

Trends in Data Analytics for Accounting Educators

Bridging the Gap Between Industry and the Classroom



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Welcome & Agenda

Today's Objectives:

- Explore emerging trends in data analytics
- Connect these trends to accounting education
- Share strategies and tools for curriculum integration
- Hands-on engagement Ideas

Emerging Trends in Data Analytics

- **Artificial Intelligence:** Intelligent automation, fraud detection
- **Automation:** Streamlining reporting and reconciliations
- **Predictive Modeling:** Budget forecasting, financial risk modeling
- **Big Data:** Real-time insights for better decision-making

Why AI Matters in Accounting Education

AI is revolutionizing how financial data is analyzed, interpreted, and reported. By integrating AI into accounting curricula, educators can:

- Expose students to cutting-edge technology shaping the industry
- Foster automation and efficiency thinking
- Promote ethical discussions around machine-led decision-making
- Prepare students for AI-augmented roles in accounting and finance

Why AI Matters in Accounting Education

Classroom Integration Ideas

- **AI for Fraud Detection:** Use tools like IBM Watson or MindBridge to simulate real-world fraud identification
- **AI-Driven Audit Simulations:** Teach how natural language processing (NLP) reviews large volumes of contracts or invoices
- **Chatbot Tax Advisor Activity:** Have students explore how AI can answer tax-related queries and build a basic chatbot logic
- **AI Ethics Debate:** Facilitate discussions around AI bias and the limits of automation in auditing and compliance

AI Resources for Accounting Educators

- [MindBridge.ai](#): AI-powered risk and anomaly detection
- [Tableau GPT](#): AI-integrated data visualization
- [Microsoft Azure AI Tools](#): Use for forecasting and modeling
- [Google Teachable Machine](#): Introduce students to machine learning basics
- [AI + Ethics Curriculum Toolkit](#): Ethical frameworks for integrating AI discussions in class

AI In Accounting: *In the Field Resources*

Fraud Detection & Anomaly Spotting

- **MindBridge AI Auditor**
Uses machine learning to flag unusual transactions and risk patterns in general ledger data. - *See attachments for a Case Study*
 - **CaseWare IDEA**
An advanced analytics tool for auditors and accountants with AI-powered fraud detection features.
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Predictive Analytics & Forecasting

- **Planful (formerly Host Analytics)**
Offers predictive planning for budgeting, forecasting, and financial modeling.
- **Kashoo**
A smart accounting system for small businesses that learns patterns over time for predictive insights.

Bookkeeping & Transaction Automation

- **Botkeeper**
A virtual bookkeeping assistant that uses AI to categorize expenses, reconcile accounts, and generate reports.
 - **Vic.ai**
Automates accounts payable using AI to extract, process, and approve invoices with high accuracy.
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Document Processing & OCR

- **Xtracta**
Extracts data from receipts, invoices, and financial documents with AI-powered OCR.
- **DocuPhase**
Automates document management, data capture, and workflow routing in accounting systems.

Why Automation Matters in Accounting Education

Automation is transforming how accounting professionals handle tasks such as data entry, reconciliations, and report generation. Teaching automation prepares students to:

- Work with digital tools and APIs (Application Programming Interface) that mirror real industry practices
- Focus on analysis and strategic thinking instead of manual entry
- Improve accuracy and efficiency in financial processes
- Embrace innovation and continuous improvement mindsets

Why Automation Matters in Accounting Education

Classroom Integration Ideas

- **Automated Reconciliation Exercises:** Use spreadsheets or accounting software to demonstrate how automation speeds up bank or account reconciliations
- **Workflow Simulations:** Show how invoice processing or expense approvals are automated using tools like Zapier or Power Automate
- **Robotic Process Automation (RPA):** Introduce low-code bots to extract and manipulate accounting data
- **Hands-on Challenge:** Students build a simple automation to transfer data between Excel and Google Sheets for reporting

Top Resources for Teaching Automation

- [Microsoft Power Automate](#): Teach workflows and automation logic
- [Zapier for Education](#): Connect apps and automate tasks easily
- QuickBooks Online Educator Program: Use real accounting tools to show automated bookkeeping
- [Smartsheet Automation](#): Automate project and task tracking in an accounting context
- [Excel Macros & VBA](#): Introduce custom automations within Excel

Automation in Accounting: *In the Field Resources*

Automated Reporting

- Tools like **BlackLine, Xero, QuickBooks, and Oracle NetSuite** now offer automated reporting features that pull real-time financial data from various sources.
- These platforms can **generate dashboards, monthly financials, and audit trails** with little to no manual intervention.

Automated Reconciliations

- Platforms like **FloQast, Trintech, and BlackLine** automate the matching of transactions between general ledgers and external systems (e.g., banks, vendors).
- AI identifies anomalies and flags discrepancies—saving hours of manual review.
- This drastically reduces the month-end close timeline and improves **compliance and audit readiness**.

What is Predictive Modeling?

Predictive modeling uses statistical techniques and machine learning algorithms to forecast future outcomes based on historical data.

Predictive Modeling

Classroom Integration Ideas

- **Budget Forecasting Project:** Students use spreadsheet tools or platforms like Excel, Tableau, or Python to predict future revenues/expenses for a simulated company.
- **Client Risk Analysis:** Create scenarios where students apply regression models to determine the likelihood of financial fraud or audit risk.
- **Financial Health Predictions:** Use historical financial statements to predict a company's next quarter performance.

Tools to Use

- Microsoft Excel (with Forecast Sheet or Data Analysis Toolpak)
- Google Sheets + Add-ons (like XLMiner)
- Python (with pandas, scikit-learn)
- Power BI/Tableau for data visualization

What is Big Data?

Big data refers to large, complex datasets that traditional tools can't easily manage. In accounting, it can reveal trends, flag anomalies, and support real-time analysis.

What is Big Data?

Classroom Integration Ideas

- **Forensic Accounting Challenge:** Students analyze anonymized big data sets to detect financial fraud patterns.
- **Revenue Trend Analysis:** Use transaction-level retail data to forecast seasonal performance.
- **ESG & CSR Reporting:** Analyze large sustainability datasets to understand how data informs ethical reporting and compliance.

Where to Find Big Data for Teaching

- [Kaggle](#): Datasets and competitions related to finance/accounting
- [UCI Machine Learning Repository](#): Public datasets across various domains
- [World Bank Open Data](#): Global financial and economic datasets

Hands-On Teaching Strategies

- Weekly "Data Dives" – mini analysis challenges - Examples [Here](#)
- Connecting practice content with current culture - *Halloween candy, NC exports and predictions, Christmas gifting*
- Guest Speakers from Industry - *CPA, Project Managers, Tax Law, Financial Planners, Estate Planners, Investors, Small Business Owners, Invite K12 students to your classroom*
- Bring industry-relevant tools and language into the classroom