



**AACSB International Accounting
Accreditation Standard A7: Information
Technology Skills and Knowledge for
Accounting Graduates: An Interpretation**



An AACSB White Paper issued by:

**AACSB International Committee on
Accreditation Policy**

**AACSB International Accounting Accreditation
Committee**

September 2014

AACSB International Accounting Accreditation Standard A7: Information Technology Skills and Knowledge for Accounting Graduates: An Interpretation

Purpose

This white paper provides guidance consistent with the spirit and intent of AACSB Business and Accounting Accreditation Standards (April 2013) Accounting Accreditation Standard A7. The goal is to assist AACSB accredited accounting programs, peer-review teams, accreditation committees and others in consistently applying Standard A7 in the context of the accounting accreditation peer review process and reporting. It is intended to emphasize the wide range of technology-related skills and knowledge expected of graduates of AACSB accounting accredited programs, as well as the diversity of approaches that schools may employ in aligning with the standard. This white paper does not represent a change in AACSB standards. Rather, it is intended to facilitate clarity of application and to foster additional dialogue on the substance and content of student learning experiences related to information technology skills and knowledge for accounting program graduates.

This white paper is envisioned to be the first in a continuing dialogue that will draw on experiences of accounting academic units that are reviewed under the 2013 standards, feedback from peer review teams, emerging guidance and expectations from the accounting profession, faculty members, and others. While this initial white paper does not provide detailed, specific curricula content guidance in the IT and data/business analytics fields for accounting students, it does suggest general areas for schools to consider in better preparing accounting graduates for the business environment they will enter upon graduation. In all cases, curricula developments must be driven by the mission and strategic management plan of the accounting academic unit. However, it is important to note that the spirit and intent of Standard A7 is that all AACSB separately accredited accounting academic units must address the expectations of the standard regardless of the mission. That is, Standard A7 applies to all AACSB separately accredited accounting academic units and is not limited to those that focus on preparing graduates for the public accounting profession. Different mission and strategic management plans may result in diverse approaches to alignment with Standard A7, however the spirit and intent of the standard consistently applies to all AACSB accredited accounting programs. Within Appendix I, this paper includes responses to existing and anticipated frequently asked questions (FAQs) identified since the adoption of the AACSB 2013 business and accounting standards.

Background

In April 2013, AACSB International's Accreditation Council approved revised business and accounting accreditation standards which became effective 1 July 2013. The transition period for business schools and accounting programs to adopt the 2013 standards extends through 2015-16, and many are already preparing for their next review under the 2013 standards. As AACSB separately accredited accounting programs have begun to adopt the revised standards, Standard A7 has generated significant discussion and a variety of questions that motivate the creation of this white paper.

Standard A7 is one of the standards in the section on "Accounting Learning and Teaching" which also includes Standard A5 (Accounting Curricula Management and Assurance of Learning) and Standard A6 (Accounting Program Curricula Content). These standards uniquely apply to accounting academic units holding or seeking separate AACSB accounting accreditation. They are supported by applicable AACSB Business Standard 9 (Curricula Content), Standard 10 (Student-Faculty Interactions), Standard 11 (Degree Program Educational Level, Structure, and Equivalency), and Standard 12 (Teaching Effectiveness). These business standards apply to AACSB accounting accreditation reviews mainly by reference and inclusion of the accounting academic unit in the business school review. An accounting academic unit being reviewed for accounting accreditation is not required to report separately on Business Standards 9 - 12 unless it has unique attributes and alignment strategies for these business standards.

Standard A7 states the following:

Consistent with mission, expected outcomes, and supporting strategies, accounting degree programs include learning experiences that develop skills and knowledge related to the integration of information technology in accounting and business. Included in these learning experiences is the development of skills and knowledge related to data creation, data sharing, data analytics, data mining, data reporting, and storage within and across organizations (Information Technology Skills and Knowledge for Accounting Graduates).

The "Basis for Judgment" states the following:

- *Accounting degree programs integrate current and emerging accounting and business information technologies **throughout the academic curricula.***

Learning experiences may be supported by business, accounting, and other academic units. (Emphasis added)

- *Student experiences integrate real-world strategies, privacy, and security concerns, ethical issues, technology-driven changes in practice, and the complexities of decision making.*
- *Graduates demonstrate the ability to **effectively utilize technology**; understand its capabilities, impacts, risks, and opportunities. (Emphasis added)*
- *Because the review process recognizes the dynamic, interdisciplinary nature of the learning experiences related to emerging information technology applications, there will be a transitional period of three years, from 2013-2016, related to this standard.*

The “Guidance for Documentation” states the following:

- *Document the **integration of information technology capabilities, impacts, risks, and opportunities within accounting degree programs**, including learning experiences from other business and non-business fields or disciplines. (Emphasis added)*
- *Document learning strategies the unit has deployed to develop accounting graduate competencies in business information technologies.*

The initial context that motivated the inclusion of Standard A7 in the 2013 AACSB Accounting Accreditation Standards was the observations of the AACSB Accounting Standards Working Group about the changing dynamics related to data analytics and related information technology expectations for accounting graduates. Input into the work of the Pathways Commission (July 2012) reflected perspectives from a broad range of accounting stakeholders including public accounting, corporations, not-for-profit, government, and other organizations. The strong emphasis of the Pathways Commission on technology and data analytics reinforced the Working Group’s judgment that Standard A7 should be included in the revised AACSB accounting accreditation standards. Specifically, the Pathways Commission report in “Action Item 4.1.6: Transform learning experiences to reflect current and emerging technologies and global trends in business” states:

Technology is used to gather, transform, and analyze data into meaningful information for decision making. Currently, many different accounting and business technologies are used pervasively across decision-making contexts throughout all types of organizations worldwide. Moreover, global sharing of accounting and assurance processes occurs across legal organizations, cultures, and monetary systems. This global sharing incorporates numerous information

technologies, such as data visualization, enterprise business services, telecommunications, cloud infrastructures, integrated audit models, database dashboard metrics, web-based collaborations, extensible business reporting protocols, and international financial reporting standards. Many of these changes are dramatically reshaping the policies and processes of the profession... (Pathways Commission, July 2012, pp 72-73)

Since the approval of AACSB's revised business and accounting standards in 2013, the continuing and increased dialogue on the challenges and opportunities of the IT field, "big data" and emerging areas related to "data/business analytics" for accounting professionals reaffirms the appropriateness of Standard A7. This paper is focused on adding to these developing opportunities and assist AACSB accredited accounting programs in responding.

Implications for AACSB Separately Accredited Accounting Programs

The following summarizes the implications for AACSB separately accredited accounting programs:

- Data analytics or business analytics along with appropriate IT skills and knowledge development should be a key component of accounting curricula. The inclusion of the AACSB Accounting Accreditation Standard A7 is a reflection of this vitally important area for accounting students and professionals and reflects current and anticipated focus areas for these learning experiences. The expectation is the learning experience for accounting students exceeds what is normally included in a "business core" for most business school majors.
- The dynamic nature of IT developments related to data creation, data management and processing, data sharing, data analytics, data mining, data reporting, data security, and storage within and across organizations is critical for the development of emerging professional accountants. The underlying learning experiences for accounting graduates demands an interdisciplinary approach that draws input from professionals and academic scholars with expertise in information systems, statistics, computer science and engineering, ethical issues related to IT and "big data," etc. The focus should not be on "accounting information systems" only, but on information storage, management, and analysis for accounting graduates.
- Regardless of the mission of the AACSB separately accredited accounting academic unit, the dynamic nature of data analytics and IT developments must not impede the timely development and implementation of current, best practices to support effective student learning experiences and outcomes as a key

component of accounting degree programs. Faculty research and teaching innovations should inform the profession which must also provide its perspectives and expectations.

ANTICIPATED QUESTIONS

Standard A7 may be interpreted to be primarily focused on information technology and to a lesser extent to the areas of data/business analytics. Is this the correct interpretation?

Since the approval of the revised standards in 2013, more clarity is emerging that reinforces the importance of Standard A7 and, moving forward, additional perspectives and guidance will emerge on the learning expectations across these fields. In all cases, the response of an accounting academic unit to Standard A7 must be based on its mission and strategic management plan. The continuing evolution of big data, data/business analytics, cloud computing, etc. strongly supports the dual focus of Standard A7 relating to information technology issues and developments in this dynamic environment but also to the analytical skills and knowledge related to data management and analysis needed by accounting graduates.

Is there any curricula guidance for accounting academic units to consider as they develop responses to Standard A7?

First, the Standards Writing Group in proposing Standard A7 felt that the learning expectations in areas addressed in Standard A7 should exceed what is typically found in the “business core” of most AACSB accredited business schools. Though AACSB’s revised business Standard 9 has some similar language regarding IT and data analytics, AACSB separately accredited accounting academic units are expected to address the spirit and intent of A7 at a higher level. Based on observations of discussions and feedback across the academic and professional communities, some areas of focus for accounting student learning experiences to address the spirit and intent of Standard A7 may include:

- Strong knowledge of key statistical techniques related data analytics beyond what is now included in traditional business and possibly accounting curricula;
- Understanding of computational analytics related to data mining including data modeling, predictive analytics, enterprise risk assessment, text mining, social mining, natural language processing, and some understanding of machine learning;

- Comprehension of basic information management related to relational and non-relational databases; and
- Knowledge of data visualization including self-organizing maps (SOMS) and interpretation coupled with the ability to effectively convey data, results, and insights.

It is expected that the accounting profession and the accounting academic community will continue to engage in dialogue on the needs of accounting graduates resulting in additional clarity and guidance for accounting academic units. Consistent with effective curricula management expectations, these developments will provide key input and guidance.

Does Standard A7 require a specific course with an accounting designation in accounting program curricula for accounting academic units that hold separate AACSB accounting accreditation?

No. AACSB accreditation standards provide content guidance for business and accounting curricula that is specifically designed to be broad in nature. This broad guidance allows faculty members of a business school and/or accounting program, through their curricula management processes, to design learning experiences that may involve modules, several different courses, and/or one course to address the necessary learning experiences. These learning experiences may be collectively supported by the accounting academic unit, business school, and academic units outside of the business school/accounting academic unit. Philosophically, the learning focus should be on information management and analysis, not simply “accounting information systems.”

What does the three-year transition period mean for AACSB separately accredited accounting academic units?

AACSB’s revised business and accounting standards were adopted in April 2013. AACSB’s expectation is that business schools and separately accredited accounting academic units will have begun to address the new standards even if their next accreditation review will be under the 2003 standards. At the date of this paper, a reasonable response would be that the curricula management process has begun to develop and implement a learning framework to address the spirit and intent of Standard A7. Of course, any curricula response must be in the context of the mission and strategic management plan of the accounting academic unit and because of different mission foci of accounting academic units, approaches to address Standard A7 expectations will vary. Nevertheless, the maturity of these efforts should be evident in

upcoming reviews with substantive implementation achieved and documented for accreditation reviews that occur after July 1, 2016.

Does Standard A7 require the coverage of Standard A7 expectations to be delivered in courses designated as accounting and/or by faculty members that are considered part of the accounting faculty? Does the coursework necessary to meet the standard require the school to offer unique courses that are available only to accounting students?

No to both questions. The standard and interpretive material emphasize that AACSB accredited business schools and accounting academic units have broad latitude in the content, location, and delivery of the desired content.

Does AACSB have a suggested approach a school should take in assessing its preparedness for meeting Standard A7?

How a school and/or accounting academic unit align with the standard is the responsibility of the business school and accounting academic unit, as is the case for all AACSB business and accounting standards. One approach that may be a logical starting point is to assess the current curricula and related activities to determine the preparedness of current graduates. Next, establish the desired future state of data/business analytics and IT expectations in the accounting curricula, followed by a gap analysis that would then become the basis of a plan for strengthening curricula and other changes that may be needed to align with Standard A7.

Is the expectation that once schools/accounting programs meet Standard A7 that they will be able to redirect their efforts to other standards and assume compliance in the future?

Expectations are that Standard A7, perhaps more than other standards, will require continuous evaluation and effort to prepare students to face the ever-changing data/business analytics and IT environment. There is no evidence to support an assumption that these areas will reach a “steady state” in which change will diminish. Following initial actions to align with Standard A7, schools may want to consider putting in place a system of continuous analysis and improvement in terms of students’ preparedness in data/business analytics and IT.

How does Standard A7 relate to the emphasis on assurance of learning (AOL) and other quality dimensions found elsewhere in the 2013 standards?

Schools should consider the entire 2013 standards in developing its plan for meeting Standard A7. For example, preparing students for the ever-changing data/business analytics and IT environment may need to be reflected in the accounting mission statement and in faculty scholarship and other areas. Student competencies may be a particularly fertile area for assurance of learning activities, and it may be most appropriate to build in steps to assure that specific learning outcomes related to data/business analytics are met. As with other accounting skills and knowledge, both direct and indirect measures (e.g. comments from alumni, advisory board members, and employers) may be useful in these areas. Continuously monitoring the needs of graduates may be a productive area for more faculty/practitioner engagement leading to improved student preparation and greater awareness of data issues faced by the professors and practitioners.

References

AACSB International, "Eligibility Procedures and Accreditation Standards for Accounting Accreditation," Tampa, Florida, April, 2013.

AACSB International, "Eligibility Procedures and Accreditation Standards for Business Accreditation," Tampa, Florida, April, 2013.

Pathways Commission, "Charting a National Strategy for the Next Generation of Accountants," Sarasota, Florida, July, 2012.