



The Ongoing Preparation Gap in Management Accounting Education: A Guide for Change

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IS ACCOUNTING EDUCATION APPROPRIATELY SYNCHRONIZED WITH THE NEEDS OF STUDENTS AND EMPLOYERS? IN THIS SECOND OF TWO ARTICLES, THE AUTHORS SYNTHESIZE A STREAM OF RESEARCH THAT SHOWS SIGNIFICANT DIFFERENCES IN INDUSTRY REQUIREMENTS COMPARED TO THE ACCOUNTING CURRICULUM. THEY SAY THE EVIDENCE PRESENTS COMPELLING REASONS TO ADDRESS THIS DISCONNECT AND THAT THEIR SUGGESTIONS ARE INTENDED TO ENCOURAGE BOTH THE ACADEMIC AND BUSINESS COMMUNITY TO ENGAGE IN A PRODUCTIVE DIALOGUE ABOUT THE CONTENT AND FOCUS OF THE MANAGEMENT ACCOUNTING CURRICULUM.

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This is the second of two articles that focus on whether accounting education is appropriately synchronized with the needs of students and employers. In our previous article, we documented the stagnation in the undergraduate accounting curriculum over the past several decades. The lack of change is surprising given that:

- ◆ The 150-hour requirement for the Certified Public Accountant (CPA) exam is widespread;
- ◆ A global focus for business has become nearly universal;
- ◆ Legislative initiatives, such as the Sarbanes-Oxley

Act (SOX), have altered many accounting practices; and

- ◆ New management tools, such as activity-based management (ABM), the balanced scorecard (BSC), target costing, and lean accounting, have emerged.

We have found evidence that almost two-thirds of accounting graduates begin their careers in industry and other nonpublic accounting areas, the majority of these after earning only an undergraduate degree.¹ This leads to the question addressed in this article: "Is the current accounting curriculum appropriate for careers in indus-

try and other nonpublic accounting paths?” In examining this issue, we focus only on the management accounting portion of the accounting curriculum.

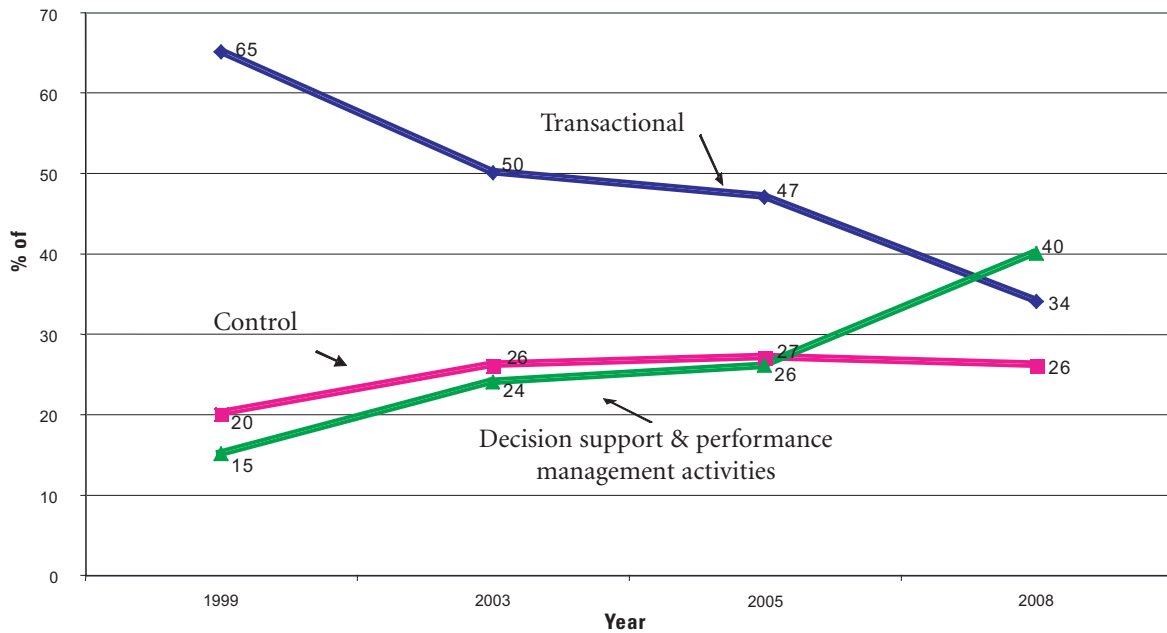
WHAT KNOWLEDGE, SKILLS, AND ABILITIES ARE ESSENTIAL?

The accounting environment has changed dramatically over the past decade. Chief financial officers (CFOs) are suggesting that the management accountant should aspire to move from “counter of wealth” and “compliance cop” to “creator of wealth and influencer of strategy.”² We have become less transaction focused and more directed toward decision support and performance management activities, as Figure 1 illustrates. Studies in the management accounting area provide several specific examples that these emerging activities are not represented appropriately in the accounting curriculum. For instance, two studies by IMA® (Institute of Management Accountants) identify important information about

the knowledge, skills, and abilities (KSAs) required for success in accounting careers in corporate America.³ KSAs include writing, speaking, presenting, listening, negotiating, persuading, and influencing, along with the ability to work in teams using logical, diagnostic, and reasoned approaches to business problems.

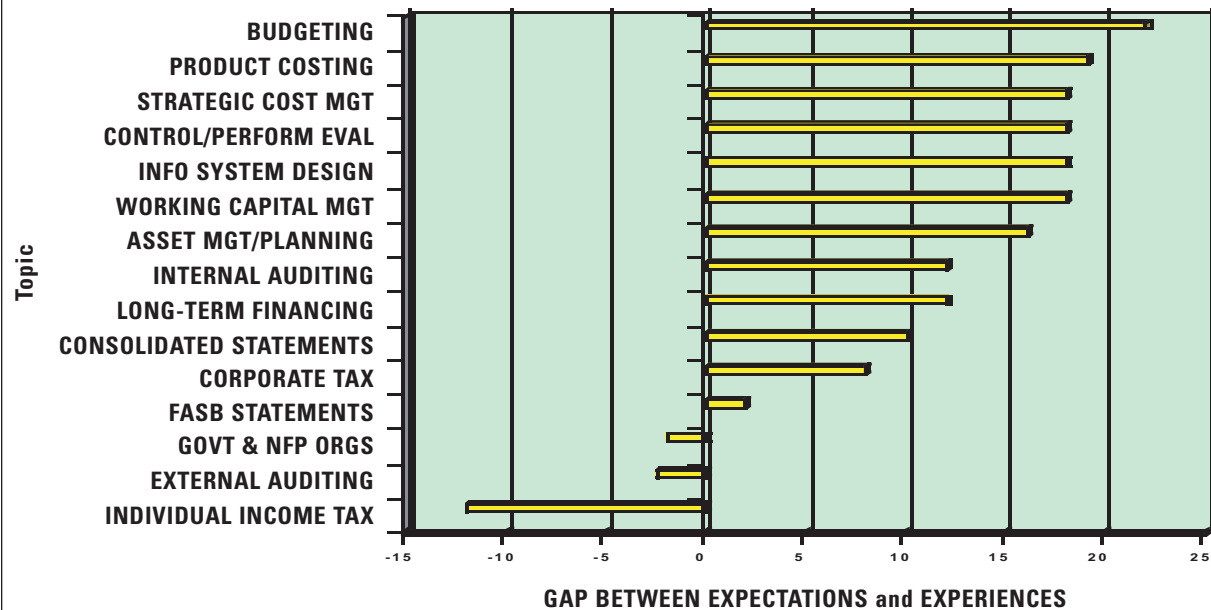
Given the need to help develop these skills, colleges and universities can better serve today’s accounting students in several specific ways. For one, a curriculum that includes social psychology will help graduates understand how to motivate people and resolve conflict. Moreover, successful management of organizations requires exposure to theories and models from operations management, including the literature and tools underlying process improvement. Familiarity with strategic planning, value chains, and enterprise systems spotlight relevant frameworks for achieving excellence in an organization. Coverage of finance will bring to light relevant financial and economic analyses. An intro-

Figure 1: Finance’s Shifting Workload Distribution: 1999 to 2008



Source: IBM Corporation, *The Agile CFO: A Study of 900 CFOs Worldwide*, IBM Corporation, 2005.

Figure 2: **Academic Preparation Gap**



Source: Gary Siegel and James E. Sorensen, "What Corporate America Wants in Entry-Level Accountants," *Management Accounting*, September 1994.

duction to information technology will reveal approaches to computer information systems and internal controls. With the dramatic rise in energy costs, an understanding of supply chains and logistics is also becoming increasingly critical.

To thrive, accounting graduates will need to acquire a thorough understanding of the primary functional areas within the businesses in which they work (human resources, marketing, purchasing, production, etc.) and how they can effectively provide services to assist these key organizational processes. Without this understanding, they will not be prepared to add value. A student's developing sensitivity to and heightened awareness of this reality while still in school is critical to his or her future success.

In a 2006 report that touted the CFO as a corporation's "Chief Performance Advisor," the authors stated that management accountants working in the finance function "...need to develop more finely honed business and technology skills—as opposed to technical accounting and finance skills—to take advantage of the time that streamlined processes and optimally deployed tools will afford them."⁴

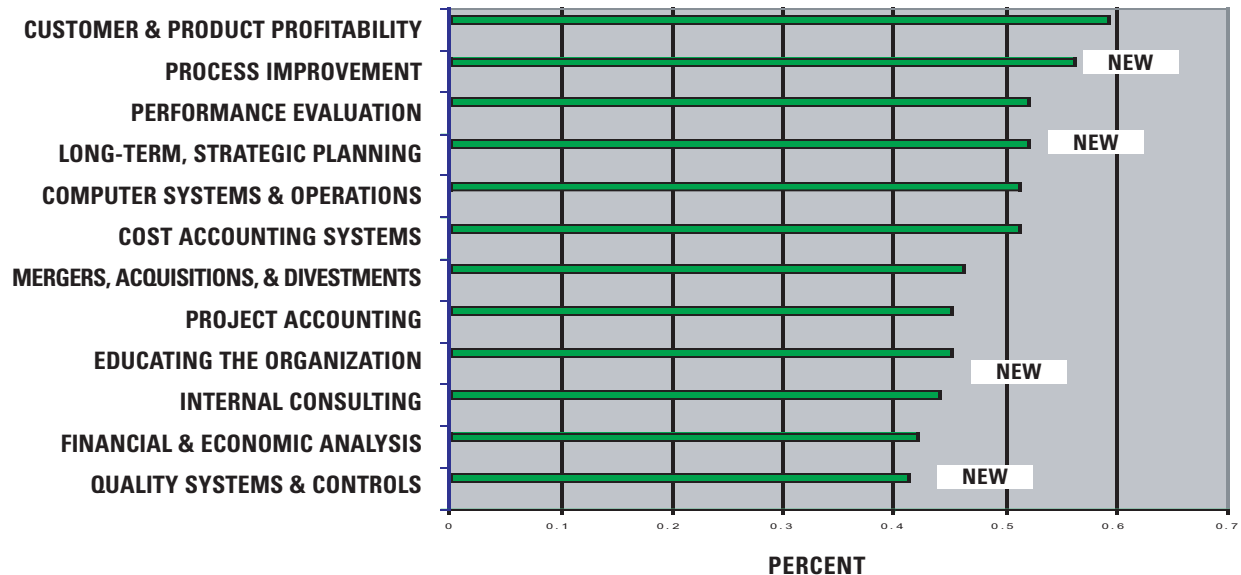
The IMA research studies just cited reveal that

accountants are becoming business partners who do far more than just pore over numbers. While they retain a fiduciary responsibility, management accountants are increasingly internal consultants. They are valued for their business savvy and financial insight while being focused on improving business processes. Internally, they are becoming proactive key players and team leaders. Rather than simply produce requested financial reports, management accountants as business partners must first understand the nature of the problem being addressed and the information most relevant to solving it.

IDENTIFYING GAPS IN TODAY'S CURRICULUM

The deficiencies of the management accounting curriculum were clearly evident at least 15 years ago in the early to mid-1990s. In 1994, Gary Siegel and James Sorensen published a study that asked accounting practitioners about the gaps between how well they expected entry-level accountants to be prepared academically and their actual experience with students' job knowledge and performance.⁵ Practitioners evaluated each of these gaps on a scale of 1 to 100. As shown in Figure 2,

Figure 3: **Work Activities that Will Increase in Importance: 1996 and 1999**



Sources for Figures 3 through 9: Gary Siegel and C.S. Kulesza, "The Practice Analysis of Management Accounting," *Management Accounting*, April 1996; Gary Siegel and James E. Sorensen, *Counting More, Counting Less: Transformations in the Management Accounting Profession*, Institute of Management Accountants, Montvale, N.J., 1999.

a positive gap indicates that the expectation for the level of knowledge was higher than what employers actually experienced, suggesting a deficiency in preparation. A negative gap indicates the reverse—that preparation exceeded expectations. Based on the results, executives expected entry-level accountants to be knowledgeable about strategic cost management, but the study showed that this is often not the case.

Figure 2 also reveals large underpreparation gaps for budgeting, product costing, strategic cost management, control and performance evaluations, information system design, working capital management, asset management and planning, internal auditing, long-term financing, consolidated statements, and corporate tax. Overpreparation (or a negative gap) was found in the following areas: individual income tax, external auditing, and accounting for governmental/nonprofit organizations.

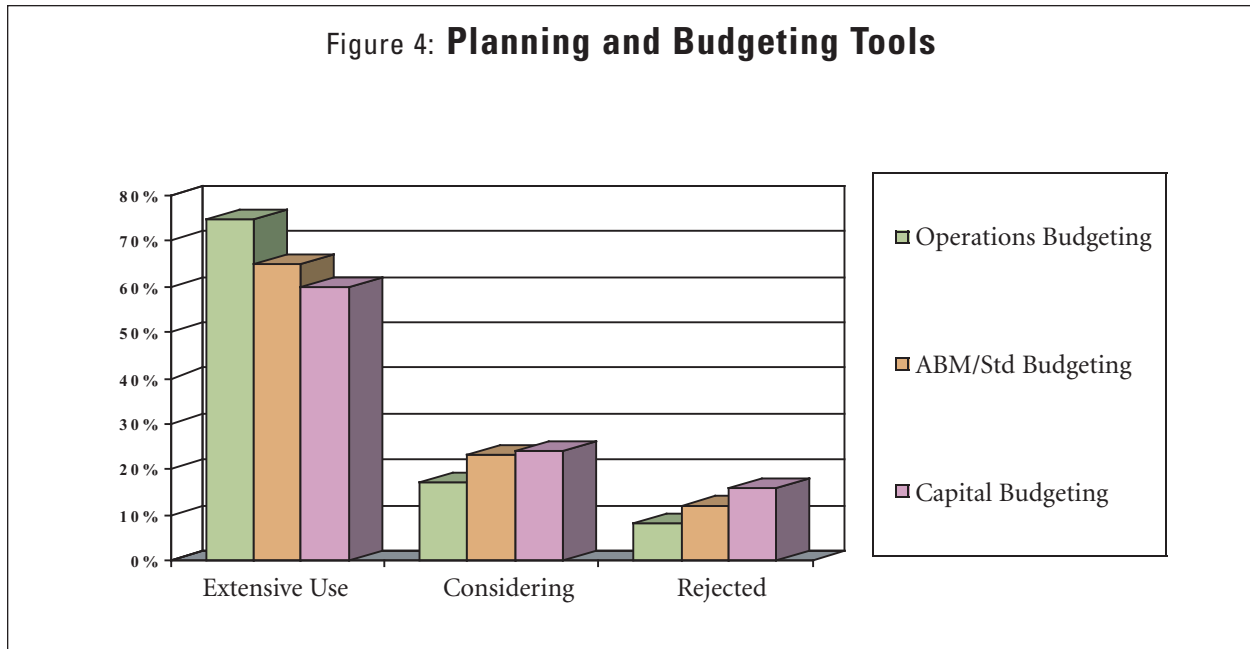
More evidence about the changing professional work environment emerged in separate studies from 1996 and 1999, as shown in Figure 3. Twelve work activities that were expected to increase in importance revealed

the need for skills that would place higher and newer demands on the management accounting curriculum. Eight of these activities were noted in 1996, but four new ones emerged in 1999: process improvement, long-term strategic planning, internal consulting, and quality systems and controls. Looking forward, from 1999 to 2002, practitioners identified and ranked five activities as the most critical for future success, two of which were carryovers from 1999:

1. Long-term strategic planning (1999),
2. Financial and economic analysis,
3. Customer and product profitability,
4. Computer systems and operations, and
5. Process improvement (1999).

Given this ranking, curriculum revisions should be moving forward at a faster pace. Long-term strategic planning and process improvement, for example, traditionally have not been viewed as management accounting topics. New and creative approaches will be required to adequately prepare students for these work

Figure 4: **Planning and Budgeting Tools**



activities. Specific changes and how quickly they are occurring are addressed in the last section of this article.

**GUIDANCE FOR SHAPING THE CURRICULUM:
A KEY SURVEY**

How can academics develop professional accountants for the 21st Century? What are the fissures in our curriculum? Ideally, a management accounting curriculum is influenced by and reflects current practice. A practitioner-based curriculum, such as that recommended by the Bedford Report, is needed to close the gap between academic preparation and practice.⁶

The *2003 Survey of Management Accounting*, conducted by IMA and Ernst & Young (E&Y), provides a powerful glimpse of current and emerging accounting tools used by senior-level financial executives.⁷ The survey also attempted to identify new accounting methods that have emerged and how fully today's companies have adopted or integrated them. The IMA/E&Y Survey (hereafter referred to as the Survey) is organized around four tool groups:

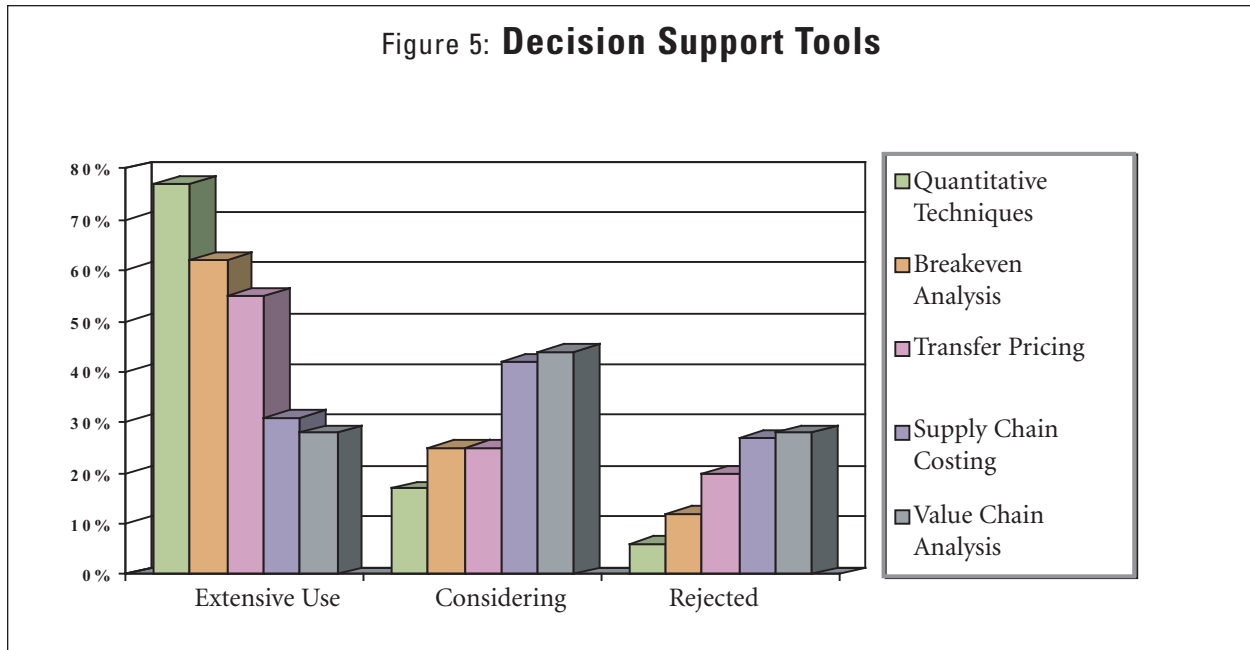
1. Planning and budgeting,
2. Decision support,
3. Product costing analysis, and
4. Performance evaluation.

The Survey identified how widely the tools are used in terms of Yes (“extensive use”), Maybe (“considering”), or No (“rejected”). Key questions posed in the Survey were: “Do existing tools fulfill the changing needs? If not, which tools and methods (new or traditional) are perceived as being needed or are being adopted?”

Here is a closer look at some of the results. They give a good overview of the management accounting techniques that are currently being applied or considered in corporate practice, tools about which accounting graduates need to be aware if they are to participate meaningfully in the process of applying them.

Planning and Budgeting: The Survey reports on the use of planning and budgeting tools, such as operational, ABM/standard, and capital budgeting (Figure 4). Combining “extensive use” along with those trying to implement the tools (“considering use”), operational budgeting is widely used (75% + 17% = 92%) in professional practice. ABM, along with standard budgeting, is also popular (65% + 23% = 88%), while capital budgeting logs in at 84% (60% + 24%). Only a small percentage of the respondents indicated rejection of various tools for reasons that may include failed applications, a refusal to consider the tools, a genuine dislike of the

Figure 5: **Decision Support Tools**



tool, or no perceived relevance of the tool to the issues facing the business.

Decision Support: As shown in Figure 5, decision support tools that were evaluated in the Survey include quantitative techniques (such as electronic spreadsheets, linear multiple regression analysis, and learning curves), breakeven analysis, transfer pricing, supply chain costing, and value chain analysis. Quantitative techniques are used or being considered by 94% of the respondents (77% + 17%), breakeven by 87% (62% +

25%), and transfer pricing by 80% (55% + 25%). Supply chain costing has a lower level of current application (31%), with more firms trying to develop the tool (42%). A similar pattern exists for value chain analysis: 28% and 44%, respectively.

Product Costing Analysis: Product costing analysis tools discussed in the Survey include traditional costing, overhead allocations, multidimensional costing, target costing, life-cycle costing, and theory of constraints (Figure 6). As might be expected, traditional costing

Figure 6: **Product Costing Analysis Tools**

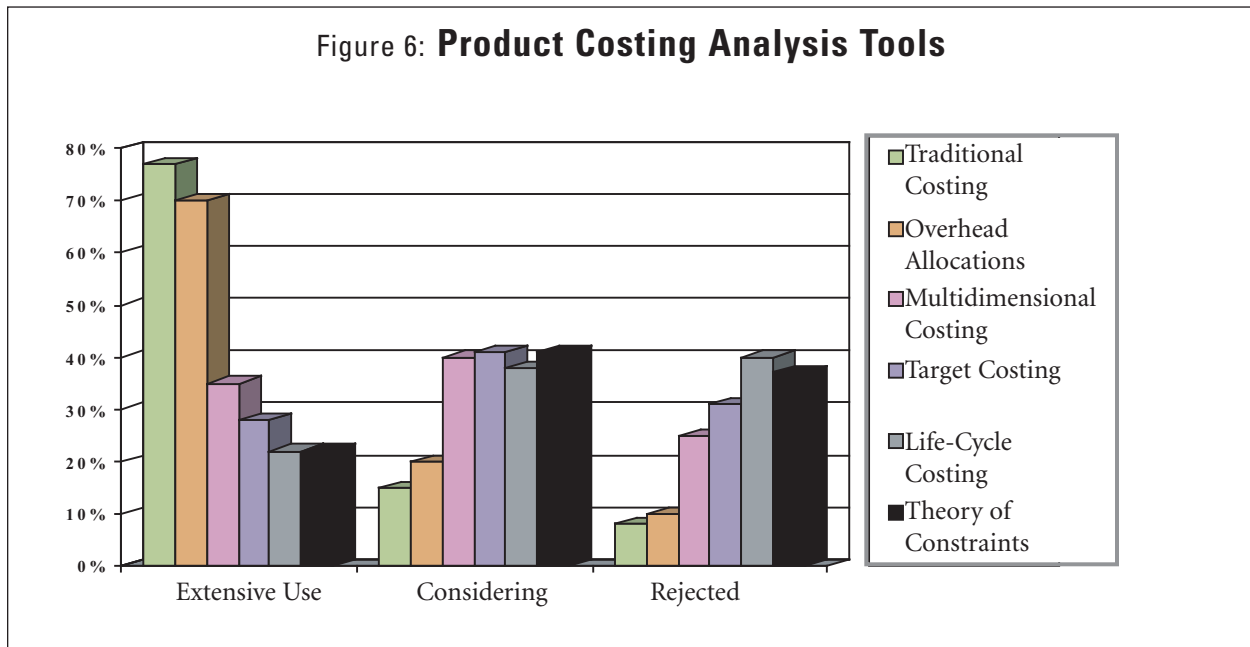
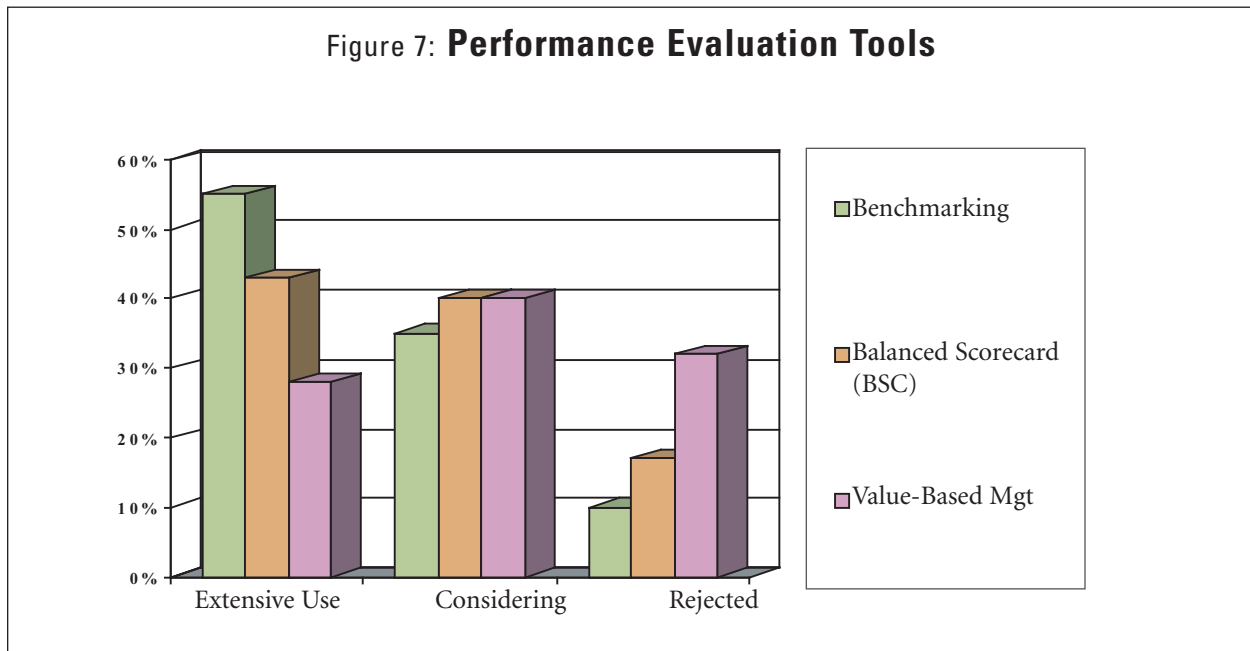


Figure 7: **Performance Evaluation Tools**



and overhead allocations are used by nine out of 10 respondents: 92% and 90%, respectively. Newer accounting tools, such as multidimensional costing (35% + 40% = 75%), target costing (28% + 41% = 69%), and life-cycle costing (22% + 38% = 60%), are more in the developmental stages and also show the highest rejection rates (25%, 31%, and 40%, respectively). The theory of constraints (including mathematical and linear programming) has the least acceptance, with only 22% reporting extensive use, 41% considering it or developing it, and 37% flat out rejecting it.

Performance Evaluation: To gauge performance in their organizations, senior-level financial executives reported using benchmarking, the balanced scorecard, and value-based management (Figure 7). More than half the respondents (55%) use benchmarking, with an additional 35% attempting to use it. By comparison, a smaller yet still significant percentage (43%) indicates that they have either fully deployed the BSC or are trying to use it (40%). Value-based management is the least-adopted tool at 28%, but 40% are considering it.

A summary of the Survey, as shown in Figure 8, reveals that planning and budgeting tools (operations budgeting, ABM/standard budgeting, and capital budgeting) and decision support tools (quantitative techniques, breakeven analysis, transfer pricing, supply

chain costing, and value chain analysis) are currently in use or are being considered by more than 70% of the respondents, with some reported usage being as high as 80% or 90% (operations budgeting and quantitative techniques).

Figure 9 shows that seven out of 10 respondents are either using or considering most product costing tools (traditional costing, overhead allocation, and multidimensional costing), while newer tools have usage rates that approach or exceed 60% (target costing, life-cycle costing, and theory of constraints). Performance evaluation tools such as benchmarking and the BSC are being used or considered by more than 80% of those surveyed, while usage of value-based management approaches 70%.

AREAS FOR FUTURE RESEARCH

Additional research is needed to understand why more than 30% of the Survey respondents rejected target costing, life-cycle costing, theory of constraints, and value-based management. Further research can assess if the percentages considering various tools or costing systems have changed and whether or not financial executives adopted or rejected specific ones.

The summary graphs provide powerful guidance for the formulation of a practitioner-driven curriculum. A

Figure 8: **Summary of E&Y and IMA: Planning, Budgeting, and Decision Support Tools**

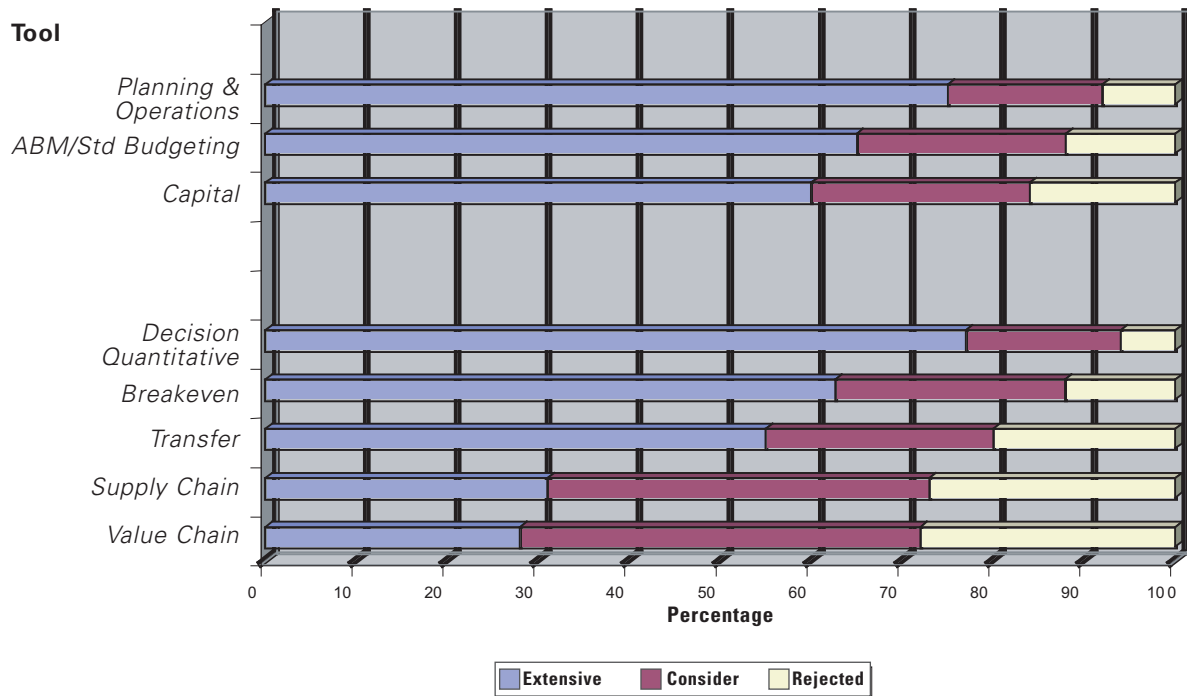
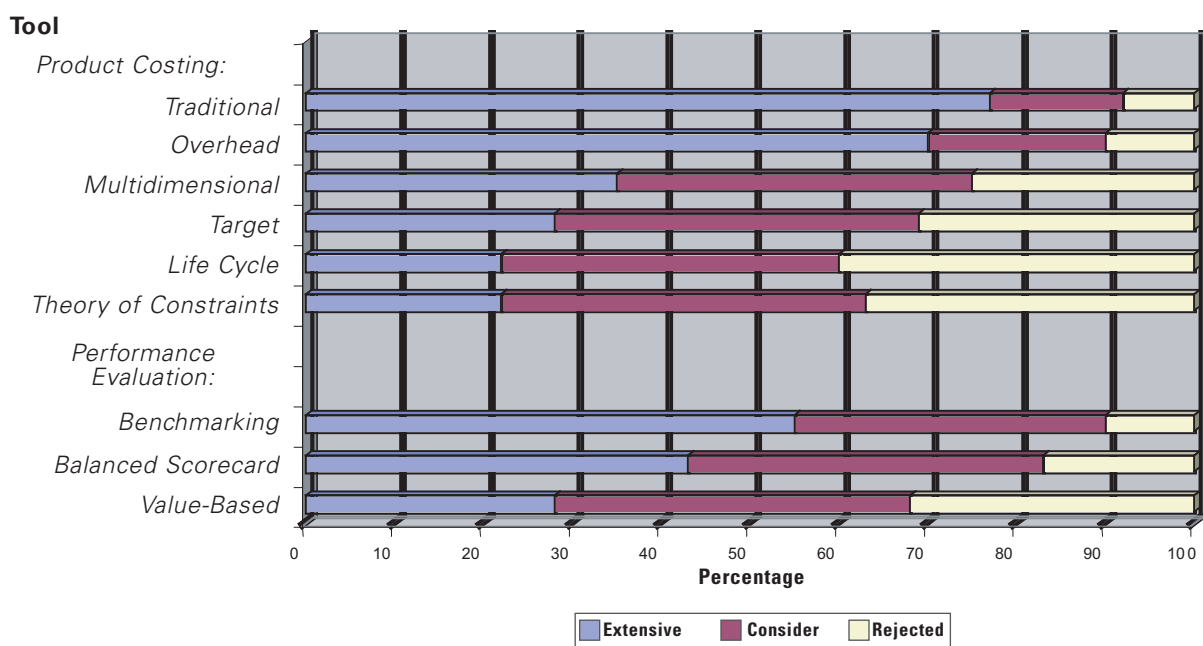


Figure 9: **Summary of E&Y and IMA: Product Costing Analysis and Performance Evaluation Tools**



group of academics or a department attempting to design courses that will prepare their students for success in corporate America should carefully consider the results from the 1996 IMA Practice Analysis, the 2003 IMA/E&Y Survey, and the 2005 IBM research results.⁸ (As discussed in our first article, the IBM study suggested that the primary activities of the finance function—from 1999 and projected to 2008—would shift, with transactional activities declining from 65% to 34%, control activities increasing from 20% to 26%, and decision support and performance management activities increasing from 15% to 40%.) These research results provide a convenient checklist against which to compare and evaluate current course offerings. For example, there are traditional accounting tools, such as operational budgeting, product costing analysis (such as full absorption costing), and overhead allocations (based on direct labor), and more modern tools and techniques, such as target costing, value-based management, and the theory of constraints.

Although the relative emphasis to put on each of these topics remains an open issue, the 1996 IMA Practice Analysis and other research about the work of management accountants provide compelling evidence for an expanded managerial curriculum with new learning objectives.

Firms that have adopted new tools or that are considering their use may be on the leading edge of innovation. What they are doing now may become common practice in a few years. This suggests that students need more than a single managerial accounting course to be better prepared for their early career. Yet, as we showed in our first article, nearly half the accounting programs studied do not have a second managerial course available as an elective.

The IMA/E&Y Survey results are consistent with a 2006 KPMG study of nearly 300 senior executives, including 123 CFOs, which showed that the five financial activities and processes most likely to increase in importance over the subsequent two years were:

- ◆ Planning, budgeting, and forecasting (62%);
- ◆ Management reporting (60%);
- ◆ Transaction processing (45%);
- ◆ Enterprise-wide risk management (32%); and
- ◆ Regulatory compliance (30%).⁹

Many of these activities and processes are addressed in the IMA/E&Y Survey, but the appearance of risk management represents an additional challenge now surfacing as a higher priority for accounting education.

Other researchers have argued for change as well. As Lakshmi Tatikonda observes, “Despite significant changes in the business environment and decades of studies criticizing it, accounting curricula have remained static. Accounting [faculties] are reluctant to design alternate tracks for nonpublic accounting careers. This narrow focus undermines the needs of other industries and accounting graduates seeking nonpublic accounting careers.”¹⁰ In a similar vein, authors of another study argued for differing accounting tracks and suggested accounting programs should work with the various professional organizations—such as IMA, Association of Government Accountants (AGA), the Institute of Internal Auditors (IIA), and the Association of Certified Fraud Examiners (ACFE)—to choose the most appropriate courses for the tracks.¹¹ Various other studies have proposed a new curriculum with less reliance on financial reporting and more emphasis on management accounting.¹²

THE CHALLENGES AHEAD

Addressing a problem does not guarantee that it will be solved. The Bedford Report identified a gap between what accounting educators teach and what practicing accountants do on the job. The Accounting Education Change Commission recommended that accounting educators become familiar with practice issues and the nature of the professional work environment and communicate this information to their students.¹³ In addition, the 15-year stream of IMA-funded research provides educators with a great deal of insight into professional accounting practices.

In light of this data, has the accounting curriculum become more synchronized with real-world practice? Have faculty members acquired a higher level of knowledge about both practice issues and the nonacademic accountant’s workplace? Have they communicated this information to their students? To what extent have colleges and universities changed their accounting curriculum or modified course content to better prepare students for entry-level work? Unfortunately, the evi-

dence suggests that little has changed since the Bedford Report was issued almost 25 years ago.

Part of achieving synchronization requires a rebalancing of the accounting curriculum. Realignment should result in four-year undergraduate programs with an emphasis on basic financial reporting, management accounting, corporate taxation, and internal auditing. Financial courses with a heavy GAAP emphasis along with external auditing can be shifted to a graduate-level five-year program (or to courses taken beyond the bachelor's degree). These shifts could be more responsive to the original intention of the 150-hour programs as well as to the needs of professional accountants requiring a redirected undergraduate program.

We cannot immediately fix all of the educational needs of students in the management accounting track. That would take a careful review of the core curriculum to enable accounting majors to receive the right balance and substance in finance, operations management, information technology, marketing, supply chain management, statistics, and quantitative methods. Next, management accounting academics need to build on these other courses by sharing their teaching materials and ideas through published cases or simulations.

Whether an accountant works in industry, government, not-for-profit, or public accounting, he or she will need to comprehend and apply management accounting concepts in offering strategic advice and financial insight. That makes the proposal to add more management accounting to our accounting core both clearly stated and long overdue. ■

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