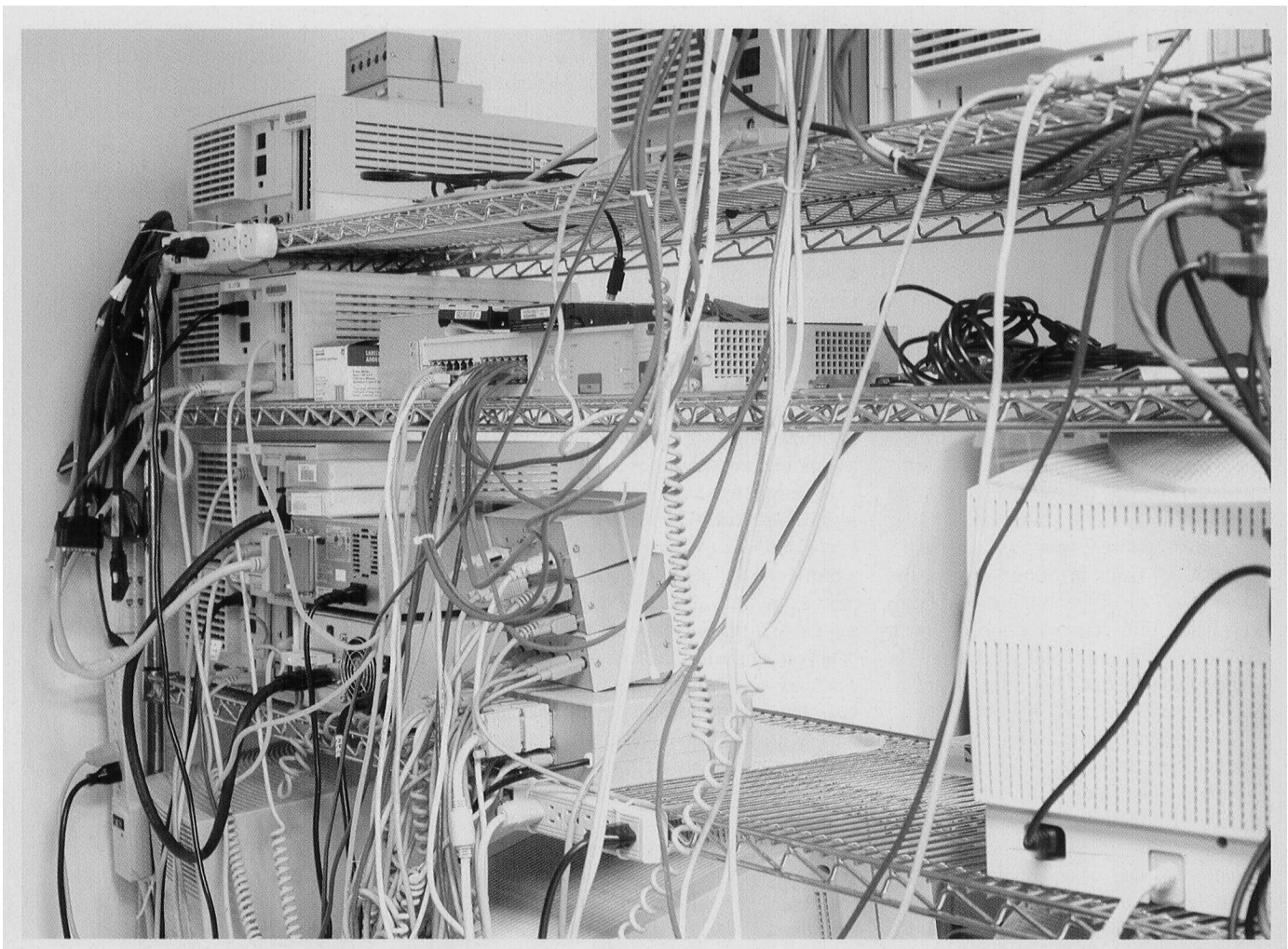
Are Accounting Programs Providing Fundamental IT Control Knowledge?: Certified Public Accountant
O'Donnell, Joseph;Moore, Jennifer
The CPA Journal; May 2005; 75, 5; ProQuest Central
pg. 64



Are Accounting Programs Providing Fundamental IT Control Knowledge?

By Joseph O'Donnell and Jennifer Moore

Auditors often provide assurance on computerized controls, where electronic transactions are processed without a paper audit trail. Section 404 of the Sarbanes-Oxley Act (SOA) requires auditors to evaluate a company's internal controls. SAS 94, *The Effect of Information Technology on the Auditor's Consideration of Internal Control in a Financial Statement Audit*, emphasizes the importance of IT on internal controls and evidential matter.

The pervasive use of systems in organizations and the increased emphasis on assurance of information technology (IT) processes has increased the need for accounting professionals with IT control knowledge and skills. A shortage of well-trained college graduates has led some large accounting firms to cross-train current staff. Some CPA firms have hired individuals with no audit training from other disciplines, such as information systems. The 2000 report of the Public Oversight Board's Panel on Audit Effectiveness saw an increasing need for auditors to have a higher level of technology skills, and recommended that firms develop specific training programs in IT for its auditors. Schools were asked to help with this effort by providing accounting graduates with the basic skills to satisfy the expanding need for accountants with IT control knowledge.

Reproduced with permission of the copyright owner. Further reproduction prohibited without permission. www.manaraa.com

A 2000 study by Albrecht and Sack recommended reform in accounting education in several areas, including IT instruction, to better meet the needs of the accounting profession. They found that accounting professionals and accounting faculty ranked information systems as the second most important topic of study for an accounting major. IT skills were found to be the fourth most important skill for accounting students, after analytical and critical thinking, written communication, and oral communication. An important component of IT skills is fundamental knowledge of IT controls and processes. Accounting students typically gain introductory knowledge of IT controls through an accounting information systems (AIS) course.

The Study

The authors studied the status of AIS/IT auditing courses in accounting programs and their relationship to the size of the accounting department, as well as the IT interests of full-time accounting faculty members. Smaller departments may be limited in AIS course offerings due to resource needs and the ability to recruit qualified faculty. A full-time faculty's teaching or research interest reflects an ability to effectively teach IT-related courses that coincide with the business environment's needs.

The study examined 210 accounting programs listed in the *2004–2005 Accounting Faculty Directory*, compiled by James Hasselback. The sample of schools was evenly divided into three categories, based on the number of full-time accounting faculty: large (more than 10 full-time faculty), medium (6–10 full-time faculty), and small (1–5 full-time faculty). Coverage of IT controls was determined by the inclusion of an AIS course in the curriculum (all IT auditing classes had AIS as a prerequisite).

The results of the study, as shown in the *Exhibit*, indicate that 65% of the schools offer AIS; 57% require it, and the other 9% offer it as an elective. These results suggest there is a disparity between the current business needs of large organizations and the education received by students in approximately one-third of the programs. These results may also reflect that many companies have relatively simple IT environments with minimal effect on the financial statements.

It is also useful to understand the interests of full-time faculty. For 63% of the schools, at least one full-time faculty member has a teaching or research interest in IT, similar to the proportion of programs teaching AIS.

Of large accounting departments, 84% offer an AIS course (79% required, 6% elective; difference due to rounding). A slightly lower percentage, 79%, have at least one full-time faculty member interested in information systems. Consequently, at least some large schools use part-time faculty to teach the course. Possible reasons include a lack of financial resources to fund an IT-related course; a perception that IT controls knowledge is not an integral component of an accounting program; and the disincentives of IT research for non-tenured accounting professors. For instance, in order to make tenure at the top-tier schools, assistant professors are typically required to publish in the *Journal of Accounting Research* and *The Accounting Review*, which publish few IT research articles. Teaching AIS at large schools may be attributable to the placement of these institutions' students in the Big Four, which are at the forefront of incorporating IT controls knowledge into their assurance services.

Sixty-seven percent of medium-sized accounting departments include AIS in their programs (59% required, 9% elective). Interestingly, 76% of schools in this category have at least one full-time accounting faculty member interested in information technology. Thus, the possible explanations for schools not offering an AIS course might include a lack of financial resources or a lack of faculty support for changing the curriculum.

Only 44% of the small accounting departments teach AIS (33% required, 11% elective), and 36% have full-time instructors with an interest in IT. Thus, some schools are staffing AIS courses with adjunct faculty, which is consistent with adjunct faculty teaching specialized courses such as law and income tax.

The results of the study suggest that there are still many students graduating from programs that do not provide training in IT control knowledge and competencies. Our study is consistent with other research indicating that students are more satisfied with the education they receive in financial accounting theory, auditing, taxation, and managerial accounting than they are with the education they receive in AIS.

Improving the Situation

Continued improvement in internal controls instruction can be attained through combined efforts of the AICPA, state societies, firms, organizatons, and educators. According to J.E. Boritz in "The Accounting Curriculum and IT" (www.ifac.org), a critical step is that IT be considered a core part of the accounting program rather than a peripheral course.

Accountants in firms and industry can influence educational programs by understanding the importance of IT controls and by hiring accounting students that possess that knowledge base. Just as employers expect basic software skills, they should

Accounting professionals can encourage instruction of AIS, but academics must initiate and maintain the courses. In developing an AIS course, a school must have sufficient IT resources and a qualified instructor.

Reproduced with permission of the copyright owner. Further reproduction prohibited without permission. www.manaraa.com

expect IT control competencies. Being a knowledgeable employer of graduates with IT control competencies will encourage accounting faculty to include AIS or IT auditing in their programs.

The AICPA can influence the educational curriculum through the CPA exam's requirements and content. Requiring extra courses to sit for the CPA exam would increase the coverage of topics but reduce schools' flexibility in designing their programs. Conversely, under-coverage of topics inadequately prepares accounting graduates for the profession. Seventeen percent of the licensing authorities currently require—or have approved requirements that will require—AIS or IT (computer) auditing. Licensing authorities that do not require an AIS or IT auditing course should consider the importance of IT controls when setting their educational requirements.

Coverage of IT topics has increased slightly on the recently revised Uniform CPA Exam. The new format of the exam includes an IT section in the Business Environment portion of the exam. In the previous exam, IT controls and IT auditing were covered in the Auditing section. The separate IT section on the exam communicates the importance of IT to students, professionals, and educators.

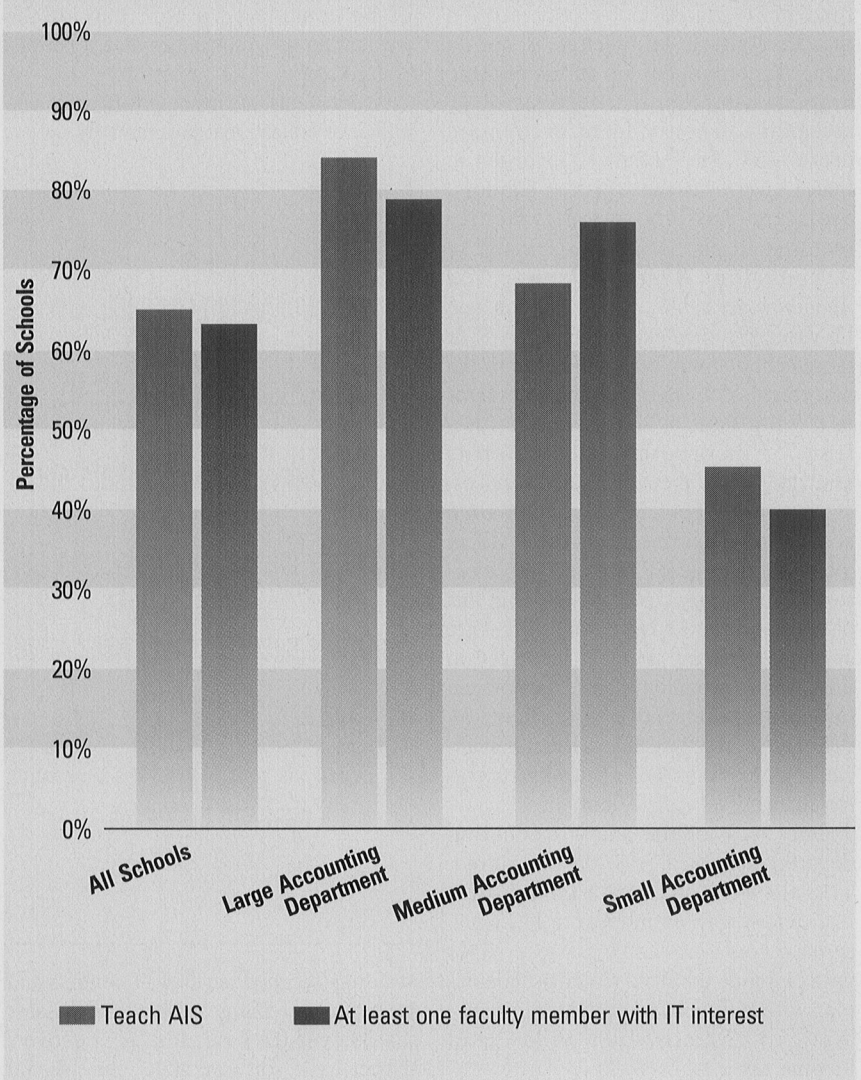
Accounting professionals can encourage instruction of AIS, but academics must initiate and maintain the courses. In developing an AIS course, a school must have sufficient IT resources and a qualified instructor. Resources include networked computer labs and business application software; many schools may already have such resources established for computer science or management information systems courses.

Finding an accounting professor trained in IT controls is a more difficult proposition. Few universities currently graduate PhDs specializing in IT controls and processes; more such PhD programs would help. In the short term, the solution is to train accounting faculty or to hire adjuncts with IT controls knowledge. Professors with knowledge in the area of auditing have the foundational understanding of controls but require a further understanding of IT concepts and IT-based controls. For adjuncts, a possible source of AIS instructors is experienced IT auditors with certifications such as a Certified Information System Auditor (CISA).

Schools offering AIS as an elective should consider making it a required course, which would communicate that AIS is a core part of the program, like financial and managerial accounting. A small number of schools offer a major in AIS or financial information systems (FIS) that extends beyond fundamental IT controls and general IT knowledge. These programs produce students that are well suited to help companies and accounting firms bridge the gap between accounting, auditing, and IT.

Increasing the number of schools offering AIS programs would certainly help educators meet the accounting profession's expanding staffing needs for the evaluation and assurance of companies' IT controls and processes. ❑

EXHIBIT
Schools Teaching AIS and Accounting Faculty Interested in IT



***Joseph O'Donnell, PhD, CPA**, is an assistant professor at Canisius College, Buffalo, N.Y., and **Jennifer Moore** is a staff accountant at Lumsden and McCormick, LLC, Buffalo, N.Y.*

Reproduced with permission of the copyright owner. Further reproduction prohibited without permission. www.manaraa.com