Practical Insights (and Use Cases) on Emerging Tax Technologies

CPA firms and tax technology providers are leveraging advanced analytics, business intelligence, edge computing, AI and other advancements to help tax departments optimize compliance activities

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Jeremiah LaRue
Senior Product Marketing Manager
CPA.com

If you want to get a sense of the speed, magnitude and reach of tax technology advancements, try entering a slightly inaccurate mailing address (e.g., "Main St." vs. "Main Street") the next time you make an online purchase. The considerate "Are you sure you didn't mean this address?" message that immediately appears is triggered by a tax-technology application programming interface (API). This nifty bit of integration technology simultaneously cleanses addresses in the e-commerce system and ensures accuracy in the ERP system, the integrated tax engine and other backend applications that access customer data.

APIs represent just one of at least a dozen forms of advanced technologies that public accounting firms and tax technology vendors are leveraging to strengthen and streamline their shared customer organizations' tax compliance capabilities and processes. Other emerging technologies with valuable tax applications include business intelligence, advanced tax data analytics, cloud technologies, optical character recognition (OCR), robotic process automation (RPA), machine learning, artificial intelligence (AI), and generative AI. And let's not forget about traditional process automation, which can eliminate larger swaths of manual tax compliance tasks, injecting major efficiency gains into tax departments of all sizes during a period of intense talent competition and widespread cost-reduction mandates.

The trick, of course, is for accounting firms and client organizations alike to optimize their investments in emerging tax technologies. "You want to avoid squirrel-chasing syndrome," notes CPA.com Senior Product Marketing Manager Jeremiah LaRue. "It can be difficult to refrain from chasing after shiny new solutions. And it is critical to make informed investment decisions." LaRue's point is well-taken at a time when internal competition for technology investments is fierce. Plus, getting the most bang for your tax-technology buck often requires process improvements and/or redesigns, additional training and, in certain cases, some implementation work.

The costs, benefits, and risks of adopting emerging tax technologies make it important for accounting professionals, tax technology vendors and their shared customers to align on how the new tools will be used. Achieving this alignment involves:

1. Gaining an understanding of the current state of emerging tax technology; and
2. Learning how accounting firms and tax departments are using, and benefitting from, these breakthroughs.

To that end, it also helps to recognize some recent tax compliance trends that buyers of tax technology should keep top of mind when conducting their selection process.

'Automation is Table Stakes' – Cutting-Edge Tax-Tech Trends

Moss Adams Senior Manager Mo Huda started his consulting career in the pre-digital trenches. During that time, he spent long hours flipping paper invoices while conducting refund studies for his clients. Thankfully, less of that manual work is needed today due to new technology-based solutions that automate part of the manual invoice review process. Moss Adams is evaluating an OCR-based machine learning tool to automate the refund review workflow. "The tool reads invoices, just as your eyes would, capturing the data and arranging it into a table," Huda reports. "It takes significantly less time to determine if a client has paid sales or use tax on an invoice. This solution has exciting potential to save us substantial amounts of time in the review process."

Huda also notes that Moss Adams Innovations Team is putting generative AI tools through their paces to assess how they can be used to streamline various internal processes.

That said, LaRue emphasizes that other, less shiny tax technology advancements, particularly business intelligence and data analytics, deliver similarly valuable improvements to a range of tax-related work. Vertex Solutions Engineer Lee Irwin says that a similar dynamic exists in the realm of indirect tax software, where less heralded technology advancements also drive breakthroughs to tax compliance and planning capabilities. "APIs help us create better integrations between our tax engine and a growing number of finance and accounting systems and applications," Irwin reports. "These 'connectors" between applications help make the sales tax compliance processes as automated, and as straightforward, as possible."

This trend illustrates LaRue's point that "automation now qualifies as table stakes." As CPA firms and tax departments automate more, and greater portions of, processes (e.g., sales and tax compliance) and workflows (e.g., trial balance to income tax return), they lay the groundwork needed to achieve additional levels of technological sophistication.

Implementing and advancing business intelligence (BI) and related data analytics capabilities marks a crucial milestone in this progression. "BI enables firms to develop key performance indicators (KPIs), often with dashboard views," LaRue notes. These visually compelling dashboard interfaces provide snapshots of past, current, and future performance, via a combination of rearward and predictive analytics. New tools mine and cleanse the data, and then transform it into a usable format. KPIs can be created to monitor performance across all areas of the business, including sales, marketing, financial, operational, and social media.

Establishing a strong BI and analytics foundation, underpinned by a data analytics warehouse, enables organizations to develop more advanced analytical insights via the introduction of new technologies. "With a centralized data analytics warehouse, and with emerging advanced artificial intelligence (AI) and machine learning (ML) tools, you can see the pattern behind the data," according to a recent Moss Adams article. These data analytics patterns include:

- Customer behavior changes;
- Marketing campaign effects;
- Operation optimization options; and
- Additional business insights.[1]

The Allure of Automation: 4 Drivers of Adoption

New advancements in tax technology are arriving as appetites for the efficiency and complexity-reducing benefits that cutting-edge tools can deliver intensify. The need for these improvements is driven by the following dynamics:

- **A shortage of accounting and tax professionals:** In recent years, "the number of students majoring in accounting has declined significantly," according to The Journal of Accountancy. "The latest AICPA *2021 Trends report* shows some sobering statistics, including a 2.8% decrease in accounting bachelor's graduates in the 2019–2020 academic year, an 8.4% decrease in accounting master's graduates, and a 17% decrease in new CPA Exam candidates. At many universities, this trend seems to be continuing through 2022 and 2023."[2] While this qualifies as a significant risk for many accounting firms, it also hinders tax department's recruiting and retention activities, given that accounting graduates comprise the primary source of tax talent. "Finding talent is one of our biggest challenges right now," Huda reports. Although the implementation of more, and more advanced, tax automation cannot resolve the talent crunch, the efficiency improvements that these investments produce can help blunt its negative impacts.

- **Intensifying indirect tax complexity:** U.S.-based businesses that sell in global geographies must contend with new e-invoicing requirements in a growing number of countries along with looming VAT reform in the European Union. The pace of sales and use tax rates and rules changes in the U.S. – an average of more than 300 combined changes at state and local jurisdictional levels annually during the past decade – remains at or near all-time highs. Sales tax rules and rates changes are especially volatile at the district level in 2023: nearly twice as many new district taxes were enacted during the first five months of 2023 (100) compared to the same period in 2022 (54).[3] State legislatures and departments of revenue have made other moves, including some puzzling maximum tax rate rules, further complicating sales tax compliance activities. The use of fees, including environmental fees and retail delivery fees, is on the upswing as are the adoption of sales tax exemptions. Some of exemptions are permanent, others are temporary; regardless of their duration, all exemption certificates must be issued, stored, and retrieved as accurately and efficiently as possible, given that the mismanagement of these certificates marks a leading cause of audit penalties.
- **A growing embrace of e-invoicing:** The accelerated adoption of e-invoicing requirements by global tax authorities – not (yet) including those in the U.S. – bears a separate mention given their potential impacts on current finance, accounting, and tax technology environments. These indirect tax compliance rules vary by country, but they generally require the automated exchange of invoice data from the supplier in a machine-readable format that can be automatically imported to the buyer's AP system *and* the tax jurisdiction's administrative systems without manual intervention. Complying with these rules requires companies to make adjustments to a broad set of finance, accounting and tax systems. "E-invoicing rules started in South American countries and are now being embraced by more EU countries," Irwin notes. "We've been keeping a close eye on this trend, and we feel there is a good chance that similar rules materialize in the U.S. within the next seven to 10 years."

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Mo Huda
Senior Manager
Moss Adams

Practical Use Cases

As LaRue notes, CPA firms and tax departments tend to start their journey toward greater technological sophistication by automating processes related to direct and indirect tax processes (e.g., sales and use tax compliance processes) and workflows (e.g., trial balance to income tax return)

"When our clients ask about technology solutions to automate their sales and use tax collection process, we usually suggest two to three options based on their compliance needs, the solution's capabilities and the vendor's pricing structure," says Huda. These solutions can be deployed in the cloud (via single-tenant or multi-tenant arrangements), on-premises or using a hybrid approach.

Huda's knowledge of the sales and use tax software marketplace is based on direct experience. Until 2020, Moss Adams used an on-premise indirect tax technology solution to support the tax compliance work it performs for its client base. The question of how easily and effectively the on-premise solution would scale in the future arose during a strategic planning exercise. "We thought, *hypothetically, our current solution works for maybe 5,000 returns*," Huda recalls. "*But if we want to get to 20,000, or even 40,000 returns a year, what kind of supporting technology do we need? Can we get there without adding 30 people?*"

To answer that question, the firm deconstructed its compliance workflow and focused on three primary criteria that a new sales and use tax compliance platform would need to satisfy:

1. **Scalability:** the solution needed to efficiently handle additional workloads;
2. **Risk considerations:** Security certification related to the systems, data and information of the platform; and
3. **A dashboard:** Moss Adams needed to be able to monitor and control the entire compliance workflow in the platform.

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In addition to sales and use tax compliance and reporting, other forms of indirect tax automation help accounting firms and tax departments perform tax categorization, location-based reporting and e-invoicing. Common forms of income tax automation include trial balance automation, OCR that replaces manual data entry, crypto tax data collection and workflow, return assembly and delivery, and e-file notifications.

Tax Intelligence Gets Smarter

Before considering investing in a dedicated BI solution, organizations often launch their analytics capability by leveraging Excel spreadsheets to:

- Create pivot tables for monthly general ledger (GL) reconciliations;
- Create charts for basic data visualization using thresholds to detect variances and anomalies;
- Comparing sales tax liability by month/date during sales tax holidays; and
- Conducting purchase analysis by GL account, cost center, vendor, and other cuts to identify over- and under-accruals of use taxes.

At some point, though, business growth and rising transaction volumes tend to test the limits of spreadsheet-based BI processes and related analytics. At this stage of an organization's "data analytics maturity," it makes sense to consider investing in more sophisticated BI systems and analytical tools.[4] These solutions can deliver powerful new indirect tax compliance and data management capabilities, including:

- Real-time economic nexus monitoring via dashboards;
- Real-time and customized reporting;
- Refund review studies; and
- Omni-channel GL reconciliations.

Indirect tax groups use some of the largest, most detailed, and diverse data sets in the company, Irwin notes. As such, it makes sense to consider a cloud-based data intelligence tool that leverages tax data to save time, while optimizing compliance and audit performance, mitigating compliance risks, and improving other tax outcomes.[5]

Don't Buy the Hype (Invest in Expertise Instead)

Like squirrels, the population of shiny new tax technology offerings will continue to grow in the coming years. "There's a lot of hype out there," LaRue adds. "A diligent technology-evaluation process is one of the best ways to cut through that hype. On the flip side, firms and client companies should not wait for a problem to arise before evaluating new technology."

CPA firms and the tax departments they serve will need to sharpen their technology selection and investment processes. Partnering with trusted vendors can help. As can establishing a repeatable process for gaining buy-in and identifying the best technology fits for your organization and your clients.

[1] https://www.mossadams.com/articles/2022/09/enhance-data-analytics-with-kpi-metrics.

[2] https://www.journalofaccountancy.com/issues/2023/jun/how-students-view-the-accounting-profession.html.

[3] https://www.vertexinc.com/resources/resource-library/sales-tax-rate-changes-accelerate-year.

[4] https://www.mossadams.com/articles/2022/09/use-data-analytics-to-drive-decisions.

[5] https://www.vertexinc.com/solutions/products/vertex-indirect-tax-intelligence.

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