiently meet plan obligations. In accordance with conservative accounting practice, however, they will not allow a company with assets greater than obligations to report an additional asset.

The new minimum liability equals the difference between the accumulated benefit obligation (ABO) and the fair value of the plan assets. The accumulated benefit obligation equals the actuarial present value of benefits earned to date without considering future pay increases. It differs from the projected benefit obligation (PBO, which is used in calculating service cost and interest cost for annual pension expense, in that the PBO includes those pay increases. The ABO more conservatively represents the obligation and approximately equals the obligation if the plan terminates. (The next article, "A Decision Rule Approach to Minimum Pension Liability Recognition under SFAS No. 87," presents a step-by-step method of computing the minimum liability.)

A comparison of the minimum liability and the previously recorded prepaid or accrued pension cost yields, if necessary, and additional liability. The recording of this additional liability results in a total pension liability equal to the minimum liability. The credit for the additional liability necessitates a debit to either an intangible asset (representing the expected future benefit of plan amendments) or to a contra stockholders' equity account if no future economic benefit appears likely. A comparison of the additional liability to any unrecognized prior service

Exhibit B

Minimum Liability Calculation

1.		Accumulated benefit obligation
	-	Fair value of plan assets
		Minimum liability (unfunded accumulated benefit)
2.		Minimum liability
	+/-	Prepaid/accrued pension cost
		Additional liability
3.		Prior service cost > additional liability?
		Yes - record intangible asset
		No - record contra stockholders' equity account

cost determines the future benefit. If prior service cost exceeds the liability, the company records the intangible asset. Prior service costs arise from plan amendments which generally improve the plan and benefit future periods. If prior services costs do not exceed the additional liability, the company assumes no future benefit. Exhibit B summarizes this rather complex calculation. The company amortizes neither the intangible asset nor the contra stockholders' equity account. The company adjusts the balances of these accounts each year to reflect the funding status.

Summary of Earlier Research

In earlier research, the author examined the annual reports of 100 publicly traded companies, with defined benefit pension plans, for the year in which they made the transition to phase one of SFAS 87.

The results were significant. Of the 100 companies, twenty-eight reported pension *income*, rather than expensed, under the new requirements. This resulted primarily from the offsetting of the return on plan assets against the other components. Sixty-five of the 100 companies reported a decrease in pension expense in the year of transition. This decrease was over 100 percent for thirteen companies. One company reported a increase in net income of 121 percent due solely to this change.

In anticipation of the new minimum liability, the 100 companies were also examined to determine

Exhibit C

Additional Pension Liability

	# of Companies
Recorded	12
Not recorded, not yet required	5
Not recorded, no explanation	3
Total with liability calculated	20

whether, if the FASB had required phase two at the time of initial transition, the companies would have recorded an additional liability. Thirty-two companies had unfunded accumulated obligations (the accumulated obligation exceeded the assets) at that time. However, only nineteen would have been required to report an additional liability since the previously recorded accrued pension liability was greater than the unfunded amount. The amount of this additional liability ranged from a immaterial percentage to five percent of the company's total assets.

Impact and Disclosure of the Minimum Liability

In order to evaluate the impact of the additional liability requirement, an attempt was made to obtain the 1989 annual reports of the same 100 companies in the earlier sample. Reports for ninety-five of the companies were received. The other five were not available because of acquisitions and bankruptcies. Of the ninety-five examined, sixty-eight had overfunded plans and twenty-seven had underfunded plans with unfunded accumulated benefits. Of particular interest were the companies, within the twenty-seven, required by SFAS 87 to record an additional liability. The following questions were asked: Which companies were required to record an additional pension liability and in what amount? If so, did they? Surprisingly, all did not. (See Exhibit C.) Of the twenty companies for which an additional liability was calculated, twelve recorded an additional amount; five did not because their fiscal years ended before December 15, 1989, and thus they are not required to record until fiscal 1990; three did not record and provided no explanation for the failure to do so.

Exhibit D

Minimum Liability Disclosure

	# of Companies		
	Yes	No	Total
Separate line item in reconciliation	10	10	20
Identification of debit (i.e., intangible asset or contra stockholders' equity	6	14	20
Narrative discussion in footnote	7	13	20

The amounts of the additional liability did not appear significant in comparison to the total assets of the company.

However, the disclosure of the minimum liability requirement appeared insufficient. If the FASB set out to make pension information more understandable and useful, there appears to be a question as to whether or not they have accomplished their goal. Exhibit D summarizes the extent of the disclosure. Exhibit D includes the five companies not yet required to record the additional liability because they chose to disclose what the liability would be when required. SFAS 87 requires that the pension footnote include a reconciliation of the funded status of the plan with amounts that are reported on the balance sheet. Specifically, that reconciliation should include a *separate* line item for the amount of any additional liability. Only fifty percent (ten out of twenty) included this item in the reconciliation. As discussed earlier, the offset, or debit, for the liabilities is an intangible asset or a reduction in stockholders' equity. Only six companies identified this debit in any way. Probably most significant was the fact that even though this is a new requirement and new disclosure, only seven companies included *any* narrative discussion or explanation.

One argument for eliminating the disclosure might have been that of materiality. However, it can be maintained that there are two types of materiality relating to financial statement disclosure: material amounts and material information. New requirements and new disclosures are material information in

Exhibit E

Partial Pension Footnote Example

Note X Pensions ...	
Actuarial present value of benefit obligations:	
Vested benefit obligation	$(XX)
Accumulated benefit obligation	(XX)
Projected benefit obligations	(XX)
Plan assets at fair value	XX
Projected benefit obligation (in excess of) or less than plan assets	XX
Unrecognized net (gain) or loss	(XX)
Unrecognized prior service cost	XX
Unrecognized net obligation from adoption of SFAS 87	XX
Adjustment required to recognize minimum liability	(XX)
Prepaid pension cost (pension liability) recognized in the balance sheet	$(XX)

SFAS No. 87 "Employers' Accounting for Pensions" required the Company to adopt its **minimum liability requirement** in 1989, due to the **accumulated benefit obligation under the pension plan exceeding the fair value of plan assets.** This required the Company to record an **additional liability of $XX, included in other noncurrent liabilities** on the balance sheet. An **intangible asset (included in other assets)** of $XX was also recorded. A **reduction of stockholders' equity of $XX** was made for the excess of this liability over the intangible asset, net of related deferred taxes.

that they are unfamiliar, situations have changed, and reporting is not consistent with previous information.

If individuals like this author, with some pension knowledge, become frustrated with the way pension information is disclosed, how are other financial statement users reacting? If the FASB believes the reconciliation of funded status to balance sheet amount is important enough to require its inclusion, the financial statement user should be able to find that amount on the balance sheet (or, at least, be informed as to where it is included). This was not the case for the companies examined. Typically, there was no mention of where pension assets or liabilities were and the user was left to speculate.

An example of the ability to trace a significant amount to the balance sheet is the SFAS 95 "Statement of Cash Flows" requirement that the Cash and Cash Equivalents amount at the bottom of the new Statement of Cash Flows tie to a line item on the balance sheet. In any situation where a reconciliation is being made to a balance sheet amount, this should be the case (or if the amount is not material by itself, an explanation of where it is included should be provided).

Given the complexities of pension plans, the footnote will probably always be involved and detailed. However, that is all the more reason to make it as understandable as possible. The annual reports for only two of the companies examined included footnotes that were felt to adequately explain the minimum liability requirement. The minimum liability adjustment (the additional liability) was included as a separate line item in the reconciliation. A paragraph discussing the requirement included an explanation of the debit(s) for the adjustment as well as where these items were included on the balance sheet. An example of a partial pension footnote, without amounts, derived from these reports is presented in Exhibit E. (Bold print is used for emphasis.)

Conclusion

The pension footnote has long been one of the most complicated notes accompanying published financial statements. As a result, many financial statement users have either ignored the information included or misinterpreted it. The FASB set out in SFAS 87 to standardize pension calculations and improve disclosure. The minimum liability requirement, that caused so much previous controversy, does not appear to have had the significant dollar impact on financial statements that was anticipated. However, it does appear that pension footnotes are still falling short in connecting to the financial statements, particularly the balance sheet, and in adequately explaining pension accounting, particularly the new minimum liability requirement. The full disclosure principle, basic to generally accepted accounting principles, states that adequate disclosure should be made of any economic information that could affect an informed financial statement user's decisions regarding the company. These users are not all CPAs with pension expertise. If disclosure is made but is not understandable, what has been accomplished?

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A Decision Rule Approach to Minimum Pension Liability Recognition Under SFAS No. 87

By Wanda G.Spruill and Sharon E. Bossung

Introduction

Statement of Financial Accounting Standards No. 87 (SFAS 87), *Employers' Accounting for Pensions,* requires a company with a defined benefit plan to report a balance sheet minimum pension liability (ML) when the accumulated benefit obligation (ABO) is underfunded. Balance sheets published after 1989 must reflect the ML requirement. A company recognizes the required ML by creating or adjusting balance sheet accounts. The decision rule approach in this article facilitates the calculations required for adjusting these accounts.

Required Minimum Liability

The ML is the excess of the ABO over the fair value of plan assets (FVA) at measurement date, which is the date of the financial statements or an alternate allowed date. This is strictly a liability recognition requirement since SFAS 87 does not provide for recognition of a minimum asset if the FVA exceeds the ABO. The first proposition in the Step 1 decision rule below embodies the requirement that no minimum asset be recognized in ML accounting. The second proposition in the Step 1 decision rule assists with the calculation of the ML when ABO is greater than FVA.

Step 1. Determine if there is a Minimum Liability

Compare ABO and FVA. Do not recognize a minimum asset when ABO is less than FVA. Recognize ML when the ABO is greater than FVA.

Step 1 Decision Rule
If ABO ≤ FVA, then, ML = 0.
If ABO > FVA, then, ML = ABO - FVA.

If an employer has more than one defined benefit pension plan, the minimum pension liability (ML) determination must be made independently for each plan. If the accumulated benefit obligation (ABO) exceeds plan assets in one plan and plan assets exceed ABO in another plan, the two cannot be netted. Even if total plan assets are greater than total obligations for all employer plans, an ML must be recognized for any one plan in which the ABO exceeds that plan's assets.

Additional Pension Liability

ML accounting considers the balance of the Prepaid pension cost/Accrued pension liability (PPC/APL) account to determine whether an additional pension liability (ADL) should be recognized in order to comply with the ML requirement. A balance in PPC/APL results from cumulative differences between pension expense recognized and cumulative cash disbursed for funding pension expense.

A credit (APL) balance in PPC/APL decreases the amount of the ML that must be recognized as the ending balance (EB) of ADL. A debit balance (PPC) in the PPC/APL account is added to the ML amount to determine the EB ADL. Step 2 decision rules below encompass these conditions.

Step 2. Determine Ending Balance of the Additional Pension Liability

Compare ML as determined in Step 1, with the ending balance of the PPC/APL account to determine the desired EB ADL.

Step 2 Decision Rules:
When EB PPC/APL = 0, then, EB ADL = ML
When EB PPC/APL is a Credit Balance (APL):
If ML ≤ APL, then, EB ADL = 0
If ML > APL, then, EB ADL = ML - APL.
When EB PPC/APL is a Debit Balance (PPC):
If ML = 0, then, EB ADL = 0
If ML > 0, then, EB ADL = ML + PPC.

Adjusting the Ending Balance of ADL

The balance in the additional pension liability (ADL) account must be adjusted to the amount that was determined in Step 2. The Step 3 decision rules take into

Exhibit I

LEGEND

ABO	Accumulated benefit oblication
ADL	Additional pension liability
APL	Cedit balance in PPC/APL
BB	Unadjusted beginning balance
CE	Contra-equity
EB	Adjusted ending blaance
FVA	Fair value of plan assets
IA	Intangible asset
ML	Minimim pension liability
PBO	Projected benefit obligation
PPC	Debit balance in PPC/APL
PPC/APL	Prepaid pension cost/Accrued pension liability
SFAS 87	Statement of Financial Accounting Standards No. 87
UPSC	Unrecognized prior service cost

account the possibilities encountered in creating or adjusting the balance of ADL.

Step 3. Determine Adjustment to the Balance Sheet Additional Liability Account

Compare BB ADL with the desired EB ADL (from Step 2). Debit/credit ADL as necessary to achieve the EB.

Step 3 Decision Rules
Adjustment to ADL:

If BB ADL = EB ADL, then, no adjustment to ADL.

If BB ADL > EB ADL, then, Dr. to ADL = difference between EB ADL and BB ADL.

If BB ADL < EB ADL, then, CR. to ADL = difference between EB ADL and BB ADL.

Intangible Asset and Contra Equity Accounts

When an ADL must be recognized, an equal amount is recognized as an intangible asset (IA) with the constraint that the IA may not exceed unrecognized prior service cost (UPSC). Any excess of ADL over UPSC is treated as a noncurrent deferred expense which is reflected, net of income tax effect, in the balance sheet equity section. This contra equity (CE) does not affect the current period income statement.

For the purpose of limiting the IA balance, UPSC includes both unrecognized prior service cost related to retroactive features of plan amendments adopted after implementation of SFAS 87 and unrecognized transition gain or loss. Unrecognized transition gain or loss is the difference between the balance of the projected benefit obligation (PBO) and the FVA when SFAS 87 is first implemented by a company.

The IA account is adjusted annually but is never directly amortized. Since UPSC is amortized to pension expense, amortization of the IA would result in double recognition of the same expense element.

The Step 4 adjustments take into account the various possibilities for creating and adjusting the IA and CE accounts. Step 4(a) rules deal with adjustments when UPSC is equal to or greater than EB ADL and, therefore, no CE account is required. Step 4(b) rules deal with adjustments when UPSC is less than the EB ADL and, therefore, balances in both IA and CE are required.

Steps 3 and 4 decision rules imply the required order of adjustment. The ADL account is adjusted first (per Step 3); then, the IA is adjusted; and finally, the CE is adjusted.

Step 4. Determine Adjustments to the Balance Sheet Intangible Asset and Contra Equity Accounts

When an ADL must be recognized (Step 2 above), and UPSC is equal to or greater than EB ADL, adjust IA to equal EB ADL. In this case, no CE balance is required.

Step 4 (a) Decision Rules

Adjustment to IA when UPSC ≥ EB ADL:

Adjust IA so that EB IA = EB ADL.
Adj. Amt. = EB ADL - BB IA.

If BB IA < EB ADL, then, Dr. Adj. Amt. to IA.

If BB IA > EB ADL, then, Cr. Adj. Amt. to IA.

Adjustment to CE when UPSC ≥ EB ADL:
Reverse any balance in the CE account.

When an ADL must be recognized (Step 2 above) and UPSC is less than EB ADL, adjust IA to equal UPSC, and adjust CE to equal the excess of EB ADL over UPSC.

Step 4(b) Decision Rules

Adjustment to IA when UPSC < EB ADL:

Adjust IA so that EB IA = UPSC.
Adj. Amt. = UPSC - BB IA.

If BB IA < UPSC, then, Dr. Adj. Amt. to IA.

If BB IA ≥ UPSC, then, Cr. Adj. Amt. to IA.

Adjustment to CE when UPSC < EB ADL:

If BB CE ≥ 0, then, adjust CE so that EB CE = EB ADL - EB IA.
Adj. Amt. = EB ADL - EB IA - BB CE.

If BB CE < EB ADL - EB IA, then, Dr. Adj. Amt. to CE.

If BB CE > EB ADL - EB IA, then, Cr. Adj. Amt. to CE

Conclusion

The calculations associated with reporting ML are complicated. The decision rule approach in this article simplifies these calculations. An example illustrating the decision rules is presented in the appendix to this article.

The full balance sheet impact of the SFAS 87 minimum pension liability requirement is not yet clear. Balance sheet volatility caused by the ML requirement is a subject for future investigation.

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A "Sleazy" Way to Improve Your Communication Skills

By Sandra D. Byrd, Ph.D., CPA and Jacquelyn A. Jones

At most meetings between accounting faculty and accounting practitioners one of the main items of discussion is how to improve communication skills. A method which was developed in a senior level accounting class for a class project is a definite plus in this area. Students seem to enjoy improving communication skills when they are introduced to SLEAZY. SLEAZY can also help accountants who are already out of school improve their communication skills. SLEAZY is an acronym that represents six of the major keys to better communication skills.

First, "S" stands for "Specific." Whenever material is being gathered for an oral or written report, letter, or memo, the writer should be specific as to the topc being covered or the purpose of the presentation. The topic or purpose of the presentation should be established and clearly stated at the beginning of the presentation. The presentation should then include all of the whos, whats, wheres, hows, whys, and whens to support the specific topic or purpose of the presentation.

The whos, whats, wheres, hows, whys and whens should be presented in a logical order. The "L" in SLEAZY stands for "Logical." Step-by-step logic should be used when organizing ideas for a presentation. This means the writer should prepare an outline before the actual presentation, written or oral. Without the use of an outline the main point of a presentation is often lost among supporting information of lessor importance. The outline will lead to a more systematic form of communication. All of the ideas needed will be in a more effective order withproper emphasis on each idea to support the specific topic or purpose of the presentation. If an oral presentation is logical the "you knows" and "huhs", which many times detract from an oral presentation, will be avoided. The presenter will not need to stop and pause to figure out what comes next because the most logical items will naturally follow one another. If an outline is used for a written presentation, the presentation will be easier to develop and will more readily support the end conclusion in a logical manner.

While building a purpose into an outline, the writer should always remember to keep the presentation on a nonpretentious level, or "E" which stands for "Easy". The presenter should always try to express ideas in a simple and straightforward manner. An audience is rarely impressed with the use of complicated or uncommon words. The audience simply becomes confused or loses interest in the meaningless presentation. The presenter must also worry about talking down to the audience; this scenario is just as devastating to the presentation. A simple rule of thumb to follow in preparing a presentation is to imagine that you are a member of your own audience. Today, this means you, like most business women and men, are overworked, distracted, or in a hurry. Write what you, if you were in this audience, would like to read or hear, in these circumstances.

"A" stands for "Audience." Any and all presentations re a total failure without favorable audience reception. This statement alone should make the writer realize how truly important the audience is to the presentation. Different audiences expect and should receive different items. A complex report raising technical accounting terms, will not work for an audience in which very few are accountants. Also a very simplistic discussion of what an asset is in simple terms will not be successful if the audience is all CPA's. The "E" and the "A" in SLEAZY effect each other. For a presentation to be effective the presentation must be aimed at the audience and be easy for them to comprehend.

The "Z" in the SLEAZY acronym stands for "Zealous." No matter what the topic or who the audience, the presenter should always be zealous in the presentation of material. If the presenter is active and acts interested in what is being said, then it is more likely that the audience will be interested and excited about the presentation as well. If the presenter does not care for the subject or the audience, this comes through in presentation. Also a smile will help in oral and written presentations. After all, even if a smile cannot be seen it can be felt.

Finally, the "Y" in SLEAZY stands for "Yawns." As an accountant and communicator, the presenter does not want the presentation to be faced with yawns. So, the presentation should be short and to the point. The problem should be stated and then solved. If necessary a few jokes should be thrown in along the way or a visual aid can be used to keep the audience from the "Y's." Today most audiences expect some type of a visual experience. If you are going to use visual aids, be sure they make a presentation more attractive and do not detract from the presentation. Before an oral presentation, be sure the equipment to be used is in good working order and that you know how to use it.

SLEAZY can be successfully applied to improve communication skills of accounting students and accounting professionals. A quick review of SLEAZY before each of your presentations can improve your presentation skills. These hints for a successful presentation are the most basic of ideas, but they are often the ones which are most often ignored or overlooked by presenters.

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Learning Style Preferences and the Prospective Accountant: Are There Gender Differences?

By Elizabeth K. Jenkins and Joyce H. Holley

Introduction

A change in the demographics of the accounting profession is readily apparent. Professors across the country have observed an increasing number of seats in accounting classrooms filled by female students; and, naturally, these growing numbers have carried over into the accounting work force. This shift in the makeup of the accounting profession from "male exclusivity" to "male/female colleagueship" has sparked researchers' interest in the examination of gender differences between both prospective and practicing accountants. Within this core of research, grade performance has emerged as a leading focus of inquiry.

A decade ago, investigation into the issue of gender differences and grade performance in accounting courses was first initiated, and the results were inconclusive. Early studies by Weston and Matoney [1976] and Hendricks [1978] substantiated superior performance of female (relative to male) accounting students. However, a longitudinal study by Fraser, Lytle and Stolle [1978] resulted in insignificant performance differentials.

The unanswered question of whether or not female undergraduate accounting students outperform their male counterparts has been more recently reexamined, again with conflicting conclusions. Results of several studies continue to indicate that performance differences between male and female accounting students are not significantly different [Hanks and Shivaswamy, 1985; Canlar and Bristol, 1988]. Whereas, the Mutchler, Turner, and Williams [1987] and Lipe [1989] studies found significant evidence of female accounting students outperforming their male classmates.

The Lipe research design (1 institution, 1 semester, 1 course, 11 instructors) used a strictly coordinated grading policy and discovered that female students only performed better than males in female-instructed classrooms (and vice versa). Lipe posits that these results may be attributable to an underlying variable – learning style.

> *If gender is one determining factor of the learning style of students and the teaching style of instructors, matching students and instructors on gender may be helpful in the learning process for accounting. This is an area that merits further research [Lipe, 1989, p. 150.]*

In order to shed light on potential reasons for gender performance differences in accounting, the authors's study investigates a potential root of the performance issue, that is, the learning process. Empirical evidence is sought as to whether or not gender differences occur in learning style preferences among accounting students. Implications are that these preferences may be carried over into practice. Before discussion of the study itself, the question, "What are learning style preferences?" must first be addressed.

Learning Style Preferences

An individual's learning style is part of a person's characteristic style of using and acquiring information in a problem-solving environment. Kolb [1985] has developed a model to help assess such a preference towards a particular learning style. His perception is one of a cyclical pattern of learning which begins with an immedi-

Figure 1
The Four Learning Style Types

Concrete Experience

Accommodator	**Diverger**
Strengths: Getting things done Leadership Risk Taking	Strengths: Imaginative ability Understanding people Recognizing problems Brainstorming
Too much: Trivial improvements Meaningless activity	Too much: Paralyzed by alternatives Can't make decisions
Too little: Work not completed on time Impractical plans Not directed to goals	Too little: No ideas Can't recognize problems and opportunities
To develop your Accommodative learning skills, practice: • Committing yourself to objectives • Seeking new opportunities • Influencing and leading others • Being personally involved • Dealing with people	To develop your Divergent learning skills, practice: • Being sensitive to people's feelings • Being sensitive to values • Listening with an open mind • Gathering information • Imagining the implications of uncertain situations
Active Experimentation	**Reflective Observation**
Converger	**Assimilator**
Strengths: Problem solving Decision making Deductive reasoning Defining problems	Strengths: Planning Creating models Defining problems Developing theories
Too much: Solving the wrong problem Hasty decision making	Too much: Castles in the air No practical application
Too little: Lack of focus No testing of ideas Scattered thoughts	Too little: Unable to learn from mistakes No sound basis for work No systematic approach
To develop your Convergent learning skills, practice: • Creating new ways of thinking and doing • Experimenting with new ideas • Choosing the best solution • Setting goals • Making decisions	To develop your Assimilative learning skills, practice: • Organizing information • Building conceptual models • Testing theories and ideas • Designing experiments • Analyzing quantitative data

Abstract Conceptualization

Source: McBer & Co.

ate concrete experience. An individual then proceeds to reflect upon his or her experience and consequently draw generalizations and abstract concepts related to a particular situation. Finally, an individual will experiment with the application of these newly learned concepts to newly encountered experiences. The four stage learning cycle consisting of (1) concrete experience (CE), (2) reflections and observations (RO), (3) formation of abstract concepts and generalizations (AC), (4) active experimentation (AE).

In the Kolb model, each of these dimensions are anchored to one end of a two dimensional axis. However, the end points of each axis are of opposing nature. Consequently, an individual must find a learning style which balances the antithetic characteristics of concreteness versus abstraction and of reflective observation versus active experimentation. *A person's learning preference is categorized according to his placement in one of the four quadrants* established by the relative emphasis along each of the two dimensions (CE-AC and AE-RO), which Kolb labels: Accommodator, Diverger, Assimilator, and Converger.

With an *accommodator* learning style, reliance is placed on concrete experience and active experimentation. *Action in a given situation predominates over theory formation. Therefore, strengths identifiable with an accommodator include ability to implement plans, involvement in new experiences, and adaptability to immediate circumstances.* The *assimilator* learning style has strengths opposite that of the accommodator. Emphasis is placed on *reflective observation and abstract conceptualization;* consequently, the assimilator is more comfortable with use of inductive *reasoning for purposes of theory building* (in lieu of practical application).

Persons who demonstrate the *diverger* style (relying on *concrete experience* and reflective *observation)*

Table 1
Observed Percentage of Subjects Falling in Each of the Four Possible Learnign Style Categories

Learnign Style	Sex: Female	Male
Accommodator	8%	11%
Diverger	27	15
Assimilator	40	39
Converger	25	35

[x^2 = 2.63, 3 df, p>.05]

are characteristically imaginative and take a multi-perspective approach toward viewing situations. The *converger* style has strengths opposite from that of the diverger. Relying primarily on abstract conceptualization and active experimentation abilities, the converger *tends to prefer working with technical tasks rather than people.* Strengths of this orientation include problem solving via the practical application of ideas. Each of these four learning styles are depicted and further described in Figure 1.

The Learning Style Inventory (LSI) questionnaire was first developed (and later revised) by Kolb to assess a person's learning-style pattern. By deriving two combination scores, AC minus CE and AE minus RO, the LSI instrument measures the emphasis that an individual places along each of the two dimensions. *These two scores once plotted on a grid can be represented as a single data point falling in one of the four learning style quadrants as previously described.*

Several researchers have used the LSI instrument to measure the learning style of professional accountants and accounting students [Baldwin and Reckers, 1984; Baker, Simon, and Bazeli, 1986; Collins and Milliron, 1987]. Evidence has supported the predominance of converger as the preferred learning style among upper division accounting students and among the accounting professionals. To our knowledge, none of these studies reported or analyzed gender differences.

The Study

The objective of this study was to investigate whether or not female accounting students differ from male accounting students in their learning style preference. Evidence of differences or similarities should shed new light on the gender performance issue.

Male and female accounting students enrolled in Intermediate Accounting I at two major state universities (West coast, and Southwest) served as the subjects for this study. The sample population (52 women, 46 men) was administered the Kolb LSI instrument at the end of the semester, which yielded categorical measurements for learning style preferences (Accommodator, Assimilator, Converger, Diverger).

Based on our observations, the predominant learning style preference for both male and female accounting students is the assimilator. Approximately 54% of the females, and 46% of the males, fell into this category. These findings are not necessarily inconsistent with learning theory and previous research in the accounting field. Recall that converger emerged as the preferred learning style among professional and upper division accounting students. A possible explanation for the selection of assimilator among Intermediate I students is that they are in an earlier stage in the learning cycle, and will reach the converger style as they move through the accounting program and into practice.

Interestingly, the observed learning style preferences were not significantly different for men and women accounting students. A chi-square analysis was performed investigating the effects of gender and learning style preferences, and the resulting observed differences were insignificant. *In other words, the probability of a male versus female student mapping into a learning style category was not significantly different.* Table 1 summarizes the frequencies of observed learning style preferences among the male and female subjects.

However, this first impression of learning style homogeneity among men and women accounting students only holds true with respect to mapping into a particular learning style quadrant. Within the assimilator quadrant, significant gender differences were found when the mean scores of the coordinates on each of the two dimensions were further analyzed using analysis of variance.

The mean scores of both male and female accounting students on each of the two dimensions mapped into the assimilator quadrant. *A comparison of these mean scores indicates that females place a significantly greater emphasis on reflective observation ("watching") over active experimentation ("doing"); whereas, males place a significantly greater emphasis on abstract conceptualization ("thinking") over concrete experience ("feeling").*

Based on these results can we assess who is the "better, more efficient" learner? The answer is no. The Kolb LSI does not assess learning ability. What it does assess is learning style preferences. The closer the point is to the intersection of the 50th percentile lines, the more balanced the individual's learning style in terms of acquiring knowledge in a variety of environments. These findings suggest a slight tendency for female accounting students to rely on observation techniques and for males to rely on abstract techniques in their acquisition of knowledge.

Conclusions

The purpose of this research was to compare the learning style preferences of male and female accounting students and thereby, to provide further insight into gender performance differentials. What was discovered is that both men and women prospective accountants in Intermediate I class prefer the assimilator style. People with this learning style excel at inductive reasoning and assimilation of information into a concise, logical form.

Previous work in the accounting literature has found a dominant "converger" learning style among accounting practitioners and advanced accounting students. However, these prior works did not explore gender differences. Our finding of a dominant "assimilator" style among both male and female Intermediate I students appears inconsistent on the surface, but may be explained by the cyclical nature of the Kolb model. In other words, the more experienced practitioners may have progressed from the assimilator learning style (dominant among prospective accounting students) to the converger learning style. Another possible explanation for the inconsistency in results may be due to attrition. Perhaps, the tendency is for convergers to pursue an accounting career and for assimilators to drop out of that career path.

The current study also revealed an interesting insight into gender differences within the assimilator style among the sample population. Upon further analysis, significant gender differences were observed with respect to the relative emphasis placed on abstract conceptualization and reflective observation. *Male prospective accountants tended to place a greater reliance on the former dimension, that is learning by thinking. Female prospective accountants tended to place a greater reliance on the latter dimension, that is learning by watching.*

Implications of these results extend beyond the accounting student and impact practitioners as well. *Both male and female accountants can assess their own learning style and then take steps to improve their problem solving abilities. These steps include, association with persons of different learning styles in order to meld the strengths and overcome the weaknesses of the four types. A second strategy requires the individual to seek a better match between learning style and chosen career activities. Finally, the successful problem solver must become a flexible learner, and adapt his style to cope with different types of problems.*

These findings from a sample population may not be generalizable to all prospective accountants, but the results should spur future research into possible explanations of the how and why differences between the sexes arise. Eventually, the aggregate of studies on this issue will provide a broad base for better understanding of cognitive differences and similarities between male and female accountants.

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Choices in Personal Computer Technology

By Elise Jancura and Linda Garceau

In 1987 IBM introduced its newest family of personal computers, the PS/2. The PS/2 series was described by IBM as larger, faster, and more reliable; it was named by IBM's competitors – a "clone killer." It was said to be IBM's response to the legion of compatible machines that had eroded its share in the PC market. Unlike the PC, which could be built using "off-the-shelf" parts, the PS/2 included new technology and design concept which reduced the level of "plug compatibility." One of the most significant changes was the introduction of the Micro Channel Architecture, which replaced the traditional Industry Standard Architecture.

Now, four years after the introduction of the PS/2, the debate continues over the relative merits of the PS/2's Micro Channel Architecture (MCA) versus the traditional Industry Standard Architecture (ISA) which is found in older PCs such as the PC, XT and AT, and in most IBM clones. This article discusses the differences between the Micro Channel Architecture and the Industry Standard Architecture and the merits of each. It then provides guidance to readers in the selection of an architecture that may best fulfill their processing needs.

MSA vs. ISA

One of the principle differences between systems making use of the Micro Channel Architecture and those that use the Industry Standard Architecture is the design of the bus. In a microcomputer, the bus is the component that ties the system together. Functioning like a roadway, it connects the microprocessor to internal memory, auxiliary storage devices, and input and output devices; and controls the flow of data to and from these components. In the first PCs it worked like an old country road, relatively unreliable and slow, sending data serially, bit by bit. Design enhancements increased the amount of data that could be passed using the bus and the rate at which data transfer could occur. Over the years, buses have gone from being "country roads" to eight, sixteen and even thirty-two bit "super-highways."

Performance differences between MCA and ISA machines result largely from differences in bus design which involve bus width and data transfer speed. Bus width describes the number of bits of data that can be transferred in parallel. The wider the bus the greater the amount of data that can be transferred simultaneously, and the faster the machine. ISA buses have been typically 8 or 16 bit buses, meaning that either 8 or 16 bits of data, the equivalent of one or two characters, may be transferred at the same time. In MCA machines, buses have doubled in size. With this new architecture, 32 bits or four characters may be transferred together.

Another factor that distinguishes MCA/ISA architectures is data transfer speed. The top speed at which classical PC/ISA computers transfer data is 16 megabits (16Mb) per second. The timing of data transfer is controlled by the operation of the bus clock, with the maximum bus clock speed being 10MHz. The classic AT/ISA bus has a standard speed of 8MHz which produces a transfer rate of 64Mb per second.

The MCA bus achieves improved transfer rates by introducing a new technique called data streaming, which is used in conjunction with multiplexing. In data streaming, the bus is dedicated to sending larger bursts of data between two components. Data streaming allows MCA machines to transfer data at an improved rate of one cycle per transfer. Processing overhead is further reduced by multiplexing in MCA machines. By multiplexing the address-bus during data streaming transfers, the MCA bus can be made 64 bits wide. Altogether, the one transfer per cycle rate, the 64 bit bus width and the 10MHz cycle, give MCA machines like the PS/2 a maximum possible throughput data rate of 80Mb per second. These are significant performance gains, both in the amount of data that can be transferred and the speed at which data transfer occurs.

In a move to counter the perceived market advantages of MCA, the Extended Industry Standard Architecture (EISA) was announced in 1988 by the so-called "Gang of Nine." This group, led by Compaq, includes AST Research Inc., Epson America, Hewlett-Packard Co., NEC Corp., Ing C. Olivetti & Co., Tandy Corp., Wyse Technology, and Zenith Data Systems. EISA was designed to provide features similar to those of MCA and to support "backward" compatibility, allowing ISA boards to be used in EISA machines. To date, however, the Extended Standard Industry Architecture has not gained a significant share of the market place, the installed base of EISA machines numbering only in the thousands. There is no available software (such as OS/2 for MCA machines) currently exploiting this technology nor are there any expansion boards on the market that capitalize upon this system's enhancements. While EISA in the future may be a technological alternative to MCA, this article focuses only upon MCA and ISA technology which are used in machines that today represent a significant market share.

Potential of MCA

System control is a feature which has been redefined in the MCA machine. In the older ISA machines the microprocessor performs all control functions. It manages everything that is going on in the machine and also sets the limits. It works in a serial fashion, processing one job after the other. Other components can do nothing without it and therefore are constrained by the speed of the microprocessor. This limitation has affected the speed of data transfer across the ISA bus. MCA machines have borrowed control concepts from mainframe computers. With the Micro Channel Architecture, the microprocessor and bus have been broken into separate subsystems, thereby allowing the overlapping of data transfers with other functions. Instead of being controlled by the microprocessor, the bus is now commanded by a series of several devices called bus masters. These bus masters move data across the bus from one component to another.

Another concept new to the MCA environment is that of bus slave. As the name implies, the bus slave responds to the commands of the bus master, sending and receiving the data that the bus master requests. A bus slave functions like any ordinary component in the PC environment. MCA machines are designed to support up to 15 bus masters/bus slave combinations. Their operation is controlled by a special system circuitry called the central arbitration point or CAP. If a bus master wants to take control of system communication, it must signal the central arbitration point (CAP). If the component has priority, it is defined as the controlling bus master and becomes the owner of the expansion bus and necessary components. Thus the Micro Channel Architecture approaches the data channel/priority interrupt capabilities found in mainframe computers – features which support a multitasking environment.

Performance in MCA machines is enhanced in several ways using the bus master. First, bus speeds are not limited by the speed of the microprocessor, as in ISA machines. In addition, MCA machines provide cache memory (limited, high-speed memory which holds data that is being moved across the bus). The bus, by using cache memory, may execute input and output operations without interrupting the processing of other components. The use of cache memory introduces the concept of parallel processing to the MCA environment.

In many ways the designers of the Micro Channel Architecture have borrowed processing concepts from the mainframe environment. Multitasking (accomplished using bus master/bus slaves) and parallel processing (done using cache memory) are common approaches in today's mainframe environment. The incorporation in the Micro Channel Architecture has resulted in the design of a machine that is significantly more powerful than its predecessors.

The Pros and Cons of MCA

MCA machines have several distinct performance advantages when compared with older ISA machines. First and foremost, their physical design supports faster operation. They allow larger bus widths, up to 64 bits, and have reduced the number of cycles required to transfer data from 2 to 1. In addition, MCA buses experience far less electromagnetic interference than ISA buses. This electromagnetic interference limits bus speed in classic, ISA-bus computers. Currently, MCA machines can operate up to 25% faster than AT machines. It is anticipated that with technology defined, but not yet implemented, gains of up to 800 percent will be realized.

Introduction of mainframe approaches like multitasking and parallel processing in the MCA design has increased significantly the throughput potential. Multitasking, which permits multiple jobs to be run at the same time, is accomplished by the bus master. The bus is no longer under the control of the microprocessor, as it is in ISA machines, but operates independently under the control of one of the 15 possible bus masters. Since the microprocessor is freed from the burden of data handling, it can now be used to execute other jobs. The use of cache memory also supports parallel processing of data. It allows for the queuing of data that is being sent or received. By doing this, a job's input or output operations can occur while processing is also going on and processing is not slowed by the system waiting to receive or send data over the bus.

The techniques of multitasking and parallel processing can give rise to significant performance gains. When IBM developed the MCA architecture, it was clear that the existing DOS environment was incapable of exploiting the power of the new hardware and did not support multitasking. Thus, IBM introduced a new operating system OS/2, which was designed to take advantage of the power to MCA technology. However, conversion to OS/2 requires a considerable investment of time, system skills, and money. Many PC users were reluctant initially to make that investment. The rate of conversion to OS/2 has been further reduced by the very successful introduction of "Windows," which has been seen by many as a way of getting "some of the benefits" of multitasking without having to pay the price for moving totally into the OS/2 environment.

Currently the techniques of multitasking and parallel processing still don't make much of a difference in systems performance under DOS. This is because new software and expansion boards are only now being developed that take advantage of these capabilities. In most instances, MCA machines are still being run under DOS. Since DOS is a single task operating system, even if multitasking capabilities are available in the hardware, the operating system software can not make use of them. Similarly, MCA machines do not make full use of parallel processing. Although this is a technique that will increase the throughput of data by the system, data throughput is not a problem with today's systems and expansion boards, since the current capacity of the older AT bus exceeds that of most expansion boards. Therefore the performance of microprocessor components such as the hard disk controller or the LAN adapter are not constrained by performance of the ISA/AT bus.

The Current Computing Environment

Today, only multiuser systems – networks and workgroup computers –

exploit the power that is made available using techniques like multitasking and parallel processing. Most single-user system requirements are already being met by the classic Industry Standard Architecture.

The MCA machine is designed to be potentially more reliable than its predecessors, functioning far longer without system failures and being easier to repair if system failure occurs. This can translate into substantial savings on repair costs, and less down-time when the computer is unavailable. Real-life reports, however, contradict proclaimed improvements in system reliability. PC Labs have recently evaluated the reliability of MCA systems. Testing shows that, for the most part, failures are not related to defects in MCA specifications, but to the inability of peripheral manufacturers to follow these specifications. Thus, while problems do not exist with the basic machinery, but problems continue to plague the expansion boards.

Connectivity is another major difference between ISA and MCA machines. On ISA boards there are .10 inches between contacts, while on MCA boards there are .05 inches. This means that older ISA expansion boards cannot be used in MCA machines. Thus, the Micro Channel Architecture foregoes all hardware compatibility with older machines and promises software compatibility only with ISA/AT computers. The MCA design has rearranged functions, as well as added new functions to enhance system operation. The cost for improved performance is paid by the user who is unable to transfer boards from older machines into the PS/2. And, although all major features are now available on MCA-compatible boards, the number of available ISA-compatible boards is many times greater than the number of MCA-compatible boards.

Another consideration separating MCA and ISA machines is cost. Although IBM does not disclose the cost or nature of its licensing agreements, costs can range from nothing (if cross-licensing agreements exist) to as much as 5 percent of the price of the finished computer. Today, manufacturers of IBM clones that incorporate MCA technology are harder pressed to compete only on cost, given the existence of these licensing fees and reported compatibility problems. MCA computers range in base price from approximately \$5,000 to \$12,000. This cost is approximately \$1,000 to \$2,000 more than the classic ISA/AT computer. It is also unlikely that manufacturers of MCA expansion boards will beginning deep discounts. The manufacture of boards for the classic machines is still more profitable.

Today's Acquisition Decision

Today, the microcomputer user is faced with the decision to invest in older, "tried-and-true" technology or move on to something "bigger-and-better." If this decision is made solely on the basis of hardware capability, the new MCA technology will be a sure winner. Theoretically, using an increased band width, reduced cycle time, bus master control, and cache memory, it should be no contest – the MCA computer is a faster machine that can support multiple users. In actuality, however, the ability of the MCA computer to realize these goals is limited by the availability of operating system software and bus mastering boards, that can be used for multitasking and parallel processing in the MCA environment. Both the system software and boards are inherently more complex and require a larger investment to develop. With the current MCA market only about 1/8 the size of the ISA market, there is less incentive to develop products that will cause the benefits of a Micro Channel Architecture to be realized.

The effects of this lack of support were driven home in the results of tests conducted by PC Labs in New York and PC LAN Labs in Florida in June 1990. This series of tests compared the operation of ISA and MCA machines in the performance of a variety of computing chores. Tests were developed to represent current PC environments: single user PCs running DOS and network servers using Novell's NetWare. Results of these tests showed that in a single user DOS environment there is no real difference in speed between ISA and MCA machines and if cost is factored in, ISA is the better choice. With today's applications and limited software/hardware support, the choice of bus makes no difference in overall system performance.

This conclusion holds true in the single user environment and the multiuser environment. Both ISA and MCA machines can be used in networks, as file servers, with up to 12 other workstations and still there are no performance differences. Performance differences between machines occur when they are used in larger LANs (more than 12 workstations). In this environment, a more sophisticated bus design can make a difference in performance. But, for the MCA machine to be a winner, it must be supported by the additional bus mastering expansion boards that take advantage of its high-performance features.

In the final analysis, MCA systems are technically superior, designed to meet high-speed, high-volume processing needs. Yet, to fully realize this technical superiority, a significant additional investment must be made in both hardware and software. In most instances, current user processing requirements are not so demanding as to justify this investment. Thus, unless an organization opts to install the more powerful operating system environment, traditional ISA technology remains a satisfactory alternative to more advanced MCA systems.

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150 Semester Hours: The Train Has Not Left The Station

By Roland Madison and Norman Meonske

Congressional criticism from Congressmen Dingell and Wyden regarding the quality of accounting practice stimulated an effort by the AICPA in the mid-1980s to restructure the accounting profession in the name of "self-regulation" as a means to improve the quality of the profession. The AICPA response was to require mandatory peer review, continuing professional education, and 150-semester hours of college education to sit for the CPA exam by the year 2,000 as part of its six point 1987 plan to Restructure the Profession (Anderson Committee, 1987). Few professional accountants or educators, including the authors, would argue against taking steps to improve the profession. While several parts of the Plan to Restructure certainly have merit, it has become apparent to the authors that the long-standing proponents of mandatory graduate education saw an immediate opportunity to extend the education of all accountants to sit for the CPA exam without providing any assurance that entry-level accountants will be better educated. The proponents included a coalition of selected members of the Federated Schools of Accountancy, the American Accounting Association (AAA), and the AICPA. These support the efforts of the State CPA societies to champion the enactment of state laws requiring CPA-track accountants to have the 150-semester hours of college education. Even though the AICPA-appointed Commission on Professional Accounting Education acknowledged that "as the commission collected evidence, the scarcity of relevant information became readily apparent" and the "lack of unified commitment to implement a postbaccalaureate requirement among the interested groups in the profession is generally acknowledged *(Implementation of a Postbacalaureate Education Requirement for the CPA Profession, 1983)*, a decision was still made to support mandatory postbaccalaureate education.

Today, many critical questions remain unanswered regarding the need and urgency to extend the education requirement without necessarily improving the quality of those desiring to enter the accounting profession. Many AICPA members who voted for the 150-semester hour requirement as a condition for new AICPA membership by the year 2,000 were not well informed on the implementation problems and education issue. For example, after careful study, the Pennsylvania Institute of CPAs Council on May 10, 1990, passed a motion not to implement the AICPA 150-semester hour requirement in Pennsylvania even thought the membership overwhelmingly voted in favor of the requirement for AICPA membership. Earlier, the concept was rejected in New York and other states. The purpose of this article is to discuss the vast implementation problems associated with requiring 150-semester hours as a prerequisite to sit for the CPA exam, the burden placed on women, and to dispel the myth that it is too late to prevent the passage or reversal of state laws requiring more education as a matter of law.

Many members of the profession are not aware that local and regional CPA firms, industry, and government agencies will be forced to compete in a shrinking and more expensive market for entry-level accounts; minorities and economically disadvantaged will be adversely affected, and those without additional education beyond the bachelor's level will be reduced to the status of paraprofessionals. Women, who now comprise one-half of all new hires into public accounting, will face a burden of needing to complete five years of college.

While the authors support appropriate education, we do not believe that broad-based support among informed accountants and educators exists for the enactment of state laws to require the additional education. Audiences of professional CPAs informally polled in Chicago, New York, Cleveland, Columbus, Cincinnati, Toledo, Indianapolis and Washington, D.C., did not support the concept once they learned how the 150-semester hour rule would work. Although the AICPA announced an 83% favorable membership vote to approve the six points to improve the profession, legal action is pending against the AICPA regarding the balloting process. A five-member Appellate Court of the New York Supreme Court ruled unanimously against the AICPA when it refused to dismiss the case. The judges ruled that a basis for a case exists. A final favorable court ruling for the plaintiffs could add to the presumable huge legal cost incurred by the AICPA.

Restricting Entry for Women

Discussions with the two audiences comprised largely of AWSCPA and ASWA members provided verbal evidence that many would be adversely affected by the legislation at a time when the professional opportunities for entry and advancement appeared to be improving for women. They spoke from a diverse background of personal experiences. Many women and nontraditional female students require an extended time to earn the bachelor's degree. If they were required to spend a "fifth" year in college, this additional education could require much more than a year and restrict them from an opportunity to earn CPA certificate. Many married women spoke of the additional burden of going to college at the same time many have to work and maintain a home. Single parents will face an even greater obstacle in ever reaching professional status as a CPA. These conclusions are validated by figures published in *The Ohio CPA Journal* (April, 1991) that showed only 40% of the accounting graduates with master's degrees were women. For the Master's of Taxation, approximately 30% of the Ohio graduates are female. At the bachelor's level, male graduates slightly outnumber females.

Women fill one-half of the entry level positions in the public accounting profession (AICPA 1990). The 150-hour law will potentially prevent women from joining the accounting staff as full-fledged professional unless they have earned 150 hours of college credit. These students will be chasing declining financial aid since universities do not have enough resources or graduate assistantships to support most persons for a fifth year of college. To make matters worse, accounting firms have not been willing to pay a sufficient salary differential to compensate for all of the education costs of a fifth year, nor have they aggressively recruited master's students for their audit staff. Accounting firms traditionally provide only a modest number of internships for both bachelor and graduate students. If today's practice criterion is used, most women will not be able to advance to senior accountant until they have passed the CPA exam. The only work place alternative may be that as a paraprofessional if the person holds only a bachelor's degree. The problem could become critical for many women because few public accounting firms provide reimbursement for graduate school. Many accounting firms are reluctant to give their entry-level staff time off during busy season to pursue additional education beyond the bachelor's degree. Furthermore, those individuals accepting positions in rural locations without nearby graduate schools will experience difficulty in completing the fifth year.

Smaller Firm Squeeze

Approximately 33% of the bachelor graduates and 22% of the five-year graduates going into public accounting are hired by small firms with two to nine CPAs. These firms pay approximately 35% lower starting salaries than the firms with more than 100 professional accountants. The 150-hour law is already being viewed by students as an obstacle to entering the profession, rather than as "raising the standards" to attract qualified students. Convincing students to major in accounting for five years without a noticeable marketplace reward will be a difficult sell. Many accounting students, including the "best and brightest" will continue to switch to finance, computers, and other business related fields. The educational shifts have already occurred in Florida where the law has been in place since 1984. Similarly, many colleges will be reluctant to offer a 150-hour master's degree and risk loss of accreditation (normally 156-165 hours are required). Clearly, if the 150-semester hour requirement becomes law in all states and is not rescinded, the smaller firms will be the least capable to compete for a much smaller supply of accounting graduates without incurring substantial increases in salary levels for all members of their staff.

Many believe that the 150-semester hour law will result in false education expectations because the curriculum-neutral requirements will not provide entry-level staff with additional technical skills to be used in public accounting. The smaller firms will be forced to increase their billing rates, hire fewer qualified staff and turn to paraprofessionals. In the long run they will potentially face difficulty in serving their larger clients and in developing career staff with the ability to move up to the partner level.

The Hidden Education Expectation Gap Bomb

The AICPA is calling for more general education an broader education but is leaving it completely open as to what the additional education to enter the profession should be. The AICPA/NASBA model law allows the CPA candidates to get any education they want – credit for basket weaving, dissecting frog, and even Jane Fonda workouts will satisfy the additional education requirements. *Nothing is excluded.* As late as June 28, 1991, in a taped speech at the national convention of the National Association of Black Accountants, Rick Elam, AICPA Vice President – Education, stated that students should receive college credit, in unspecific general education rather than technical accounting subjects. He stated that the reason for requiring more general education, rather than specific business and accounting courses, is because the AICPA does not know what certified public accountants who will be practicing in the year 2,000, or beyond, will need to know. We submit that if the leaders of the profession and educators do not know what students need for the future, how is a twenty-year-old college student who is generally interested in getting out of college as soon as possible with a high grade point average going to make the right decision on what courses to take?

Many educator are becoming concerned that the AICPA, without conducting a credible impact study, wants to restructure the education curriculums without broad participation from all educators. Anyone who has been around college students will vouch that, with few exceptions, students will frequently opt for easier courses that offer the higher grades with less work in order to have the necessary high grade point to get a job in public accounting. All accounting educator, not only those from the Federated Schools of Accountancy, must make the hard decisions and establish high education standards in cooperation with the practice community that serve the entire accounting profession. What started as a Beamer Committee recommendation to require a master's degree with a concentration in accounting has evolved during the last thirty years into nothing more than a higher education hurdle that provides no promise that the graduates entering the accounting profession in the year 2,000 will be any better prepared to work as public accountants than today's graduates.

Although the Soviet Union recently startled the world by recognizing the role of the marketplace in the allocation of economic resources, the 150-semester hour law proposes to completely replace the capital market with laws made by the state. AICPA data reflecting the choice of the market place reveals that hiring of bachelor's degree entry-level staff have outnumbered advanced degrees by a nine to one margin every year for the last fifteen years. From 1972 to 1988 the number of bachelor's graduates hired into public accounting increased by 245% while the master's graduates increased by only 2%. In fact, the AICPA reports that 14% of all graduates hired into public accounting hold non-accounting degrees. NASBA statistics show a declining trend of first time candidates with advanced degrees sitting for the CPA exam. In November, 1975, 15.6% of the first time candidates held an advanced degree, as compared to only 9.5% for the May, 1989, exam.

May public accounting recruiters believe that even the $500 to $1,500 incremental starting salary offered to advanced degree holders who join the audit staff is not justified. Their perceptions are supported by a landmark study of the Florida 150-hour law that evaluated the impact on public accounting practice after four years of experience. The results published in the March, 1989, issue of the *Accounting Horizons* revealed that few of the benefits the proponents hoped for have materialized. Furthermore, CPAs in Florida did not even achieve the egotistic wish of rasing accountancy to the professional status of that enjoyed by the legal or medical professions.

Addressing the Performance Issue

The real test of requiring additional education is to determine if the incremental benefits realized exceed the additional costs. If students, colleges, and society must bear the substantial education cost to obtain a professional credential, then there must be assurance that the hoped-for benefits will emerge. It is one thing to merely state that additional benefits will occur; and it is yet another to prove that these hoped-for benefits will in fact materialize. The burden of proof rests with the advocates. The time for glib promises, rhetoric, AICPA and state society managed propaganda, and selective statistical reporting containing half truths has passed. As the year 2,000 approaches, more educators and accountants will closely examine the evidence and issues.

One of the most credible research studies focusing on the relationship of on-the-job performance and level of education was conducted in 1988 by the President's Council on Integrity and Efficiency. One of their major conclusions was that "job performance at the entry level was not different for auditors with graduate degrees as opposed to those with only undergraduate degrees." The current certification process appeared to be working because auditors with the CPA credentials received higher job performance ratings than the uncertified auditor. William H. Reed, Director of the Defense Contract Audit Agency, in a letter to the Chairman of the AICPA Board of Directors, suggested the AICPA reconsider the 150-hour requirement and recommended that the AICPA "focus on improving the four-year curricula and education beyond the entry level." Reed also said:

> "Students should not be discouraged from studying accounting by having an additional year added to the degree requirements. By assuring that they get a good four-year college education, including accounting study sufficient to pass a comprehensive examination and perform entry-level tasks, employers can build upon that base with specialized training an other continuing education."

According to Professor Nathan Garrett, a Yale graduate who is a member of the Accounting Education Change Commission and member of North Carolina Board of CPA Examiners, "the additional hours will be mostly in non-accounting courses." He expressed concern that the "implementation of the 150 hour requirement will create a barrier for the economically disadvantaged." He suggests that four-year graduates should be permitted to sit for the Uniform CPA Exam, but their license should be withheld until an extended education requirement is met. Hawaii, which also has the 150-hour requirement, permits the substitution of one month of experience for each semester hour of college credit (beyond the bachelor de-gree) as a alternative for one who attempts to obtain the CPA certificate.

The Train Has Not Left the Station

Advocates of the 150-semester hour requirement would like everyone to believe that legislative action to adopt an extended education requirement to enter the profession is a done deal that the "train has left the station." Nothing could be further from the truth. A careful strategy has been used to get the legislation adopted in southern states where the Federated of Schools of Accountancy have an influential presence. Florida fought an eight-year battle and perhaps spent nearly a million dollars to get the legislation passed is a coastal state that has a history of wanting to restrict the CPA license. A limited amount of opposition was able to stop the legislation in other states such as New York, Minnesota, Colorado, Missouri, Pennsylvania, and Indiana. Additional legislative initiatives to reverse the 150-semester hour legislation before the year 2,000 may occur when some of the sunset reviews occur in the seventeen states that have passed the legislation to date. There is nothing special about the year 2,000.

Everyone has a responsibility to become aware of the status of the 150-semester hour legislation in their respective states and make their views know to members of the legislature. The authors agree with a growing number of accounting professionals that the rush to pass state laws requiring a fifth year of college should be halted until the alternatives have been objectively evaluated by a broad base of accountants from the entire academic community, local and national accounting firms, government and industry. Additional, we believe that the 150-hour legislation should be placed on hold until at least two-thirds of the new hires sought by accounting firms hold advanced degrees; until then, the marketplace should be permitted to work and the artificial barriers to enter the profession should be removed. Accountants should become well informed on the issues. Readers who need additional information are invited to contact the authors.

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Accounting Education – Time for a Change?

By James R. Henderson and Charles E. Jordan

Accounting education is at a crossroads. Many accountants are questioning the ability of our present accounting educational system to train future accountants. Many new topics, such as ethics, international business, computer applications and communication are constantly being added to the amount of material that must be covered in the classroom. On the other had, very little is being deleted from the curriculum. This has led many groups (e.g., The Anderson Committee, The Treadway Commission, and The Bedford Committee) to propose a 150-hour rule as the solution to the expanding body of knowledge.

Few would argue that a 150-hour program would likely produce a *better* educated person and certainly a *more* educated person. However, there are many questions that need to be answered before the 150-hour program is implemented. Is the new program the answer to the problems in the accounting profession or will it only intensify existing problems? Will the new extended program improve the image of the profession? What will the 150-hour curriculums include? Will this program attract "the best and brightest" students or will the additional cost of this program be prohibitive to the point of driving away some of these students?

Dialogue

To study the problems of the accounting educational system, a hypothetical committee of representatives of each interested group has been invited to a forum to express their viewpoints on some key accounting issues. Among the groups represented is the American Assembly of Collegiate Schools of Business (AACSB) This is the national accrediting association for schools of business. Also included in the discussion are representatives from the American Institute of CPAs (AICPA); "Big 6" CPA firms; local CPA firms; private sector corporate accountants; accounting educators; and liberal arts professors. A bright undergraduate student has also been invited to participate in the forum. The student has recently completed a course in Intermediate Accounting and is interested in learning more about the profession and why accounting students will soon be required to have five years of college education. The buzzing in the room stops as the student asks the first question.

Student: I do not understand why I should be required to take five years of coursework. My parents are not wealthy, and an extra year will cost them $10,000. I will also be giving up a salary of approximately $28,000. As I see it, that comes to $38,000 for one more year of college.

AICPA: But if you went to medical or law school, it would be at least seven or eight years of schooling and we are only suggesting five years.

Student: But I do not want to go to medical or law school.

AICPA: Well, accounting graduates need more training in all areas to make a well rounded individual who is ready to function in today's complex business world. That is the basis for our recommendation of a 150-hour requirement. We do not suggest or think it would be best for all of the extra hours to be taken in accounting or even in business. There should be more time for the students to study history, the arts, and written and oral communication.

Student: I would like for someone to explain the importance of studying music appreciation. How will this enable me to do my job better as an accountant? Shouldn't I be spending more time figuring out why SFAS 96 may never be implemented?

Music Professor: The reason you study music is the reason college is not a vo-tech school. It is the same reason you study art and literature. We are trying to educate the whole person and not just teach a particular skill. We try to develop you as an individual and teach you to have the ability to face new problems with a sense of purpose.

Student: I want to develop my mind but my parents have already said that I need to hurry and finish school so that I can get a job. They liked the idea of my going to this university because of the excellent career placement record of accounting graduates. My future job is important to them.

Older Accountant (veteran accountant with a local CPA firm): It might be good if the practicing accountants in the room were to give the educators an idea of the skills and attributes that we think are necessary for graduates to have if they are to be successful not only in business but also in life. Maybe that would be a starting point for the development of the 150-hour curriculum.

Student: I do not know about everyone else, but that seems like a sensible suggestion to me.

"Big 6" Accountant: I think the quality we desire more than any other is personal integrity with a strong ethical value system.

Accounting Professor: But is ethics something that can be taught or acquired once the student is in college? Are individuals' value systems not established in their more formative pre-college years? If young people fail to develop strong ethical values at home, I think the organizations the people serve should bear the responsibility for the employees' ethics – not the universities. Is that not one of the major purposes of codes of professional conduct and ethics?

Corporate Accountant: I disagree; a code of ethics is no more than a watchdog for the company. I serves as an outward symbol of control for individuals when they do not have their own personal control systems. We need accountants who have strong ethical values perhaps more than we need accountants with skills. We can teach technical skills much more easily than we can teach moral and ethical values.

Accounting Professor: That is exactly my point. We are being asked to do what accounting practitioners are either unwilling to assume or consider impossible to do for themselves.

Student: I think individuals can be changed by the personal influences of those people around them. I think that I am still growing as a person. The value systems of professors are evident to students. How professors treat their students, what kind of preparation they do for their classes, and how equitably they evaluate students are outward signs of the inward value system of each professor. These would seem to speak much louder than any lecture on ethics.

"Big 6" Accountant: There is a lot to what you say. I also feel that the students should be exposed to some of the good things that accountants and businesses do; instead, professors always concentrate on negative publicity. How many auditing students are aware of the work we do with the United Way and other charitable organizations? On the other hand, I feel certain that most of them are aware of isolated audit failures such as ESM Government Securities.

AACSB: Since we are very much concerned with the curriculum of business schools, we will attempt to make notes of these suggestions. The point is well taken that all accounting programs should have a strong exposure to ethics, not just one stand-alone course.

Older Accountant: I think that the youth of today need to know how to think. I do not mean any fancy type of logic but I would like for them to be able to recognize a business problem when they see one. I think they spend half of their time trying to find the requirements as if it were an exercise in some book.

Student: I memorize examples to get through my tests in college. Why should I switch from a system that works? Grades are everything in getting that first job. The pressure to do well is created by the recruiters when they hire primarily graduates with 3.6 gradepoint averages.

"Big 6" Accountant: Grades are important, but they are not everything. We must maintain some minimal standard of excellence and grades provide us with a relative benchmark. Thinking skills are most important to us, but they are difficult to measure in the short period of time we have to interview the student. Accordingly, we have to use gradepoint averages since they can be readily measured.

Student: What if you could measure thinking ability? What if the teachers in school could tell you who has the ability to do the job?

"Big 6" Accountant: Many of your professors are not even familiar with what we do in the workplace. How can they be qualified to say who could or could not do the job if they don' know what the job is? When we read some of their published works, it would seem that many of them have no desire to know the problems practitioners face.

AACSB: We seem to be straying from the subject of what is needed in the curriculum. The point has been made that the student should be made to think, to reason, and to be analytical while in college.

Corporate Accountant: I think a valid point has been made and we should not overlook it. Professors do not seem to be as attuned to what is going on in the business world as we think they should be.

Accounting Professor: I have heard this argument many times. It is not that we relish the idea of publishing research. Many of us would like to do consulting or have faculty residencies with businesses and accounting firms. The simple truth of the matter is that we are not judged primarily by our business expertise or our teaching ability. We are judged to a large extent by the number of articles we publish.

AACSB: Gentlemen, I must again remind you that accounting research is not the topic of discussion.

Accounting Professor: (Mumbling in a disgruntled tone) Of course the AACSB wants us to change the subject because they know the practitioners in the room will disagree with the position of the AACSB. I would love to serve in an intern program with an accounting firm. It would do much more for my lectures than researching a subject that has little application to the courses I teach.

Older Accountant: You academic types can quibble about publishing on your own time; right now we are trying to decide how a young person should be educated. I think another trait that is severely lacking is communication skills. I mean young people ought to be able to write in complete sentences and speak clearly and confidently without being seen as aggressive. I cannot have them offending my clients.

English Professor: We can do only so much in the one or two writing classes that the students are required to take. All teachers must work together to see that writing skills are improved.

Speech Professor: I agree 100 percent with what my colleague just said. We have only one course to teach the students everything there is to know about speaking. That is an

Program Model	Accounting Hours	Accounting Specialization	Liberal Arts Emphasis	Management Emphasis
Business	30-35	Medium/Light	Medium	Heavy
Accounting	35-40	Heavy	Light	Medium
Liberal Arts	25-30	Light	Heavy	Medium/Light

impossible task!

AACSB: Recapping what has been said, the graduates should be taught ethics, problem solving skills, and communication skills. There seems to be some disagreement as to who should teach these skills. There seems to be a common thread or problem that is present. We do not want to train a person to solve a particular problem, but to have an inquisitive mind that is constantly searching. We really do not need an answer to every situation the graduate will face because situations change. We need for students to develop good value systems so that they can react to diverse ethical problems in an acceptable manner.

Student: This is all well and good for you folks. You already have your degrees and CPA licenses, but I'm the one faced with an extra year of college. Why can't you continue to achieve your objectives in four years like all the other business disciplines such as finance, management, and marketing? Perhaps that's where I need to be – in another business major.

AICPA: I can understand your frustration but I do not think that changing majors is the thing to do. The accounting profession is now facing exciting and challenging times. All the people in this room want the same thing and that is to prepare you to take your place in a dynamic profession. I would like a member of the AICPA's 150-hour Education Committee to say just a few words about the present status of the 150-hour requirement.

150-Hour Committee Member: As some of you may know, 82 percent of the AICPA members who voted (73 percent of the total membership participated) in January 1988 wanted the 150-hour requirement. This is actually not a new idea but was first suggested in the 1967 AICPA publication, *Horizons for a Profession.* This idea was reaffirmed by the Beamer Committee and the Albers Task Force. The AICPA has suggested three possible alternative models as seen in the following chart:

The key in any of these models is to prepare the student for a lifetime of learning and not to just give the student a set of rules to memorize. The models are deliberately flexible to permit educational institutions to best utilize their resources and to permit accounting students to select the model that best fits their career goals. The flexibility also permits persons with a diversity of nonbusiness backgrounds to explore accounting careers – and these may have been some of the "best and brightest" persons who would have otherwise not considered careers in accounting.

"Big 6" Accountant: The national CPA firms are in agreement with the need for 150 hours, and we have shown our belief by pledging $4,000,000 over five years to the development of improved accounting curricula. The skills that are needed have been discussed and the challenge is for educators, practitioners, and students to work together to guide the accounting profession through challenging times.

Student: It sounds as if a lot of things are still up in the air.

Accounting Professor: Yes, much uncertainty abounds regarding curriculum designs and new accreditation standards for accounting programs by the AACSB. It seems likely that a number of schools will merely piggyback their MBA programs on top of their 4 year traditional programs. This would be a rather inexpensive quickfix to meet the 150-hour requirement that several state legislatures have adopted as well as avoiding a rigorous Type B accreditation process by the AACSB. We really need to look at the overall content and delivery of the basic 4 year model and design our extended programs to articulate with the initial years of accounting education.

Older Accountant (to the student): The only thing that you can be sure about in this profession is that change will always occur. It makes life and work exciting, frustrating, and rewarding. You can take an active role in this change process or you can become stagnated in indecision. The choice is yours, but I hope your decision will enable me to work with you one day in the future.

James R. Henderson, *CPA, Ph.D. and Charles E. Jordan, CPA, DBA are both with the School of Professional Accountancy at the University of Southern Mississippi.*

Student Rating Biases: Are Faculty Fears Justified?

By Robert E. Holtfreter, Ph.D., CPA

The evaluation of teacher effectiveness is a process broadly supported by students, faculty, and academic administrators in the United States. (Leventhal, Perry, Abrami, Turcotte, and Kane, 1981). The reasons for evaluating teacher effectiveness are to provide information for (1) administrators to be used for tenure, promotion, and merit decisions; (2) faculty in the form of diagnostic feedback; (3) students to be used in the selection of instructors; and (4) researchers who are studying the field of teacher effectiveness. Even though student ratings of instructors have been proven to be reliable and valid, (March, 1984; Cohen, 1981) faculty are concerned that data from student ratings are often biased or contaminated by the effects of variables outside of their control. For example, Marsh and Overall (1979) determined, in a survey of faculty, that more than half of the respondents felt that eight characteristics (from a list of 17) caused a significant bias to student ratings. The eight items included: student's grade point average (53%), class size (60%), student interest in subject before course (62%), course workload (60%), instructor popularity (63%), course difficulty (72%), reason for taking the course (55%), and grading leniency (68%). The implication of the above study is that the resultant student ratings should be adjusted for the effect of these eight characteristics or variables.

Characteristics or variables that are perceived to bias student ratings are normally referred to as extraneous variables and have been identified as having a mixed effect on student ratings. Although there are many characteristics or variables that may possibly influence student ratings, the more commonly cited ones are Class Size, Relation of the Sex of The Instructor to the Sex of The Student, Prior Interest in the Subject Matter, Administrative Leniency, Academic Field, Student Leniency, Instructor Characteristics, and Expected Grade. These extraneous variables are the focus of this article.

The purpose of this article is to review the research on these selected extraneous variables in order to determine if the fears that faculty possess concerning student rating biases are justified. The review will result in a conclusion concerning (1) the overall statistical significance of the impact that each variable has on student ratings, (2) the statistical impact that all of these variable have in aggregate on student ratings, and (3) what measures, if any, should be taken to adjust student rating data for the effects of these perceived biases.

Statistical Significance of the Impact that Individual Extraneous Variables Have on Student Ratings

The approaches authors have taken to study the statistical relationship between individual extraneous variables and student ratings have typically fallen into two major research designs. They have usually measured the impact of individual extraneous variables on either overall student ratings or on various dimensions of the student ratings instrument. Regardless of the approach taken in the research design, the results of the research are mixed. The more consistent and logical findings, though, seem to be occurring when student ratings are treated as multidimensional.

Class Size

The results of the research on Class Size is mixed. However, a large number of studies have reported statistically significant correlations between Class Size and overall student ratings ranging from negative .10 to negative .40, which, initially, indicates smaller classes are receiving the higher ratings (Caskin and Slamm, 1977a; Breadslemberg, Slindle, and Balirtu, 1977; Marsh, 1978).

In other studies curvilinear results have been reported which indicate that the typical negative relationship existing between Class Size and overall student ratings, persists to a certain class size and then reverts to a positive relationship (Marsh, Overall, and Kesler, 1979a; March, 1980b; 1983; Glass, McLaw, and Smith, 1981; Smith and Glass, 1980). Essentially, the research studies show that the smaller and larger classes are receiving the higher student ratings relative to medium size classes which are receiving the lower ratings. There is no consensus concerning the point at which the negative relationship between these two variable ends and becomes positive. Glass reported the negative effect ending at about 40 students whereas Marsh found it to be around 200 students.

Using a multidimensional approach, Marsh (1979a; 1980b; 1983) determined that Class Size was moderately correlated with two dimensions of student ratings; "group interaction" and "individual rapport." He did not find the typical negative relationship between Class Size and (1) overall student ratings or (2) other dimensions of the evaluation instrument. Based on these results, Marsh (1984) argues that Class Size should not be treated as a bias to student ratings because its effects are legitimate and, thus, accurately reflected in the student ratings. He contends that Class Size has a moderate effect on some dimensions of effective teaching, primarily "group interaction" and individual rapport." From a logical standpoint it seems that the effect of Class Size on these two dimensions of effective teaching would normally become more negative as Class Size grows because it would become increasingly more difficult for an instructor to give the same attention to the students, both individually and on a group basis. On the other hand, relatively smaller class sizes should normally lend themselves to more effective instructor/student interaction and rapport because there would be enough time to share with all the students on an equal basis. Nevertheless, this does not explain why, at some Class Size level, student ratings have been shown to become more positive.

In summary, the research on Class Size and student ratings is very mixed and reflects a complex area of study that, in order to be understood and not misinterpreted, should obviously be viewed as multidimensional. The complexity of the problem is reflected by Cranton and Smith's (1986) research where they reported the effect of Class Size on student ratings varied tremendously, depending upon, among other things, the level of instruction (e.g. junior versus senior) and the department in which the data was collected. The multidimensional approach to research in this area has been producing the most logical results and, hopefully, future research on this extraneous variable will generate more consistent and revealing results.

Sex of the Instructor and Sex of the Student

The results of the research involving this variable are mixed, but seem to indicate that similarity of student/instructor gender has a relatively weak statistical relationship to higher student ratings. For example, Ferber and Hubert (1975) and Walker (1968) found the higher ratings were received by female instructors from female students. Walker also found that the lower ratings were received by male instructors from female students.

Prior Interest in the Subject Matter

This variable asks the question: Does a student's prior interest in a particular subject have a significant impact on student ratings? The general findings of the research in this area indicate that there is higher statistical relationship between these two variables than between any of the other extraneous variables and student ratings.

Marsh argues that Prior Interest in the Subject Matter "is a variable that influences some aspects of effective teaching (particularly Learning/Value) and these effects are accurately reflected in . . . student ratings. Higher student interest in the subject apparently creates a more favorable learning environment and facilitates effective teaching, and this effect is reflected in student ratings." As a result, Marsh argues that the relationship between Prior Interest in the Subject Matter and student ratings should be viewed as having a logical effect rather than a biasing effect.

Administrative Leniency

Administrative Leniency occurs under specific conditions and normally results in somewhat higher overall student ratings. Administrative leniency occurs when one or more of the following situations occur: (1) a faculty member tells students that the main purpose of the class evaluation is for a merit/tenure/promotion decision, (2) the student ratings are not anonymous, or (3) the faculty member is present when the evaluation is given (Feldman, 1979).

Academic Field

There have been too few studies to determine a definite trend but there is a tendency for faculty in the fine arts, languages, and humanities to receive higher evaluations than faculty in other fields such as engineering, math, and physical or social sciences (Feldman, 1978).

Student Leniency

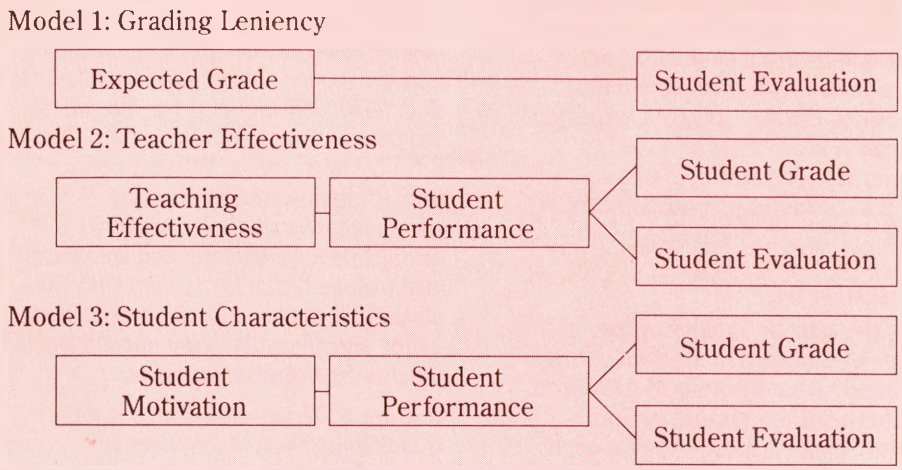
The elements of Student Leniency occur under specific conditions and normally result in noticeable but not significant differences in student ratings. The elements of Student Leniency are (1) required versus elective courses, (2) level of course, and (3) year in school. Elective courses and courses which students are taking for general interest tend to be rated somewhat higher than required courses (Marsh, 1984). Graduate level courses tend to be rated more favorably than undergraduate courses; senior courses are normally rated more favorably than junior courses; junior courses are usually rated higher than sophomore courses; and so on (Marsh, 1984; Aleamoni, 1981).

Instructor Characteristics

Instructor Characteristics have a minor impact in certain situations and have generated mixed findings with the tendency for little pattern or statistical significance. Instructor characteristics refer to Faculty Rank and Research Productivity. The relationship between student ratings and either Faculty Rank or Research Productivity appear to be positive but very weak (Aubrecht, 1979; Aleamoni, 1981). In somewhat related research, Bendig, Kulik, McKlechie (1975) and Kulik (1974) reported that communication ability was the one item that distinguished instructors with higher student ratings from those with lower ratings.

Exhibit I

Interpretive Models of Expected Effect on Student Evaluations



Expected Grade

The research on Expected Grade influence is relatively consistent in reporting a fairly significant positive correlation between class average Expected Grades and student ratings (Feldman, 1976). Brown (1976) reported that the Expected Grade effect accounted for around nine percent of the variance in student ratings. The problems associated with Expected Grade effect is not so much with the research findings, but with the interpretation of the findings.

Three different interpretive models, illustrated in exhibit 1, have emerged in the literature (Howard and Maxwell, 1980). They are the "grading leniency bias model," the "teaching effectiveness model," and the "student effectiveness model."

The "grading leniency model" suggests that faculty will receive undeserving higher student ratings if they give students undeserving higher grades, which can result in a significant upward bias to student ratings.

The "teaching effectiveness model" suggests that higher expected grades reflect higher student learning, which lends support for the validity of higher student ratings. In other words, an effective teacher normally influences higher student performance which, in turn, results in higher student grades and higher student evaluations.

The "student characteristic model" suggests that student motivation enhances student performance which, in turn, leads to higher student grades and student ratings of faculty. Both of the latter models imply that a positive correlation between Expected Grades and student ratings represent a valid outcome of student performance rather than a perceived bias in the student rating data. The research clearly supports the teacher effectiveness and the student characteristic models. Howard and Maxwell (1980) conducted two path analytic studies, the results of which strongly support the "student characteristics model" shown in Exhibit 1. By controlling for Prior Student Motivation and student progress they found a majority of the co-variation between Expected Grades and class average overall ratings was eliminated.

Using a multi-dimensional research design in his multiple regression/path analysis study, Marsh (1984) found that a major part of the relationship between Expected Grades and student ratings is spurious and largely explained by the extraneous variable "Prior Interest in the Subject Matter." Although, at first glance, this finding supports the "student characteristics model," Marsh interpreted the results as follows:

> I interpreted the results, however, as support for the validity hypothesis (teaching effectiveness model) in that prior subject interest . . . . produces more effective teaching, which leads to better student learning, better grades, and higher evaluations (student ratings).

In another multivariate study, Burton (1975) established some indirect support for the "student characteristics model" when he demonstrated that most of the eight to fifteen percent variance in student ratings was accountable by a variable referred to as "student enthusiasm." Student enthusiasm is not unlike "student motivation," which is the main characteristic of the "student characteristic model."

In summary, the research on Expected Grades and student ratings is somewhat complex but clearly indicates that the treatment of this variable as extraneous, i.e. a bias to student ratings is unfounded.

The Statistical Significance of the Correlation between Aggregating Extraneous Variable and Student Ratings

A number of studies have investigate the multivariate relationship between a wide array of perceived extraneous variables and student ratings. Initially, the research suggests that between five and nine percent of the variance in student ratings can be explained by these variables in the aggregate. But, after controlling the effect of expected grade, the variance explained in the remaining variables was negligible. For example, in their path analytical study, Stump, Freedman, and Aguanno (1979) found that only nine percent of the variance in student ratings was accountable by six perceived extraneous variables; Academic Rank, a Publication Index, Relation of the Sex of the Student to Sex of the Instructor, Class Size, Year of Experience, and Proportion of Required Courses. However, after the effect of Expected Grades was controlled for, less than four percent of the variance was accountable by these variables.

Marsh (1980) investigated the effects of sixteen perceived extraneous variable in a multiple regression/path analytic study and found that four variables in aggregate (Prior Subject Interest, Workload Difficulty, Expected Grade, and Reason for Taking the Course) accounted for only five percent of the variance in the student ratings. The four variables were further analyzed through path analysis where it was determined that a significant portion of the relationship between Expected Grade and student ratings was nonexistent and due to other influences, thus reducing the explained variance of the remaining three variables below five percent.

Howard and Maxwell (1980) relate to this area of research best by stating "Earlier researchers seem to have jumped to a straight-forward interpretation of the relationship between grades and student ratings. As with many other complex and multidimensional psychological phenomena, careful probing can sometimes reveal obvious interpretations are misleading."

Should Student Ratings Be Adjusted?

Even though individual extraneous variables can sometimes create biases in student ratings, the research reviewed in this article strongly suggests that the statistical impact of an aggregate group of extraneous variables on student ratings is relatively insignificant. Therefore, student ratings should no be adjusted for the effects of perceived biases.

Marsh (1981) sums up this area best when he concluded that "for most of the relations (between extraneous variables and student ratings), the effects tend to be small, the results are often inconsistent, and an attribution to a bias is unwarranted." The same conclusions were drawn by Menger (1973), Centra (1979), Murray (1980), Aleannie (1981), and many more. Administrators who adjust student ratings either do not understand the literature or are playing politics by returning a favor or disfavor to particular faculty members. In the latter situation, student ratings are "justifiably" adjusted upward or downward depending upon the relative strength of the political/social relationship between the particular faculty member and the administrator.

Future Research

Although the effect of individual extraneous variables on student ratings has been well documented in other academic areas, no empirical research has been published in the accounting literature that demonstrates the effect of particular extraneous variables on student ratings. Consequently, an empirical research study that is based in academic accounting classrooms is need in order to provide comparisons to the other studies.

Conclusion

Is the fear by faculty of the perceived biases in student ratings justified? Absolutely not! Although student ratings should be interpreted with caution, the research clearly shows that perceived extraneous variables such as Expected Grades, Prior Interest in the subject, and possibly Class Size should not be viewed as potential biases in student ratings. Also, when Expected Grades are controlled for in the statistical analysis, the total actual variance explained by extraneous variables is insignificant.

Student ratings should be only part of the evaluation process and can be used for diagnostic purposes and for tenure, merit, and promotion decisions. When used for diagnostic purposes, they are best used on an item by item basis. When used for tenure, merit, and promotion purposes, the obvious outliers should receive differential treatment and unless it can be shown that the statistical means of the non-outliers differ significantly, they should be treated in a similar manner.

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Dr. Holtfreter's bibliography is too extensive to publish and is available upon request from the author.

Book Review

The Federal Data Base Finder

By Matthew Lesko
Information USA, Inc., Kensington, MD
571 pages • Price: $125 / $325 book and diskette copy

Where can the reader go to find out –

- Business patterns by geographic area and industry
- Listings of all local governments
- Trademark application files
- A directory of law enforcement agencies
- Economic and employments projections to the year 2000
- The consumer Price Index
- IRS TaxInfo

The location of all this data and much more can be found in The Federal Data Base Finder by Matthew Lesko. Lesko tells the reader everything they wanted to know about data from 14 federal departments and dozens of federal agencies, but did not know where to look.

The directory's table of contents is divided into departments, independent agencies, and branches of government. Within these divisions are contained statistics and reports compiled from the fields of trade, economics, education, science, health, and environmental issues. Each data base is listed alphabetically within each department or agency, along with an address and telephone number of who to contact, stock number (if necessary), and a description. Thousands of data bases and data files are listed. Information is often available on diskette or magnetic tape, or in searches and printouts. A handy index completes the directory, making it easy to locate specific topics.

The Federal Data Base Finder would be a valuable addition to any professional library.

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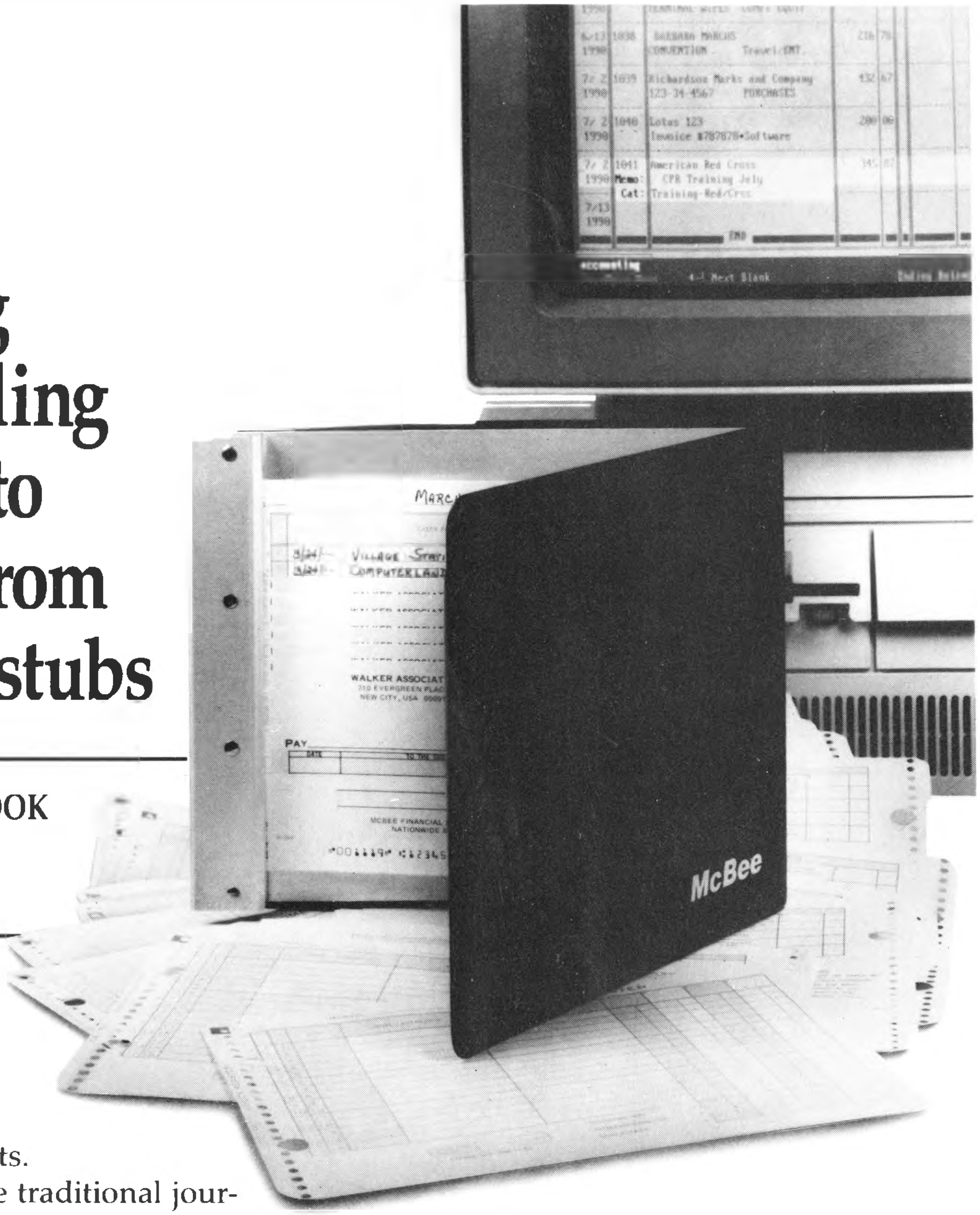

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