

Top Trends: Why Tax Administrators Are Adopting New Data and Analytics Strategies



Contents

Trend No. 1: Tax Agencies Are Struggling to Manage the Deluge of Data and Transform It Into Insights	1
Trend No. 2: Innovative Tax Agencies Are Adopting a Single, Integrated Platform for Analytics	2
Trend No. 3: The Gig Economy and Internet-Based Businesses Continue to Disrupt Traditional Tax Administration.....	3
Trend No. 4: Sophisticated Taxpayers Are Creating Complex Corporate Tax Structures to Evade Taxation	5
Trend No. 5: Tax Agencies Must Use New Methods and Rethink How They Engage With Taxpayers to ‘Know the Customer’	7
Why Shift to a Single, Integrated Analytics Platform?.....	7
Learn More	8

Government tax agencies are among the most prolific data collectors in the world. They deal with millions of citizens and organizations and collect massive amounts of money to finance public needs. But governments lose several trillion dollars annually to economic crimes – specifically, tax evasion and noncompliance. Why is the loss so high?

Tax agencies must deal with an onslaught of factors – economic fluctuations, citizen expectations, tax regulations, reporting requirements and technological advances. And to see the full picture of a taxpayer, the traditional data that tax administrators collect needs to be combined with new types of data from diverse sources.

Think about the influx of data that will arrive via 5G wireless technology. Or virtual banks, which don't have brick-and-mortar locations. Customers access these banks from smartphones to conduct instant transactions, without paying fees. These scenarios present many challenges for tax auditors who have historically dealt with individual or corporate income tax returns only. Now they need to understand the taxpayer's digital footprint too.

Managing today's environment calls for new regulations and controls. For tax administrators striving to work effectively and make good decisions, success ultimately hinges on the ability to collect and analyze data effectively. Let's delve into what our SAS experts see as the top five trends shaping the future for tax administrators.

Trend No. 1: Tax Agencies Are Struggling to Manage the Deluge of Data and Transform It Into Insights

Governments collect all types of information from taxpayers based on policies, regulations and regional tax laws. But many struggle to promptly capture the right information, combine it with other relevant data and use it effectively to make good decisions. Along the way, they must be cautious to ensure the data they collect is secure, accurate and allowable by law.

Some of the biggest challenges tax agencies face start with the data. Consider the need to link records for the same taxpayer across disparate data sources. The lack of global standards on formats and definitions of tax data. And data protection laws that place significant constraints on how tax data can be used.

Tax agencies deal with multiple sources of data from internal legacy systems and external data sources across hundreds of applications. Some of these systems contain duplicate data, which is one reason it's so difficult to ensure data integrity. And agencies must manage all this data consistently to properly calculate taxes, quickly identify changes, and share data updates with relevant systems and compliance teams.

Even agencies that manage their data well may still be challenged to understand the output of data analytics. Existing employees often don't have a deep understanding of analytics, and it's hard to recruit employees with appropriate levels of analytics skills.



Tax fraud is one of the costliest economic crimes in the world.

International tax laws and cross-border transactions make the situation even more complex. Some tax rules were established long before current technology existed. Today, for example, individuals can conduct a quick, cross-border transaction from a cellphone – a previously unimaginable scenario.

Trend No. 2: Innovative Tax Agencies Are Adopting a Single, Integrated Platform for Analytics

Governments that can effectively harness all their data and analyze it for insights are better positioned to manage all aspects of tax administration. The most innovative tax agencies are adopting a single, integrated platform for all their analytics needs. This is more important than ever in our multifaceted, digital world.

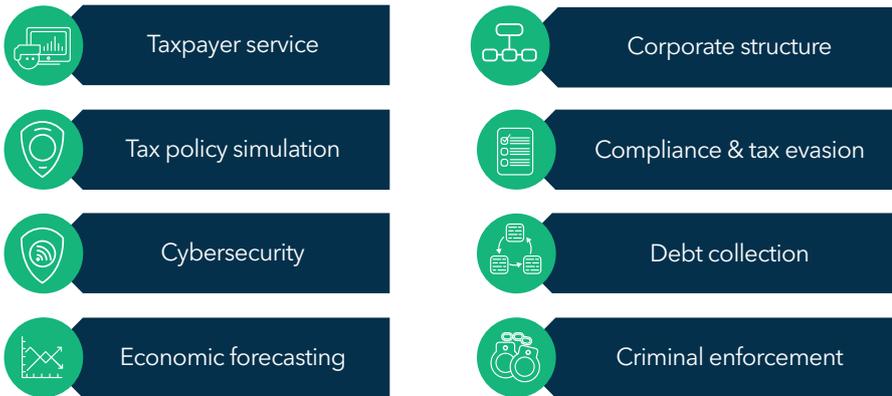
Digitalization has created far-reaching implications for taxes, ranging from direct and indirect taxation to border tax policy issues. Consider the extent to which the marketplace has changed since the origins of brick-and-mortar-based economic rules created a century ago. For example, think about how some taxpayers claim permanent status for their “tax home.” Some individuals say they don’t have a tax home – but they’ve manipulated the laws related to permanent status.

This example is tied to the prevention of tax treaty abuse. Tax treaties among countries are designed to prevent or mitigate double taxation, and they cover a range of taxes, including income taxes, inheritance taxes and value added taxes (VAT). Unfortunately, tax treaties are frequently abused.

Let’s say Country X and Country Y agree to certain terms about how they will tax goods and services between their countries, based on the economic situation in each. But Company A might claim to be a citizen “between” Country X and Country Y. In other

words, it claims not to have a global tax home. Some claim citizenship by investment - that is, they obtain a second citizenship by investing in the economy of the host country. But the company claiming this status can get tax breaks from both countries, based on the treaty agreement.

BIG DATA CALLS FOR BIG DATA ANALYTICS - ACROSS THE AGENCY



Tax agencies can overcome this issue and other complexities of digitalization by adopting a single, integrated platform for analytics. Uniting data and analytics silos across departments and divisions provides a common method for collecting and integrating raw data, cleansing it to ensure data quality, and preparing it for analytics. Prepared data can then consistently feed analytics processes across the agency, including data that's used for building models.

This approach reduces the cost of model creation and deployment while reinforcing governance and data security - regardless of data type, data source or IT environment. Thinking long-term, it's important to define how frequently you're going to refresh your data governance strategy. The cycles for reviewing and updating such strategies will continue to shrink as more financial transactions happen in real time.

Trend No. 3: The Gig Economy and Internet-Based Businesses Continue to Disrupt Traditional Tax Administration

The rise of internet-based businesses and the gig economy - where independent workers are paid by the gig (that is, the job) - have made it harder for governments to enforce tax, labor and employment laws. Tax agencies are using data and analytics to keep pace with the rapid changes this economy has created.

In the gig economy, people who need a service hire someone who provides that service - such as an Uber or Lyft driver. A company connects the gig workers to the consumers. Most of these transactions happen in app-based technology platforms. Workers and consumers use those same platforms for payment, which often involves yet another company with a payment platform - like PayPal, for example.



The gig economy affects many citizens and needs to be evaluated differently from a taxation standpoint. For example, gig workers don't get paid in the same way or have the same types of benefits as traditional, full-time employees. And as the volume of gig economy workers increases, more questions surface. For example, how can tax agencies verify that each gig employee is legitimate? How do they know each gig worker is paying taxes appropriately? The burden to fully understand these taxpayers and educate them about filing requirements is on tax administrators.

Unraveling Connections in Tax Data

- The tax agent reviews **internal data**, like tax returns and schedules.
- Next, this internal data is **linked together automatically**, saving significant time and effort.
- A third-party data **aggregator adds other related information** by using machine learning to extract key concepts from internet-based content.
- The resulting information about an entity (bank account, name, transaction, etc.) is **sent to a government revenue agency**, which integrates it with other data about that entity or corporation.
- Sophisticated techniques - such as text mining, link analysis, web scraping, translation and entity extraction - provide a full picture to help tax agents **see connections and uncover illegal activities**.

The gig economy also has tax ramifications for cross-border transactions. Gig workers in other countries can provide services through technology, for example. But this can equate to a lot of untaxed income – and it’s unclear how to tax that income.

Governments have started to work with private industry on some of the app-based technology platforms to get a better understanding of how many people are part of the gig economy and how to handle taxes for them and their technology platforms.

One concept is to create a digital ID to authenticate each gig worker. The digital ID can be used across multiple platforms, and consumers requesting goods or services can use it to verify gig workers. Some countries are already taking this approach to enhance safety and security, as well as for taxation purposes. For gig employees, this “digital DNA” works regardless of which platform they use – the digital ID automatically links tax information (income, expenses, etc.) back to the correct individual.

Trend No. 4: Sophisticated Taxpayers Are Creating Complex Corporate Tax Structures to Evade Taxation

As some taxpayers use increasingly sophisticated methods to avoid paying taxes, it has become harder for tax agencies to identify those complex corporate structures and follow the trail of money through them. For example, some taxpayers create tax havens with unclear locations, which leads to confusion about how to tax the profits.

For a small mom and pop shop, you can use pen and paper to figure out how the organization is structured. But with larger, transnational business structures, a manual approach quickly becomes untenable. To make matters worse, corporations in different parts of the world are structured in different ways. This adds to the layers of complexity tax auditors and criminal investigators face when they try to unravel connections.

How Analytics Can Improve Results for Tax Administrators

- A **single, integrated analytics platform** incorporates data management techniques to ingest disparate data sets from internal sources (tax data) and external sources (other agencies, third parties, corporate data, etc.) – then the data is blended and cleansed before it’s used with analytics.
- All tax agents use the same **data-based foundation for making decisions** – with key information displayed visually in a way that’s easy to configure, search and consume.
- **Behavioral analytics identifies key types of fraud entities** such as “shell company” – as well as patterns in behavior – to uncover connections among entities.
- Alert generation, scoring and risk analysis **target the most appropriate cases** for tax agents to investigate.
- A **hybrid analytics approach** blends social network analysis, anomaly detection and other analytical techniques to deliver the best possible results.

Some corporate structures are intentionally set up to obfuscate who owns the business. Imagine a business structure where tens or hundreds of legal constructs or shell companies are set up to hide the beneficial owner. The more steps away the owner is from the company, the harder it is for regulatory organizations to figure out who is ultimately accountable and to pursue cases of tax evasion.

Analytics software helps unravel these complex connections by examining multiple types of data elements, such as businesses, attorneys, tax preparers, bitcoin addresses and bank accounts. Innovative tax agencies are using link, network and social network analysis - as well as artificial intelligence techniques - to understand taxpayer networks.

Such techniques reveal who is the most central or influential actor in the network and how strongly linked a node or an actor is to other fraudulent elements in the network. They can show if there are flows of debits and credits or other financial transactions between entities that seem suspect. Such solutions typically access data from the tax agency, blend it with external data from corporate registries and other organizations, then show visualizations of the links and nodes.

Data visualization presents analytics results in a way that makes it easy for an investigator to sift through and understand. Consider geographical analysis of data, for example. It's just as important to know where business structures operate as it is to understand their structure. So if someone starts to establish a presence - or shift business transactions to unexpected locations - a visual geographical analysis makes it easier to spot quickly when shell companies are starting to pop up in different locations.

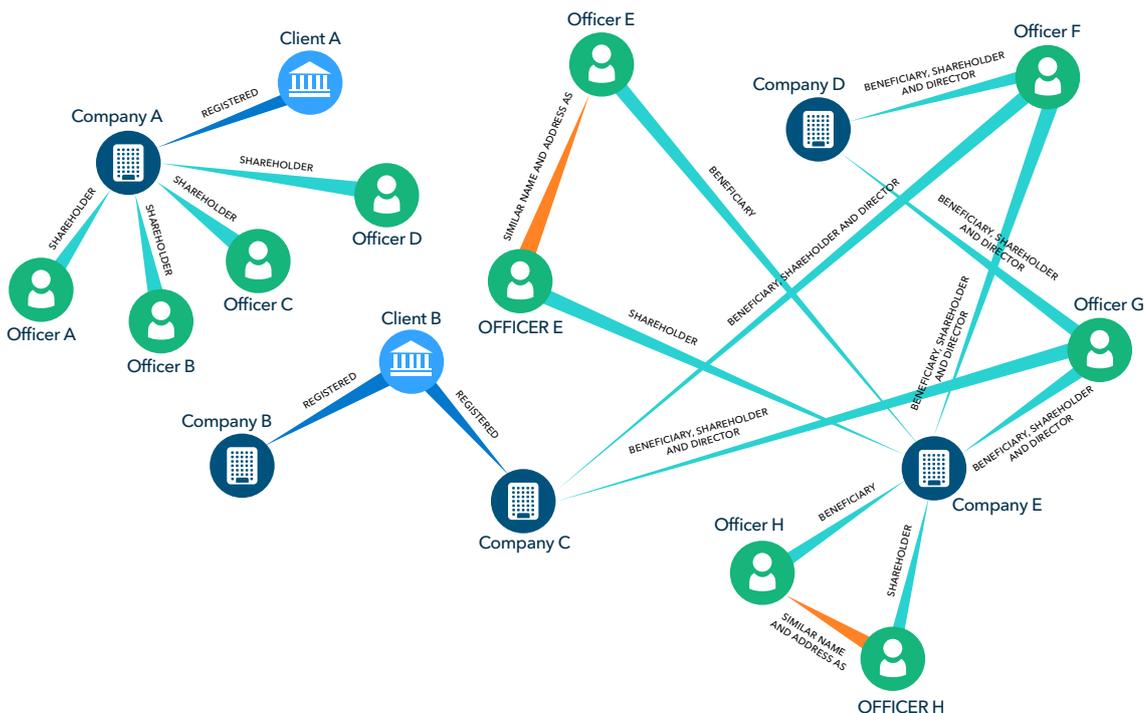


Figure 1: Networks are built on the implicit relationships between individuals and companies. Visualizing social networks and entity relationships helps tax administrators understand corporate structures, follow complex flows of financial transactions, and identify high-risk entities and transactions.

Trend No. 5: Tax Agencies Must Use New Methods and Rethink How They Engage With Taxpayers to 'Know the Customer'

For years, financial regulators have required banks to understand the background of each customer to fight money laundering and to enforce sanctions. Regulators are now applying this "know your customer" standard to tax agencies as well. From a central government level to provincial and state levels, tax agencies are starting to adopt the same types of techniques that banks use.

Governments now require tax agencies to understand many details about who their taxpayers are, including their characteristics and behaviors. What types of transactions do they conduct from a taxation perspective? Does their income just comprise wages and earned income, or is it from investments or another source? Which taxpayers are related to each other? What are the interactions and relationships between and among taxpayers? That covers everyone from individuals to businesses and corporate entities.

Governments do much of this to help enforce sanctions on politically exposed persons or governments or government entities. It also relates to watchlists, money laundering and other types of criminal activities. There's even a significant focus on charities and how they operate - they're often used for money laundering or other illicit financing purposes.

Tax auditors must do much more than in the past to get to know their taxpayers - to understand their full digital footprint. They can't rely solely on the data from traditional tax documents to get this 360-degree view. Today, tax auditors often need to review social media accounts and other sources to supplement information on the tax return so they can enrich traditional data with new types of information. This is most successful when tax agencies take a unified approach to data analytics.

Why Shift to a Single, Integrated Analytics Platform?

A unified analytics foundation can accommodate the demands of today's digital tax landscape in a way that older, disjointed technology approaches cannot. It can also help tax administrators better understand taxpayers' needs, resulting in an appropriate level of service and a better taxpayer experience. Even state-of-the-art integrated tax systems lack the sophistication and insight an integrated analytics platform provides.

Analytics offers a data-based lens to help tax agencies know if they need to provide more taxpayer education or provide a different type of taxpayer experience. For example, tax agents can use analytics to simulate tax policy changes and answer what-if questions, such as:

- What if the tax law changes in this way?
- What's the impact of that?
- Who does it affect?
- How should we communicate it?

The benefits of a unified analytics-based approach are broad. Such an approach can improve revenue collection to support government spending. It can reveal the changing landscape of global and national economies and the impact on laws, policies and administrations. It helps tax agencies provide more efficient services at a lower cost. Ultimately, an integrated, sophisticated analytics platform helps tax administrators counter the economic crimes of tax evasion, fraud and noncompliance. In turn, agencies will have as much funding as possible to fulfill critical public needs.

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