DATA, ANALYTICS AND THE PATH TO A CPA
GETTING TO THE MAGIC NUMBER 30

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My work at Villanova School of Business allows for a great many opportunities but none are as rewarding as advising students. In any given week, I may talk with six to eight students about course loads, research projects, internships, and career paths, helping them realize their goals and what’s really important. With accounting majors and recent accounting graduates, the conversation routinely circles back to the CPA exam and the magic number 30.

In most states, accountants need an additional 30 credits beyond an undergraduate accounting degree to pursue a CPA. Hitting that number can be daunting so many look for guidance on what path might be a good use of time and resources to reach their goal. In my mind, graduate studies in accounting that integrate data and analytics might be the best place to start.

Companies are collecting data everywhere today—from apps to wearable fitness trackers to social media activity to GPS tracking. Business leaders want to use data and apply analytics to facilitate decision-making and accounting is no exception. In a 2014 survey of 2,100 CFOs, 61% considered business analytics mandatory for at least some accounting and finance employees.
More recently in 2018, Deloitte surveyed more than 1,200 chief auditors and found that in the next three to five years, 55 percent of respondents expect to use data and analytics in at least half of their audits and 37 percent in at least three-quarters of their audits.

It’s no longer a question of whether data and analytics will change the accounting practice but how quickly—and it’s now influencing the way these firms hire new talent. In fact, in my conversations with several leading accounting firms, many say proficiency with data and analytics will soon become the minimum requirement for entry-level accountants.

What are Analytics?

People often hear the terms data and analytics in the same breath. Analytics is the practice of extracting meaning from the ever-growing universe of data—both structured data, which is typically culled from a general ledger and other sources that line up nicely on a spreadsheet, and unstructured data including all the digital information generated in our everyday lives from emails, social media, pictures, tracking devices, web browsing activity, and .pdfs, among others.

Analytics can uncover patterns or trends in data that help business leaders make real-time and even predictive decisions about customers’ needs and interests, new markets, inventory, and productivity, to name a few. Harnessing all of this data comes with certain challenges and businesses have a long way to go to leverage all its benefits, but even now, analytics plays a considerable role in our daily lives—in the way we drive, the ads we see, the social connections we find and much more.

Analytics’ Impact on Accounting

Data and analytics are having a significant impact on accounting as well. As technology continues to expand and evolve, analytics are creating opportunities for higher quality audits, better financial reporting, and deeper operational insights to drive strategic decision-making.

It’s a dramatic shift for the accounting industry. For example, until recently, auditors relied on sample-based testing of the general ledger or transaction activity to spot anomalies or risk indicators. Now technology allows for whole-population testing—in other words, applying the entire universe of audit-relevant data to uncover all the outliers and exceptions that may indicate potential areas of fraud or operational business risks. These advancements allow for a more thorough audit where auditors can go deeper into an organization but they also call for a higher level of judgement to evaluate what’s meaningful to its leadership.

Data and analytics add tremendous value and therefore are gaining momentum within accounting. Fortunately, the industry recognizes the need to adapt. The American Institute of CPAs (AICPA) launched a research initiative with Rutgers University in 2015 to examine how data and analytics can be applied to financial statement audits while complying with auditing standards. This work led to the 2017 release of the AICPA’s Guide to Audit Data Analytics, which focuses entirely on how data analytics and technologies can help identify financial risks, detect potential misstatements, and effectively communicate the findings.

Before long, companies will want
to leverage data and analytics for a more forward-looking perspective as well. This is where things really get interesting. Right now, technology allows accountants to look across the entire universe of structured data for a better analysis of the current risks but by incorporating unstructured data—web activity, social media activity, news outlets, etc.—it opens up another world of insights where accountants can examine the interaction between the external and internal environment to help business leaders to potentially anticipate risks and even foresee opportunities. Neil White, a Deloitte Risk and Financial Advisor Principal writes, “The real power of analytics emerges when disparate data sets are cross-referenced to shed light on relationships among transactions, behaviors and business activities. Visualization tools powered by data analytics can help internal auditors to identify patterns, relationships and trends that would otherwise be lost in tables and standard reports.”

The Path to a CPA

Indeed it is an exciting time for accounting as evolving technology and the growing universe of data create opportunities for the industry. It also means that expectations rise. As data and analytics play a larger role in the accounting world, leading firms look to hire those with a more advanced skill set and higher level thinking. As EY explains in a 2016 paper entitled, “How Big Data and Analytics are Transforming the Audit:”

“The value of integrating big data and analytics into the audit will only be realized when used by auditors to influence the scope, nature and extent of the audit. This will require them to develop new skills focused on knowing what questions to ask of the data, and the ability to use analytics output to produce audit evidence, draw conclusions and derive meaningful business insights.”

At Villanova School of Business, we heard this kind of feedback repeatedly from top accounting professionals and recruiters. With software and outsourcing reducing the need for manual accounting work, employers want accountants who can think more broadly and use data and analytics to support strategic decision-making. We knew we had a responsibility to prepare students for this environment and the right solution was not a matter of adding a class or two on data and analytics. It called for a bottoms-up rethinking of our graduate accounting program to reflect the growing influence of data and analytics on not just accounting but even more broadly.

Today our Master of Accounting with Data Analytics infuses analytics throughout the curriculum. Students take the accounting fundamentals they learned as undergraduates and layer it with data management, decision modeling, and other sophisticated analytics to identify and solve real-world accounting problems. They work with large sets of data to help detect and prevent financial statement fraud. They see how data can be visualized to effectively communicate the findings and share insights. They learn to use data techniques to transform large quantities of data into information that business leaders can use. Together these topics and many others help students become multi-dimensional, versatile accountants who can offer much more value to the business, but it shouldn't stop there.

As PwC highlighted in a 2015 paper, “[W]hile skills in data analytics will be desired, we believe broader business acumen, global awareness, relationship skills, and leadership abilities will be just as coveted. This broad base will equip students to not only solve challenges, but also to frame these issues in a broader context, so they can ask the right questions—the ones that lead to root causes and solutions.” In the Master of Accounting with Data Analytics, students see that it’s not only about applying advanced technology to accounting but recognizing what’s relevant to finance, information technology, operations, sales, and many other parts of the business. Our curriculum includes courses on leadership and negotiation skills where we discuss how these different parts of the business interrelate. Looking at accounting and analytics through this lens prepares students to draw more useful conclusions from the data and ultimately adds more value to the business.

In my experience, there’s no better place for students to develop these skills than in graduate school. While some feel that analytics should be a required part of the undergraduate accounting curriculum, I think it comes at a cost—often detracting from the fundamental accounting principles that undergraduates need to learn. More importantly though, it’s a timing question. Graduate school is when higher level thinking can truly flourish. In the Master of Accounting with Data Analytics program at Villanova School of Business, students take all that they learned in their undergraduate accounting studies and apply it to make deeper, more powerful connections between accounting and the broader business. Our students graduate and become much more confident and adaptable to different industries, which lends itself to a much wider opportunity set of career options down the road.
THE VILLANOVA
MASTER OF ACCOUNTING
WITH DATA ANALYTICS

Designed with direct input from global accounting firms, the Villanova Master of Accounting with Data Analytics (MACDA) is an innovative program that integrates data analytics with other essential skills - valuation, risk, tax, fraud, and qualitative skills – to prepare students to become multi-dimensional accountants. Students become equipped with the skills needed to meet the real-world, real-time challenges of today’s accounting industry.