

Data Analytics in Accounting

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INTRODUCTION

Data analytics is all the buzz these days. Data analytics bridges information technology, statistics and business. It enables increased efficiency and improved performance by discovering patterns in data. The focus of data analytics lies in inference. It is a process of examining raw data to derive certain conclusions.

WHY DATA ANALYTICS MATTERS TO THE ACCOUNTING PROFESSION

The accounting profession is not what it was twenty years ago. Accounting software automates the data entry process, links various accounts, and generate reports on demand instantly. The accountant's role increasingly is about interpreting data, helping business refocusing and reducing inefficiency.

Data analytics is increasingly important for the accounting profession. Modern tools, such as Tableau, Excel, and IDEA, enable data exploration that helps auditors focus on high-risk areas. Auditors also employ continuous monitoring by analyzing and verifying large data sets. Data analytics helps tax accountants analyze investment scenarios in complex taxation situation. The federal government is sending out tax notices as data analytics uncovers gaps in filings (Dave, 2021). Accountants explore data to help businesses identify business processes that can increase business efficiency and improve management. CPA firms are increasingly turning to nonaccounting graduates. Nonaccounting graduates constituted 31% of all new graduate hires in public accounting in 2018, an 11% increase since 2016 (Tysiac, 2019). Firms are turning to nonaccounting graduates with data science and data analytics skills. Meanwhile, accountants continue to resist moving beyond Excel. Practitioners do see the benefits of switching to data analytics. Colleague opinion shows promise toward reducing resistance among accountants while organizational support and self-efficacy are marginally significant at best (Schmidt, Riley, & Swanson Church, 2020).

As CPA firms turn to nonaccounting graduates, the number of CPA exam sections taken has also been steadily dropping. It went from 310,000 in 2016 to 248,000 in 2019. The 2020 number is even more alarming, with only 204,000, down 18% from 2019. Although, NASBA blames this steep drop on the pandemic.

Another troubling trend for the CPA profession is that CFOs who are certified public accountants fell to about 36% in 2019 at the 1000 largest U.S. public companies. This is down from 46% in 2014. This is the lowest number since consulting firm Korn Ferry has been collecting the data. Technical accounting is becoming a smaller percentage of today's CFOs job. CFOs are

increasingly in charge of human resources, information technology and enterprise risk management (Maurer, 2020). While tech savviness alone will not get a CPA the CFO job, technology does help a CPA better understand distribution channels, customers, investment scenarios, and other business strategies.

HOW DATA ANALYTICS HAS CHANGED FUTURE CPAS AND CMAS

To adjust to changes in the profession, the AICPA is making major changes in the CPA exam, effective January 1, 2024. The new core plus discipline exam structure reflects how technology has changed the profession. Data analytics is incorporated both in the core and in all three disciplines: business analysis and reporting, information systems and controls, and tax compliance and planning. Data analytics is especially emphasized in the business analysis and reporting discipline. Even though future candidates can choose from the three disciplines, CPA licenses do not reflect the specific discipline candidates take. Each state has responded to the new CPA exam model. Board of Accountancies are working to revisit statutes, regulations and policies to ensure they align with the new CPA exam model.

The Institute of Management Accountants has responded to changes by updating its competency framework and implementing the new framework in January 2020. The greatest change to the competency framework is the addition of the technology and analytics domain. This is a complete revamp of the previous technology domain. The new framework takes a holistic view of data and includes competencies related to data acquisition, data analysis, and the presentation of that analysis, all while ensuring the integrity and security of the data (Lawson, 2019).

ACCOUNTING EDUCATION'S RESPONSE

Accounting education has reflected this trend as well, with 31% of new accounting hires from disciplines other than accounting in 2018. 77.6% of schools that held business accreditation now offer dedicated analytics courses in the accounting curriculum (Moore & Felb, 2021). Richardson & Watson (2021) propose revolutionizing accounting curriculum with data analytics. Blix, Edmonds, and Sorensen (2021) reviewed current audit textbooks on how well they have integrated data analytics according to AICPA's audit data analytics and AACSB guidelines. None of the auditing textbooks met all of the review criterion utilized. Though all of the examined books do include some type of data analytics software and problems.

Accounting education changes might have reflected AACSB Standard A5 which mandate all accounting departments with supplemental accreditation integrate a minimum level of technology and data analytic skills into their curricula. A study by Andiola, Masters, and Norman (2020) suggests that Standard A5 had a significant impact on promoting change in the accounting curricula at AACSB accredited accounting programs. The study found significant variation in integration methods. The study also suggested that the biggest challenges to implementation are shortages of appropriate faculty and funding.

Accounting education changes to date do not reflect the new CPA Evolution Model Curriculum proposed by AICPA to align accounting curriculum with the new CPA exam model. How colleges, especially small colleges, adapt to this change with limited resources remains to be seen. AICPA has stated that each college can adopt the proposed model curriculum based on its own circumstances. Some might only offer core classes while students seeking discipline specific knowledge are expected to gain the knowledge at graduate level.

OUTLOOK

The accounting profession is changing and so are the requirements to enter the profession. CPAs', CMAs', and even CFOs' roles are evolving with technology. Higher education is also changing to keep up with the profession. Accountants' futures are as bright as ever if we can adapt to our new roles. Resistance to change is natural. But change has to happen if we want to keep contributing to this great profession.

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