

# Preparing Future Accountants: Integrating Artificial Intelligence (AI) Competencies into the Accounting Curriculum

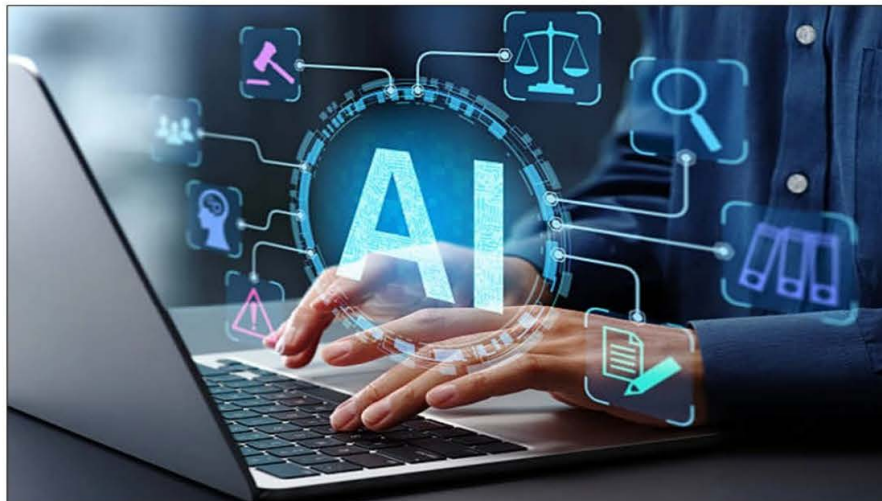
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The fast pace of Artificial Intelligence (AI) technologies' development is transforming the professional accounting landscape. While automation, data analysis, and machine learning capacities become the norms of business, the accounting professional needs to acquire skills in accordance with the technological advancement. Classical training for accountants as a starting point now cannot suffice to address the requirements of the digital economy. Therefore, it is a requirement to include AI-related abilities in accounting programs to keep future accountants updated and competitive. This article maintains that AI skills are an integral component of accounting training, identifies the essential AI-related skills to be integrated, and offers guidelines for integrating these skills successfully into accounting courses.

## 1. AI Skills that Future Accountants will Require

To prepare accountants for AI environments, a few essential skills must be added to their curriculum. Some of them include data analytics and visualization, machine learning fundamentals, process automation, and ethical decision-making while using AI. Data visualisation and analytics are leading the pack in AI accounting. Accountants will be able to sift through large volumes of information to extract, analyze, and interpret it to assist in offering

insights and informing decision-making (Hussin et al., 2024). Power BI, Tableau, and Power Query in Excel allow one to take large datasets and turn them into business-ready insights.

Second, one must have a basic understanding of machine learning (ML). Accountants are not meant to be data scientists, but a basic understanding of ML models like classification, regression, and clustering enables them to effectively work with technical people and assess computerized systems (Kokina et al., 2021). For example, ML facilitates processing like fraud detection, customer segmentation, and predictive forecasting for financial reporting. Thirdly, Day-to-Day Accounting automation through Robotic Process Automation (RPA) is transforming invoicing, payroll, and reconciliation. Accountants must be aware of how to deploy, install, and administer software such as UiPath or Automation Anywhere to automate day-to-day accounting activities and enhance precision (Flechsig et al., 2022).

Finally, with regard to the moral dimensions of the use of AI, accountants need to become proficient in the areas of AI governance and ethical decision-making (IFAC, 2020). Familiarity with the risk of algorithmic bias, data protection, and transparency helps ensure that AI systems are operated responsibly in organizational environments.

## **2. Integrating AI Capabilities into Accounting Education**

Forcing AI into accounting education must be done in a rational and systematic manner, beginning with the redefinition of courses, interdisciplinarity, and experiential learning. The first step would be redesigning the curriculum. Fundamental courses like Financial Accounting, Auditing, and Managerial Accounting can be infused with AI applications. For instance, students can be asked to examine actual financial statements through data visualization tools or study how AI models identify anomalies in auditing processes. Courses like "Accounting Information Systems" have to be realigned for implementation of new technologies, with additional emphasis on system integration, database management, and AI-driven tools.

Second, interdisciplinary cooperation is instrumental to effective implementation. Accounting faculties need to collaborate with computer science, information systems, and data science faculties to co-develop modules that integrate technical expertise and business acumen. Co-teaching or AI practitioners as guest lecturers can bring real-world application and close the theory-practice gap (Richins et al., 2017). Interdisciplinary cooperation ensures that students learn about both the technical and ethical aspects of AI.

Third, experiential and applied learning must be integrated across the curriculum. Case studies, simulations, and project work reinforce learning by doing whereby students implement AI tools to solve accounting problems. For instance, payroll processing automation using RPA or usage of ML methods for predicting firm bankruptcy can be a capstone project. Certification like AICPA's Data Analytics Certificate can be provided as electives complementing classroom instruction with credentials from established industry players.

## **3. Challenges and Recommendations for Effective Integration**

In spite of its significance, integrating AI capabilities into accounting education is not free from challenges such as faculty preparedness, curriculum overload, and limited resources. Faculty preparedness is an important impediment. Professors of accounting might not possess the technical competence to teach AI-related topics properly. Universities must spend on faculty preparedness in terms of training programs, industry certification, and university-industry

collaborations. Allowing faculty to undergo ongoing learning and research on AI implementation in accounting will foster an innovation culture and upskilling.

Another concern is that of curriculum overload, with courses now filled with technical and regulatory material. In response, a modular system can be implemented. Instead of redrafting entire courses, AI subjects can be introduced through targeted modules or extra streams. For example, an extra course titled "AI in Accounting" could include topics such as data preparation, AI ethics, and emerging technologies so that interested students can gain greater knowledge without adding to the core curriculum.

Finally, there needs to be access to infrastructure and software for successful implementation. Access to AI tools and platforms, like Microsoft Azure, Python and accounting datasets, or Tableau for visualization, can be offered by schools. Partnerships with industry can provide industry with access to professional software, mentorship, and placement for internships. Involvement with bodies like ACCA or IFAC can also provide certification of curriculum coverage of world standards and trends (ACCA, 2020).

## Conclusion

With AI transforming the accounting profession, education for future accountants with the required competencies is no longer a choice, it's a necessity. Embedding data analytics, machine learning, process automation, and AI ethics into accounting education can enable schools to create technically competent and strategically skilled professionals who can excel in AI-enabled workplaces. Embedding such capabilities entails collective curricular reform, faculty development, and exposure to the appropriate tools. By proactive and adaptive means, accounting schools can produce graduates who are leading, not lagging, the curve in the era of intelligent technologies.

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