AACSB-Accredited Colleges and Universities: An Examination of Standard A5 as a Guide to Prepare Accounting Graduates for the Digital Workplace

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Employers demand that accounting graduates are well-versed in information and communication technologies. The Association to Advance the Collegiate Schools of Business (AACSB) establishes Standards for business and accounting schools, colleges, and universities across the globe. This systematic literature review examines the peer-reviewed research surrounding AACSB-Standard A5 Information Technology Skills, Agility, and Knowledge for Accounting Graduates and Faculty. Specifically, how AACSB-accredited institutions employ Standard A5 to guide curriculum innovation and change management best practices is emphasized. Results underscore the importance and significance of Standard A5 in navigating continuous improvement curriculum efforts in higher education.

Keywords: Accounting, education, AACSB accreditation, student preparation, digital workplace

INTRODUCTION

Forecasting financial statements is necessary for determining firm value, budgets, project profitability, and the goal of any proactive Association to Advance Collegiate Schools of Business (AACSB) accounting program is to provide students with the knowledge and tools to be successful in the new digital environment. Recently, studies have shown that the accounting industry is evolving, and more technical skills in data analytics and information systems are essential to be successful in the professional field (Hines & Tapis, 2022). For several years now, the AACSB has aimed to address the needs for this curriculum in the classroom through the installment of Standard A5 and A7 (Dzuranin et al., 2018). Each of these highlights the importance of technology in the accounting profession through a focus on data analytics, Big Data, and information system processing.

The AACSB oversees the curriculum taught by colleges and universities worldwide through a series of certain standards that stay up to date with the ever-changing business environment. Through an extensive review process, the AASCB assesses each institution to certify they meet the requirements in teaching, research, curriculum, and learner success (AASCB, 2024). During this process, the institution must provide

sufficient information that each student is obtaining the skills necessary to satisfy each standard, including AACSB Standards A5 and A7 that pertain to this document. The curriculum to satisfy these objectives heavily focuses on data analytics and Big Data technology.

In recent years, significant research has explored the concepts of data analytics and Big Data, which helps institutional scholars and professors understand the direction accounting is headed in the future. The term "Big Data" has emerged as a topic that graduating accounting students need to be familiar with because of the vast variety of data available and how it can be utilized within a firm (Jarvin, 2017). Concepts like Big Data have so much utility for those who understand how to use it which is why AACSB-accredited institutions have made it a focal point in the current curriculum. The sheer amount of data available makes the topic important for those entering the job market.

Big Data has created a movement to understand how to utilize the information and manipulate it for certain situations. According to Augustine et al. (2020), Big Data unearthed in the data mining process creates eight times the information per day than all the information available in U.S. libraries. The main concern is developing individuals in the higher education system with the skills to benefit from this data. Hence, why the AACSB has used the terms "adaptability" and "agility" when describing the use of data analytics in the evolving digital landscape.

Adaptability and agility describe the students and their ability to accept change within the accounting industry. The AACSB indicates that adaptability and agility are the behavioral mindset of the student (Tapis & Priya, 2020). In the education system, if an accounting student has worked with data set applications at an AACSB-accredited institution, they should have little to no issue adapting to something new in a professional organization. Moving forward, students attending AACSB-accredited colleges and universities will be better prepared for a workplace needing digital expertise.

LITERATURE REVIEW

AACSB Accreditation in the U.S.

The process colleges and universities go through to become AACSB-accredited is an extensive evaluation of the curriculum and other factors that happen during the application process. According to the AACSB (2024), a school applying for accreditation goes through a preliminary review to examine the current situation at the school. During this time, the AACSB will look at the business school curriculum to see if it aligns with the highest standard of excellence stipulated by the AACSB. In the case of the accounting curriculum, the AACSB is looking to see if the students are being taught material that is both impactful and innovative for future careers.

After the initial application and preliminary review, the school moves into another accredited process phase. The college or university applying for accreditation must develop a strategic plan to align themselves with AACSB standards through self-evaluation (AACSB, 2024). This plan will consist of a methodology that the school will follow to meet the standards for AACSB accreditation, including departmental improvements and program adjustments. At this point, the college or university can move into final evaluation.

During the final evaluation process, the AACSB has multiple options on how they will proceed with an applying institution. The AACSB can accept the strategic plan, recommend changes, or choose not to accept the plan and deny the school accreditation (AACSB, 2024). This process can take up to several years to align with the AACSB standards while continuously improving. After completing this stage, the institution will engage in one more step.

During the final stage of AACSB accreditation, the college or university will undergo a school visit followed by acceptance or denial. The visit entails a member of the AACSB visiting the institution and recommending the school to be accepted or denied accreditation based on the standards observed (AACSB, 2024). The goal is that the school has aligned its values with the standards of the AACSB and will become accredited. In the accounting department, this means developing a curriculum that students will use in their future careers.

When developing a curriculum aligned with the AACSB, accounting departments attempt to be innovative and impactful. The AACSB has the mission of engagement, innovation, and impact among students across the U.S. and internationally (AACSB, 2024). Accounting programs that meet these three criteria provide the best service to accounting graduates and meet the accreditation standards. The standards are always changing to reflect the requests of accounting employers.

To meet the demand of future careers, the AACSB has developed new standards that accredited colleges and universities must adhere to to provide students with the most versatile education. According to Sarkar et al. (2021), the AACSB has developed Standard A5 which replaces Standard A7 to create a more technology-driven approach to teaching accounting skills in specifically the United States. The need for this change occurred as information surfaced that employers in the accounting industry were demanding these skills to be taught.

Studies in recent years examine the current accounting industry and the need for accountants to have certain data analytic skills in the U.S. market. Standard A5 requires adaptability in data analytics with a focus on the skills of data-driven questions, data extraction, transformation, and data loading (Sledgianowski et al., 2017, Dzuranin et al, 2018). These skills have been identified as an art in the evolving digital landscape. In addition, it should be noted Standard A5 did a better job of strictly identifying areas of change compared to Standard A7.

Standard A7 was the beginning of potential reform in the accounting curriculum when it came to teaching analytical skills to students. According to Andiola et al. (2020), Standard A7 from the AACSB was a step in the right direction for data analytics. Still, few surveys showed implementation was successful because of integration challenges and other program requirements. As noted by other resources even though Standard A7 moved the needle, Standard A5 was more specific and elicited change at a higher level within the U.S. Standard A5 produced specific data analytic skills that employers are looking for and a way for institutions to get that information to students.

Skills of the Future Accounting Industry

Employers in the current accounting industry are looking for an accountant with the proper degree and certain skills within the information technology realm. Accountants working in the business field need skills in data creation, data analytics, data mining, data reporting, and data storage (Andiola et al., 2017, AACSB, 2018). The goal for students is to understand these skills and know how to use them professionally to create higher utility for a firm. This is because the skills being taught at colleges and universities are not always what is needed in the workplace.

Firms in the digital age need students with the skills in data analytics to communicate these results in an understandable manner. Surveys have been done in Fortune 500 companies to better understand what skills are most helpful for newly graduating college students. The survey showed that skills in statistics and data analytics showed up across the board in both public and private sectors of the industry (Garner et al., 2019). These skills were voted significant because they provide such utility in the form of internal and external decision-making. Because providing decision-making information is so important in a field that works with financial statements, accountants in the digital age need to be able to do more.

The accounting job field is experiencing a shift in the type of tasks the accountant performs. In the past, accountants were expected to work directly with the numbers in the tax process, but this has shifted to a more automated system which opens the door to other job opportunities including data aggregator, disseminator, and interpreter (King, 2022). These different roles require more data analytics expertise to sift through numerical information and pick out the important medium. Creating a dashboard of data and interpreting that information can make an accountant stand out in the crowd.

In the article by King (2022), the author indicates the need for students to possess skills in data manipulation and interpretation is very scarce among accounting graduates of the current generation. Another article by Woodside et al. (2020), agrees that the current curriculum needs to shift in a way that puts IT analytic skills as a prerequisite to financial accounting classes and graduation. Studies of "Big 4" accounting firms like Deloitte, EY, KPMG, and PwC are looking for accounting graduates that will give

them a competitive edge. Accountants with these technological skills will have a better chance to market themselves for positions of the future.

Case Study in the Private Sector

Amazon Web Services (AWS) has been a global leader in data consumption and manipulation for years now. Through the use of those who understand data analytics, they have been able to develop a business dedicated to collecting information. In a book by Minichino (2023), the author explains how the three pieces of data manipulation are volume, veracity, and variety. Understanding these three concepts gives a data analyst huge amounts of power within an organization. Specifically, for this reason, Amazon was able to develop software that companies worldwide can use to collect and visualize data.

In the case of the accounting industry, firms are interested in the volume and variety of aspects for use in data communication. Volume consists of how large the data set is and variety defines the type of data (Minichino, 2023). When an accountant can take large amounts of data that could be structured or unstructured and manipulate it into a dashboard that decision-makers can understand, that brings a lot of utility to a company. These skills all begin in AACSB-accredited colleges and universities in the U.S. where data analytic skills are being taught to accounting students.

Another author agreed that Amazon has become the gold standard for data analytics because of the skills they possess. Using data analytic techniques, employees can data-mine for specific information that can be used for creating trend models over time (Sharma et al., 2022). Trends are very important for accountants who want to compare years in the financial statement aspect, the audit side, and consulting work. Creating trend models can help for accurate predictions for future years.

Within this case by Minichino (2023), the author thoroughly explains how AWS is used for data visualization models. Preparing data and creating visuals is an important task for a data editor (Minichino, 2023). In the private sector, an accountant could use these data models to construct areas of weakness within the internal audit. This would streamline the audit process and reduce the chances of material misstatement when the year-end statements are due to the external audit team. Bringing this utility would be useful not only in the private sector but also in the tax and audit section of the public sector.

AASCB-Accredited Curriculum and Job Outlook

Tax Positions

The private sector collects a majority of accounting graduates later on in their careers after they have years of experience. According to Augustine et al. (2020), graduates typically move from the public accounting space into private sector positions as their careers evolve. Teaching material that employers at public accounting firms are looking for is an important aspect of curriculum development. This curriculum should be aligned with future careers, so the AACSB has diligently worked to meet this goal.

Large tax firms, such as KPMG, are looking for students who can perform data analytic skills being taught by AACSB-accredited institutions in the U.S. Expertise in Big Data along with business data intelligence can provide a tax accountant with innovative strategy, future planning, and information that leads to proper decision making (Woodside et al, 2020). Firms like KPMG want accounting graduates from AACSB-accredited colleges and universities because the program requirements transform these students into effective tools for tax clients. Future decision-making information is something clients around the world need to run proper businesses and satisfy shareholders.

Other sources indicate that data analytic skills can provide accounting and tax benefits both inside and outside an enterprise. According to Griffin and Wright (2015), strategic data skills can provide accounting advice for clients externally through decision-making intelligence, while the same skills can be applied internally. Providing internal and external utility makes for a more well-rounded accountant in the eyes of the AACSB. Critical thinking skills developed during this process help the accountant deal with these massive amounts of data.

The curriculum designed by the AACSB Standard A5 focuses on data analytics which forces accounting students to generate better critical thinking skills. "Big 4" accounting firms recently have identified the need for critical thinking skills from their tax graduates. Students from AACSB institutions

can exercise the data analytic skills needed when performing high-end tax returns for individuals and other corporate agencies (Mcbride & Phillippou, 2022). When students work with large data sets, a level of critical thinking and professional skepticism is developed in them. These cognitive skills are only developed by a curriculum that challenges student abilities.

In another article, the authors explain why students in AACSB-accredited institutions develop these cognitive skills when completing data-analysis assignments. The authors discuss how cognitive ability is the mind working through difficult situations and developing ways to resolve them (Sargent & Winton, 2023). At the higher learning levels, students are required to analyze and synthesize. When accounting students complete tasks at higher learning levels, they expand their critical thinking skills needed to understand data analytics. This can then be carried forward for use in other organizational positions such as audit.

Audit Positions

Working with data analytics produces students with professional skepticism, which serves them well in the audit field. However, data analytics can also be helpful in many other aspects of the audit industry. The AACSB has indicated that data analytics is very versatile and can be used to find outliers and exceptions when performing the initial risk assessment (Kogan et al., 2017). Hence, why the AACSB has been focusing on these skills for institutions in the U.S. Data analytics will continue to grow in terms of use by auditors of the digital age. The use of sentiment analysis and textual analysis is gaining momentum for auditors.

The use of sediment analysis in the audit context involves a skilled accountant with a specialization in sampling. Sentiment analysis is a data analytics technique that involves sampling certain pieces of data to understand the big picture (Gomaa et al., 2021). In a study by Gomaa et al. (2021), accounting professionals can perform this analytical procedure on certain aspects of financial statements to gauge which areas are most prone to material misstatement. When AACSB-accredited institutions teach skills such as sediment analysis, they are better preparing accounting students to be successful in the professional environment. However, sediment analysis is just one piece of the puzzle that is the future of auditing because textual analysis is also beginning to create benefits.

The use of textual analysis in the audit field has allowed accountants to sift through more data much more efficiently. As mentioned by Bochkay et al. (2023), textual analysis allows an auditor to examine trends in the qualitative information contained in a text and compare work done by other auditors from the past. Comparing and contrasting audit work from the past is a common theme in the industry, so having a professional who can do this skill efficiently could be invaluable to a firm. Another skill that could be denoted as invaluable relates to those who can interpret data for decision-making.

Data Interpreter

Jobs of the future in the accounting profession surround the topic of data interpretation and how these jobs can provide services to clients. Per Zhao and Zhao (2016), professionals with data interpretation skills are few and far between in the United States with an extremely high demand. Data experts in the U.S. have the skills to extract, understand, and communicate data information to clients, so they can be used almost anywhere within an accounting organization. The issue for employers is that a small number of accounting graduates obtain these skills throughout the education process.

AACSB-accredited colleges and universities are attempting to alter this trend by implementing a curriculum that teaches the basics of data interpretation. According to Yang (2023), AACSB-accredited curricula in information systems are slowly adjusting to implement cloud computing communication and networking so students can take on more data-focused jobs. The author examines how traditional accounting jobs are becoming more automated; therefore, undergraduate and MBA programs should be actively attempting to work technology into the curriculum. Thus, the AACSB has suggested that accounting information system classes direct students to practice their database management skills.

Authors publish books about the importance of accounting graduates executing database tasks efficiently and effectively. In a book by Monem et al. (2022), the authors stress the importance of accountants being able to organize data and frame queries with various tools. The higher education system,

overseen by the AACSB, has emphasized that professional accountants will need statistical skills rather than just the number-crunching abilities of the past generation. Teaching accounting skills of the past puts students at a huge disadvantage so continuous improvements are needed in the curriculum.

In another article, the authors explore a current information systems course certified by the AACSB. They found that information system classes are progressively moving more technical and data-focused because the accounting skills of the past generation put students decades behind material being used in the workplace (Claybaugh et al., 2020). Reducing generational gaps in the curriculum is a goal that the AASCB has set out to do for accounting graduates. Moving forward, how do college educators teach these skills to accounting graduates?

Data Analytics in the Classroom

Through Standard A5 from the AACSB, students should be taught data analysis techniques that current professionals use in the workplace. In a study by Dzuranin et al. (2018), the authors indicated the most effective way to teach these skills, per the AACSB, is through case studies and interactive projects. Online resources are available to students and faculty to help facilitate this learning. These applications involve accounting students in data analytics at both the undergraduate and graduate levels.

The authors of this piece further explain how data analysis skills should be taught at a certain time during the education process. Students reaching the upper-level coursework in their undergraduate program or sometime during a graduate program should be involved with data analytics (Dzuranin et al, 2018). At this point in the education timeline, accounting students will have the necessary tools to understand the data being examined during an intense data analytics course. However, others say these skills can only be developed in graduate-level learning.

Other authors have contradicted the view of data analytics being taught at the undergraduate level. According to Mcbride and Philippou (2022), at the master's level, students will better understand how to organize and structure data so it can be communicated to those using it for decision-making. The only issue with this statement is that accounting students would need to understand what data analytics is. Several approaches have been studied to stipulate the best method for faculty instruction in data analytics and student practice.

Stand-Alone Data Analytics Course

Students in need of data analytics skills could benefit from a stand-alone course in data analysis. A course that would emphasize statistical extraction techniques through the use of third-party applications and Excel (Hines & Tapis, 2022). During this course, students would get hands-on experience in data analysis that would provide them with all the tools to be successful within an organization. Other publications have also documented this approach, where authors have called this stand-alone course a focused one.

The first procedure studied in the publication by Dzuranin et al. (2018), attempts a very direct and aggressive view of teaching this material. This focused approach attempts to create a "stand-alone" course in data analytics that dives into the basics of data analytics and the methods for extracting specific information. Approaching data analytics from this angle could be difficult because of the strong number of other courses AACSB-accredited students must take. Accounting students have several other classes that are required toward the end of their degree, making it difficult to fit in another class.

Accounting students must complete a specific curriculum to fulfill graduation requirements throughout an accounting program monitored by the AACSB. Graduation requirements in the accounting program would implement a "stand-alone" course difficult to juggle. Per Andiola et al. (2020), optional seminars in the summer could alleviate the challenges of dealing with curriculum requirements. The limitation of this method involves accounting students having to take elective classes in the summer. However, including a stand-alone course would provide students with a narrow scope of study that would greatly improve data analytic skills.

Sources indicate a stand-alone course has the potential to focus on data analytics in each discipline of the accounting profession. According to Gomaa et al. (2021), stand-alone courses in data analytics could

provide accounting students with the knowledge of data analytics and how to use it when working in tax accounting, general financial statement preparation, and auditing. Because the whole class could have units in each discipline, much time could be spent studying where data analytics could work in different settings. The challenge of this class would be the overlap of content between a stand-alone course and the typical required courses by the AACSB. The most optimal approach would involve data analytic skills in the current curriculum set by the AACSB.

Integrating Data Analysis Skills

Hence the term "integrative", the optimal approach would involve integrating the current accounting curriculum with that of future technologies. As mentioned by Dzuranin et al. (2018), upper-level students already studying the basics of information systems could also be refining their data extraction and interpreting skills. Data analysis skills can take some practice to fully understand, so teaching the skills throughout the program could have better outcomes in the professional realm. Understanding the basics of data analytics can create major opportunities later in an accountant's professional career.

Other studies have shown that the basics of data analytics can create the adaptability and agility principles outlined in Standard A5 from the AACSB. Integrating statistical techniques, modeling, clustering, predictive analysis into the already established curriculum can have the same results as a stand-alone course (Tapis & Priya, 2020). Institutions could then use certain testing methods to ensure students have met the assurance of learning standards set by the AACSB. The assurance of learning standards allows the AACSB to examine whether the curriculum's learning objectives are being met.

As AACSB-accredited colleges and universities integrate more data analytics skills into the curriculum the assurance of learning standards becomes more important. The AACSB's, 2020 Guiding Principles and Standards for Business Accreditation (July 2020), outlines the importance of learning on an institution and why learning objectives need to be met. When accounting students graduate from an AACSB-accredited college or university, the College of Business confirms those students met the requirements for the AACSB standards. This means that data analytics was integrated throughout the education process into learning objectives.

A key aspect of understanding emerging technologies in terms of learning objectives relates to the positives and negatives these technologies create. When integrating data analytic tools into the curriculum, accounting students need to acknowledge the opportunities and risks associated with technological tools (AACSB, 2018). The learning objectives for courses at AACSB-accredited institutions address these opportunities and risks so students are better educated on how to best use the tools. Every class that examines emerging technology must involve these key aspects in the lessons.

Even accounting classes specializing in audit should be keen to open up the curriculum to lessons in data analysis. Professional auditors are using analytic software to address key areas of risk during a financial statement audit, so these skills should also be taught in the classroom (Dzuranin et al., 2018). Working with relevant software in these classes better prepares students for the digital world outside of the university. Students who attend AACSB-accredited colleges and universities are growing in these skills much more effectively than those who attend other institutions.

Data Analytics and the Growth Mindset

Attending AACSB-accredited institutions develops a growth mindset in students who are studying data analytics. Per AACSB Standard A5, technology adaptability and agility are a missive focus which is developing a growth mindset in accounting students (Baldwin et al., 2023). Elements related to data analytic skills have a learning curve, so students at AACSB institutions must adapt to present changes and prepare for future changes. Growth mindsets are what set accounting professionals apart from other industries.

Students who attend schools associated with the AACSB are receiving an education that correlates with the current needs of accounting firms. Because of technology, each firm is constantly changing to compete with those around it, so entry-level accountants need a growth mindset to evolve. Accountants who develop a growth mindset throughout the education process accelerate success further in their careers (Mintchik et al., 2021). Baldwin et al. and Mintchik et al. agree that enormous growth is obtained when working with

data sets per AACSB Standard A5. This mindset serves many of these accountants well further along in their careers.

Employers of current accounting firms are looking for students who enjoy the process of learning that comes with working alongside technology. Through their experiences in the classroom, accounting students are very resilient when changes in technology occur (Mintchik et al., 2021). The technology agility learned through an AACSB program challenges students in the classroom, so they can excel when it comes to the professional environment. These challenges are what make accounting graduates so dynamic in the workplace.

Having the ability to learn new skills in a shorter period is exercising the concept of a growth mindset. Accounting students of the next generation are expected to learn emerging technologies extremely quickly (Vien, 2021). Developing accelerated learning skills and a growth mindset are ingrained in a graduate from an AACSB-accredited college or university. These skills are among the many differences between accredited and non-accredited institutions.

AACSB-Accredited Versus Non-Accredited

Accreditation among colleges of business across the U.S. has major differences in curriculum compared to non-accredited institutions. One of the main differences relevant to this document is the inclusion of data analytics in the curriculum. AACSB-accredited colleges and universities include instruction in data analytics significantly more than schools that are not accredited (Salimi, 2023). For these schools to keep their accreditation from year to year they must align their curriculum with the standards set by the AACSB so not surprisingly they are more inclusive of technology. Every so often AACSB accredited schools must display they are actively improving the curriculum to stay accredited.

AACSB accreditation only lasts for a short period, meaning continuous improvement is required to maintain accreditation. According to the AACSB (2024), currently accredited institutions are reviewed every five years to ensure continuous improvement is being made to the curriculum. This process keeps the accredited colleges and universities accountable for addressing changes in the industry to better serve the student body. For example, in the case of a data analytics curriculum, it ensures the schools are maintaining the industry standard for emerging technology. Studies have shown AACSB accreditation often has a higher percentage of students learning about data analytics.

Multiple sources indicate that AACSB-accredited programs have more students reporting that data analytics skills are being taught in different courses. Based on a study by Salimi (2023), approximately 75.5% of responding students from assorted colleges mentioned learning about data analytics throughout their accounting program. The source later mentions that students from non-accredited institutions have little incentive to learn these skills so they choose not to. When the course is not a requirement for graduation, students tend to focus on the required classes before attending an elective option. Even when the AACSB and the AICPA both recommend taking classes with these skills in the curriculum, the non-accredited institutions do not have to follow these recommendations.

One limitation of this piece that should be noted is that some respondents from AACSB-accredited institutions mentioned their programs have not included data analytics in the curriculum. Approximately 23% of the respondents in the survey said data analytics were not prominent in their coursework (Salimi, 2023). Moving forward, these institutions need to reflect on their implementation of Standard A5, and how the lack of implementation could impact the accounting industry. However, in general, most programs are working toward a better implementation.

In another study, similar results were found when examining data analytic skills being taught to accounting students. Approximately 69% of the respondents mentioned their programs either had a dedicated data analytics course or integrated the skills into other courses (Udeh, 2019). The author mentions this statistic is much better than surveys done in the past, so the curriculum is headed in the right direction. However, some limitations in this survey have an effect as well.

This particular survey lacked any information about the type of programs used in the survey. The survey mentions inspecting 28 public and 11 private universities (Udeh, 2019). The problem with this analysis is the author does not specifically describe the type of programs being analyzed. Still, the implementation of

data analytics appears to be on the rise in a majority of institutions. Using industry-standard tools for implementation, AACSB-accredited institutions provide accounting programs with the applications accountants will use in the field.

Professional Software in the Curriculum

Emerging technologies in the digital age have taken over the accounting industry with the amount of utility they provide. Technologies like Excel, IDEA, Power BI, and Tableau are being used to analyze information daily for accounting firms (Felski, 2023). Experience in any of these gives a student the tools to adapt to various data analysis software at different firms. Studies have shown employers anticipate accounting graduates having these skills before starting their careers.

Surveys have shown that accounting graduates need to be proficient in Excel but should also have experience in other programs as well. In a survey by Felski (2023), respondents from several accounting firms all agreed that students should be well-versed in Excel with experience working with data analytic software. Data analytic software like IDEA and Tableau are assumed to be part of the curriculum mentioned in AACSB Standard A5. Those in the industry utilize these software tools so they should also be utilized in the classroom.

The main tool many respondents focus on is the role Microsoft Excel has in the work accountants do daily. Agreeing with Felski (2023), Johnson and Berenson (2019) mention that if no other software options exist for a student, the best option would be Excel for data analysis and visualization. Even though Excel has many limitations in the type of analysis that can be done, at least accounting students would have some experience working with data in the manner that professionals would. The best choice would be to use other programs like IDEA and Tableau, where students can begin to practice data manipulation and communication.

Authors from other academic sources agree that these programs are essential for success in the digital age. According to Hoelscher and Mortimer (2018), Tableau is a data visualization tool professionals use and meets the standard for familiarizing students with data analytic tools outlined by the AACSB. The authors mention that these tools can be integrated into information systems classes and audit courses. Through the course of a semester, accounting students would get accustomed to using the tools and begin to understand the utility they can provide when performing professional tasks. Students could then carry this knowledge to a firm of any size.

Other authors have agreed that "Big 4" firms have resources that institutions can access to give students the training they need in data analytics. In an article by Xu et al. (2024), resources from major accounting firms and textbook case studies integrate data visualization tools into the curriculum to better prepare graduates for the digital workplace. The textbook case studies often use IDEA or Tableau tools used by accounting professionals to help familiarize students with the materials.

CONCLUSION

AACSB-accredited colleges and universities focus on technology skills that accounting students are expected to have when entering the professional world. The evolving digital landscape in U.S. accounting firms has pressured institutions to better develop curriculum that applies to these jobs. Accounting graduates who leave these institutions with data analytic skills are better prepared for careers in the accounting industry's public and private sectors. Because of AACSB Standard A5, which establishes guidelines for integrating technology in the classroom, accounting students are generating and practicing these skills throughout the education process.

In addition, continuous improvement processes have ensured that AACSB-accredited colleges and universities are constantly working to reframe the accounting curriculum. The goal is that the material being taught to accounting graduates is refined to meet the AACSB standards and the workplace. Employers are looking for specific skills from accounting graduates, so including them in the curriculum is very important. This includes every aspect of the profession from tax compliance accounting to auditing to jobs of the future.

Lastly, the curriculum set by the AACSB has allowed colleges and universities to utilize accounting software used by professionals. This technology better prepares accounting graduates by familiarizing them with the programs before they reach the professional environment. This way, when students migrate from a very large firm to a very small firm, they only need to make small adaptations to complete data analytic tasks that are essential in today's industry. Based on studies reviewed throughout this document, AACSB-accredited colleges and universities better prepare accounting students for a professional environment with evolving technology.

REFERENCES

Andiola, L.M., Masters, E., & Norman, C. (2020). Integrating technology and data analytic skills into the accounting curriculum: Accounting department leaders' experiences and insights. *Journal of Accounting Education*, *50*, 100655. https://doi.org/10.1016/j.jaccedu.2020.100655

Association to Advance Collegiate Schools of Business. AACSB. (2024). Retrieved from https://www.aacsb.edu

Association to Advance Collegiate Schools of Business. AACSB. (2018). *2018 Standards for Accounting Accreditation.* Retrieved from https://www.aacsb.edu

Association to Advance Collegiate Schools of Business. AACSB. (2020). *2020 Guiding Principles and Standards for Business Accreditation.* Retrieved from https://www.aacsb.edu

Augustine, F.K., Woodside, J., Mendoza, M., & Chambers, V. (2020). Analytics, accounting, and big data: Enhancing accounting education. *Journal of Management & Engineering Integration*, *13*(1), 1–8.

Baldwin, A.A., Chiu, V., Liu, Q., & Muehlmann, B. (2023). Technology agility supported by a growth mindset: A new requirement for accounting curricula. *Journal of Emerging Technologies in Accounting*, *20*(2), 11–28. https://doi.org/10.2308/JETA-2021-034

Bochkay, K., Brown, S.V., Leone, A.J., & Tucker, J.W. (2023). Textual analysis in accounting: What's next? *Contemporary Accounting Research*, *40*(2), 765–805. https://doi.org/10.1111/1911-3846.12825

Claybaugh, C.C., Elrod, C.C., Flachsbart, B.B., & Hilgers, M.G. (2020). Anatomy of an information systems program continuous improvement process for AACSB accreditation. *Journal of Education for Business*, *95*(3), 159–168. https://doi.org/10.1080/08832323.2019.1627993

Dzuranin, A.C., Jones, J.R., & Olvera, R.M. (2018). Infusing data analytics into the accounting curriculum: A framework and insights from faculty. *Journal of Accounting Education*, *43*, 24–39. https://doi.org/10.1016/j.jaccedu.2018.03.004

Felski, E. (2023). Audit technologies used in practice and ways to implement these technologies into audit courses. *Journal of Accounting Education*, *62*, 100827. https://doi.org/10.1016/j.jaccedu.2022.100827

Garner, B.R., Gove, M., Ayala, C., & Mady, A. (2019). Exploring the gap between employers' needs and undergraduate business curricula: A survey of alumni regarding core business curricula. *Industry & Higher Education*, *33*(6), 439–447.

Gomaa, M., Hurt, R., & Koo, M. (2021). A data analytics elective course for a master of science in accountancy program. *AIS Educator Journal*, *16*(1), 105–116. https://doi.org/10.3194/1935-8156-16.1.105

Griffin, P.A., & Wright, A.M. (2015). Commentaries on big data's importance for accounting and auditing. *Accounting Horizons*, *29*(2), 377–379. https://doi.org/10.2308/acch-51066

Hines, C.S., & Tapis, G.P. (2022). Accounting-specific data analytics: a framework for addressing AACSB Standard A5 and industry demand. *Journal of Emerging Technologies in Accounting*, *19*(1), 173–180. https://doi.org/10.2308/JETA-2020-024

Hoelscher, J., & Mortimer, A. (2018). Using Tableau to visualize data and drive decision-making. *Journal of Accounting Education*, *44*, 49–59. https://doi.org/10.1016/j.jaccedu.2018.05.002

Janvrin, D.J. (2017). "Big Data": A new twist to accounting. *Journal of Accounting Education*, *38*, 3–8. https://doi.org/10.1016/j.jaccedu.2016.12.009

Johnson, M.E., & Berenson, M.L. (2019). Choosing among computational software tools to enhance learning in introductory business statistics. *Decision Sciences Journal of Innovative Education*, *17*(3), 214–238. https://doi.org/10.1111/dsji.12186

King, A.Z. (2022). Data analytics in Association to Advance Collegiate Schools of Business-accredited U.S. university accounting programs: A quantitative research study. *Journal of Education for Business*, *97*(5), 320–328. https://doi.org/10.1080/08832323.2021.1953430

Kogan, A., Appelbaum, D., & Vasarhelyi, M.A. (2017). Introduction to data analysis for auditors and accountants. *CPA Journal*, *2*, 10. Retrieved from https://www.cpajournal.com/2018/03/08/icymi-introduction-data-analysis-auditors-accountants/

Mcbride, K., & Philippou, C. (2022). "Big results require big ambitions": Big Data, data analytics, and accounting in masters courses. *Accounting Research Journal*, *35*(1), 71–100. https://doi.org/10.1108/ARJ-04-2020-0077

Minichino, J. (2023). *Data Analytics in the AWS Cloud : Building a Data Platform for BI and Predictive Analytics on AWS*. John Wiley & Sons, Inc.

Mintchik, N., Ramamoorti, S., & Gramling, A.A. (2021). Mindsets as an enhancement of 21st century accounting education. *Issues in Accounting Education*, *36*(4), 87–118. https://doi.org/10.2308/ISSUES-19-066

Monem, R., Awad, A.E., & Hussainey, K. (2022). *The convergence of big data and accounting*. Emerald Publishing Limited.

Salimi, A.Y. (2023). Inclusion of data analytics in the accounting curriculum. *Journal of Business and Educational Leadership*, *13*(1), 25–41.

Sargent, M.J., & Winton, B.G. (2023). Cognitive ability and performance in accounting students: The importance of data analytics assignments. *Journal of Accounting Education*, *65*, 100870-. https://doi.org/10.1016/j.jaccedu.2023.100870

Sarkar, S., Gray, J., Boss, S.R., & Daly, E. (2021). Developing institutional skills for addressing big data: Experiences in implementation of AACSB Standard 5. *Journal of Accounting Education*, *54*, 100708-. https://doi.org/10.1016/j.jaccedu.2020.100708

Sharma, S., Kalra, M., & Sharma, A. (2022). Amazon customer service: Big data analytics. *Model Assisted Statistics and Applications*, *17*(4), 231–237. https://doi.org/10.3233/MAS-220403

Sledgianowski, D., Gomaa, M., & Tan, C. (2017). Toward integration of Big Data, technology and information systems competencies into the accounting curriculum. *Journal of Accounting Education*, *38*, 81–93. https://doi.org/10.1016/j.jaccedu.2016.12.008

Tapis, G.P., & Priya, K. (2020). Developing and assessing data analytics courses: A continuous proposal for responding to AACSB Standard A5. *Journal of Emerging Technologies in Accounting*, *17*(1), 133–141. https://doi.org/10.2308/jeta-52646

Udeh, I. (2019). Are graduate accounting programs meeting the profession's expectations? *The Journal of Theoretical Accounting Research*, *14*(2), 68–89.

Vien, C.L. (2021). Association of International Certified Professional Accountants. The abilities employers seek from accounting graduates. *Journal of Accountancy*.

Woodside, J.M., Augustine, F.K., Chambers, V., & Mendoza, M. (2020). Integrative learning and interdisciplinary information systems curriculum development in accounting analytics. *Journal of Information Systems Education*, *31*(2), 147–156.

Xu, H., Liu, Y., & Krahel, J.P. (2024). Faculty intention to implement data analytics in the accounting curricula. *Journal of Accounting Education*, *66*, 100882. https://doi.org/10.1016/j.jaccedu.2023.100882

Yang, S.C. (2023). The Master's Program in Information Systems: A survey of core curricula in AACSB-accredited business schools in the United States. *Journal of Information Systems Education*, *34*(4), 430–440.

Zhao, J., & Zhao, S.Y. (2016). Business analytics programs offered by AACSB-accredited U.S. colleges of business: A web mining study. *Journal of Education for Business*, *91*(6), 327–337. https://doi.org/10.1080/08832323.2016.1218317