Accounting Analytics –
Leveraging New Opportunities

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Analytics is a word I had always heard, but it was in 2013 after I joined the faculty at University of Illinois at Urbana-Champaign when it really came to light for me. The department chair at the time, Jon Davis, assigned me to a course that needed revision. The course focused on risk identification, measurement, and management. He suggested that I incorporate more analytics in the course. So, I got to work, focusing on business decision-making under uncertainty and ambiguity, and the various tools used to create and analyze information to facilitate that decision-making.

After a couple of years of further enhancements of that course, Jon suggested that we needed to develop a "specialization" – a group of elective courses that students complete as part of their accounting graduate degree. All of a sudden, we needed three new courses. I dove into readings, attended multiple conferences, and developed a plan and documentation to secure approval for the new specialization. All the while, I was a bit skeptical. Wasn't this analytics stuff just accounting? Just with bigger data sets and more technology? This idea was validated, as one of the conferences I attended was the American Accounting Association's "Accounting *Is* Analytics" series. Much of the rest of the time, I thought that we should just teach students basic research fundamentals: to be inquisitive, to ask the right questions, and the use of statistical analyses.

I still hold those perspectives; however, I also know they are incomplete. And this first became clear to me after we looked across campus to collaborate with others in developing the new specialization. The Department eventually hired a new faculty member – Robert Brunner, an astrophysics data scientist – to develop two of the three courses in the new specialization. One course focused on technology and Python programming. The other course focused on machine learning and statistics. The third course – my course – followed those first two: data analytics applications in accounting.

As I planned and developed the course, my intention was to deliver the course I always wanted to take as a student myself. A "working" course, filled with experiential learning opportunities and representative of what real-world accountants did in practice (and would be doing in the future as responsibilities, technology, and data expanded). There was very little lecture – perhaps one in every four or five class meetings. The rest of the time was reserved for team-based projects involving uncertainty and ambiguity, data, and analysis of that data to facilitate a variety of business decisions. Thus, not only were the students learning and applying analytics-oriented tools and building skills to engage in data-driven decision-making, but also developing an "analytical mindset" that could be applied no matter how complex the business problem.

Since then, the accounting curricula has expanded in terms of breadth and depth in our graduate accounting program and our MBA program. Other faculty have continued to develop the curriculum and have been recently recognized with an award from the American Accounting Association.[1] Online versions of coursework have been developed and offered as well.

While I was Academic Director of the online, iMSA Program, and more recently as Executive Director of Lifelong Learning, I know how challenging it can be for working professionals – especially those who have not been in school for a while – to "up-skill" in the area of analytics. Thus, we developed and are happy to offer a series of introductory courses.

Each course offers ultimate flexibility. The course is available continuously, completely online, and can be completed at the learner's own pace. There are some readings, but most content is in video form, led by Professor Ron Guymon. And the videos are extremely high quality! It includes interesting settings and examples, interviews with professionals, and technical demonstrations.

The first course focuses on how analytics is used in the various sub-disciplines in accounting (i.e., financial accounting, auditing, tax, managerial accounting, etc.). You will also learn about an "analytics mindset" and a framework useful for applying this mindset to address business problems. The other two courses delve further into the tools. In one course, you will learn to develop, use, and present data visualizations, and how such visualizations can be used to engage in one of the most important roles accountants play: communicating information. The third course explores the use of Excel to build models, conduct statistical analyses on large and varied datasets, and leverage Excel's programming language to "automate" such analyses.

As this course launches and is completed by learners, we will offer future coursework, including those that focus on other programming languages (i.e., Python, R, etc.), machine learning, and other innovative and disruptive tools. The current course and these future courses will expand your perspective and skills, ensuring you not only "keep up" with today's technology but are ready to leverage tomorrow's tools for future success!

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1   Vic Anand, Josh Herbold, Jessen Hobson, and Kim Mendoza received the Ernst & Young Foundation-sponsored 2021 Innovation in Accounting Education Award from the American Accounting Association.