

The new machine age of analytics in Tax

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Today's presenters



Daren Campbell
*Tax Technology and
Data Analytics
Services*



Michelle Wallig
*Tax Performance
Advisory*



Karen Christie
US VAT practice



Michael Poerksen
*Americas Tax
Campus Recruiting
Leader*

EY analytics

The human element



<http://www.ey.com/analytics>

Drivers of the new machine age of analytics in tax



**Tax
authorities**

- ▶ Taxing authorities are using analytics.
- ▶ Companies want better business/tax integration.
- ▶ Technology advancements make it possible to gain insights from data.



Clients

Enterprise tax data management and analytics



Overview

- ▶ Pleasant disruption
- ▶ New foundations in data management:
 - ▶ Guiding principles
 - ▶ A new approach
- ▶ Tax big data management:
 - ▶ Component layers of a big data solution
 - ▶ Iterative approach based on value, needs and efficiency
 - ▶ Core feature functionality and how it relates to tax

Defining tax data reporting and analytics

Data analytics often describes many different activities:



Big data

Four Vs in tax big data management

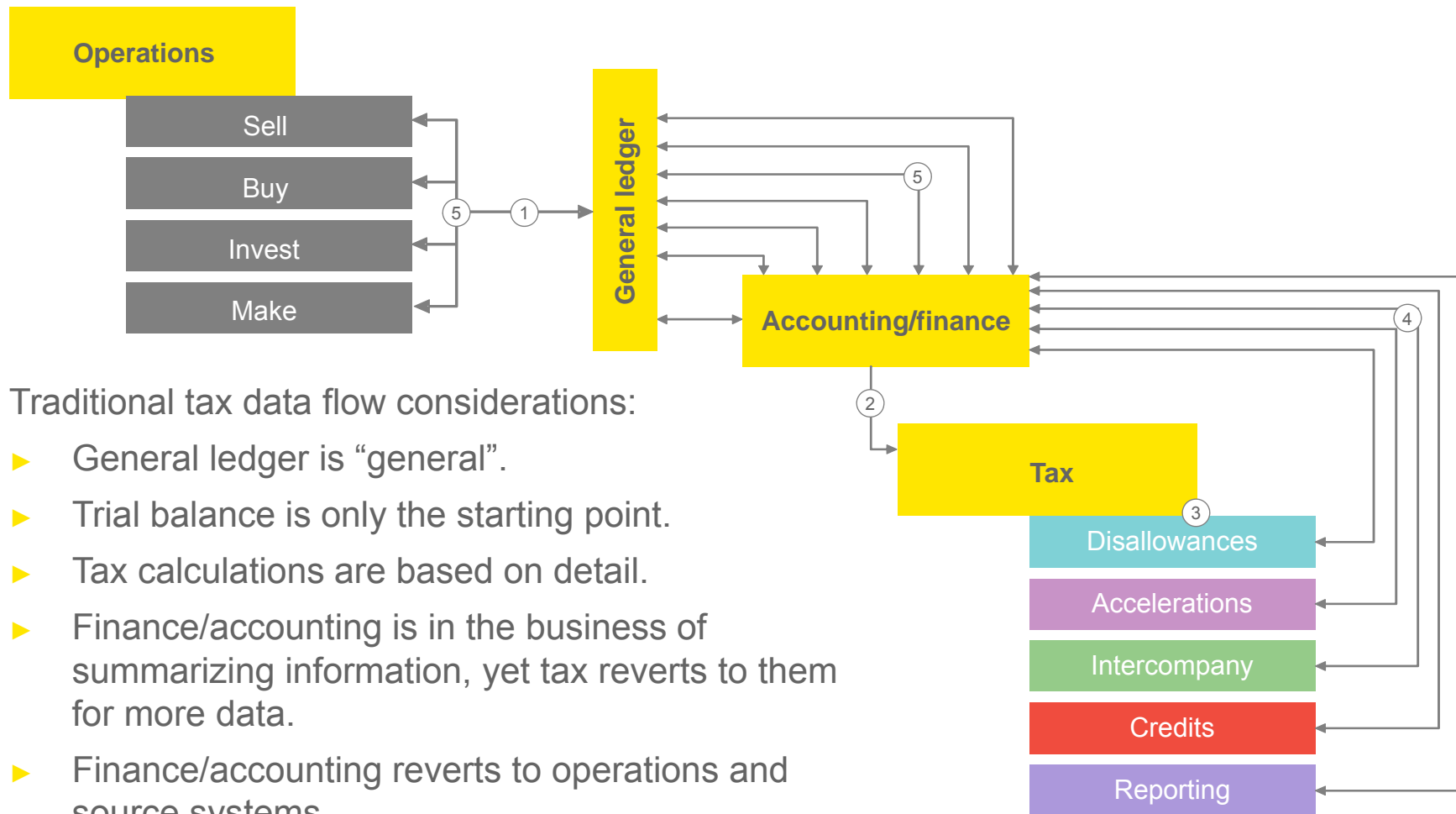
Four Vs	Volume	Velocity	Variety	Veracity
Direct	<ul style="list-style-type: none"> ▶ General ledger (GL) documents ▶ Journal entry adjustments 	<ul style="list-style-type: none"> ▶ Provision 	<ul style="list-style-type: none"> ▶ Dozens of source systems ▶ Hundreds of GLs ▶ workpapers 	<ul style="list-style-type: none"> ▶ Reconciliation of GLs to transactions
Controversy	<ul style="list-style-type: none"> ▶ Multi-year transaction detail ▶ Accounts payable(AP)/accounts receivable(AR) 	<ul style="list-style-type: none"> ▶ Access to data > 3-10 years old 	<ul style="list-style-type: none"> ▶ Dozens of source systems ▶ Hundreds of GLs ▶ workpapers 	<ul style="list-style-type: none"> ▶ Accuracy to the tax return
International	<ul style="list-style-type: none"> ▶ Supply chain (order to cash) ▶ Operational data 	<ul style="list-style-type: none"> ▶ Country to corporate level data access 	<ul style="list-style-type: none"> ▶ Foreign exchange (FX) ▶ Corporate structures ▶ Country laws 	<ul style="list-style-type: none"> ▶ FX issues ▶ Currency conversion issues
Indirect	<ul style="list-style-type: none"> ▶ Sales tax ▶ Value-added tax (VAT) 	<ul style="list-style-type: none"> ▶ Point of sale transactions 	<ul style="list-style-type: none"> ▶ FX ▶ Exceptions (import VAT, output VAT) 	<ul style="list-style-type: none"> ▶ Data quality issues in transaction data

Benefits of a big data solution

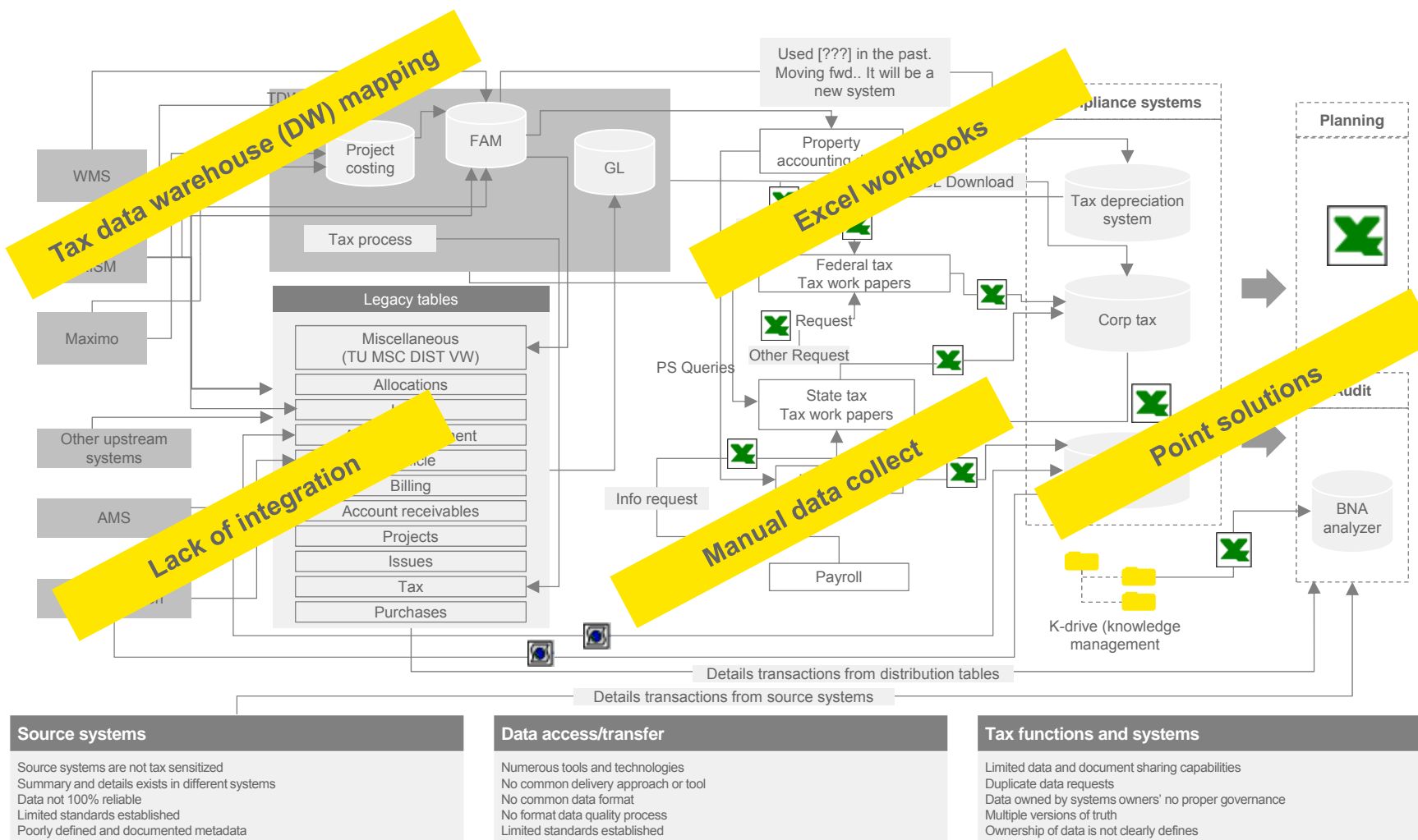
Tax functions	Benefits
Direct	<ul style="list-style-type: none">▶ One view of all GLs, documents, adjustments from all sources▶ Ease of reconciliation between provision, return, uncertain tax positions (FIN 48), Foreign Account Tax Compliance Act (FATCA), country-by-country (CbC) reporting
Controversy	<ul style="list-style-type: none">▶ Access to archived data across multiple years, all transactions from AR/AP, including workpapers, GLs▶ Bridgeable between audited financials and source data
International	<ul style="list-style-type: none">▶ Reconcile statutory to generally accepted accounting principles (GAAP)/International Financial Reporting Standards (IFRS) to tax, including FX impacts▶ Transparent legal entity ownership, transfer pricing, customs, base erosion and profit shifting (BEPS)
Indirect	<ul style="list-style-type: none">▶ Efficient surfacing of exceptions, data quality issues, return filings, absorption of acquisitions▶ Potential to access all transactions across the enterprise

Tax data dilemma

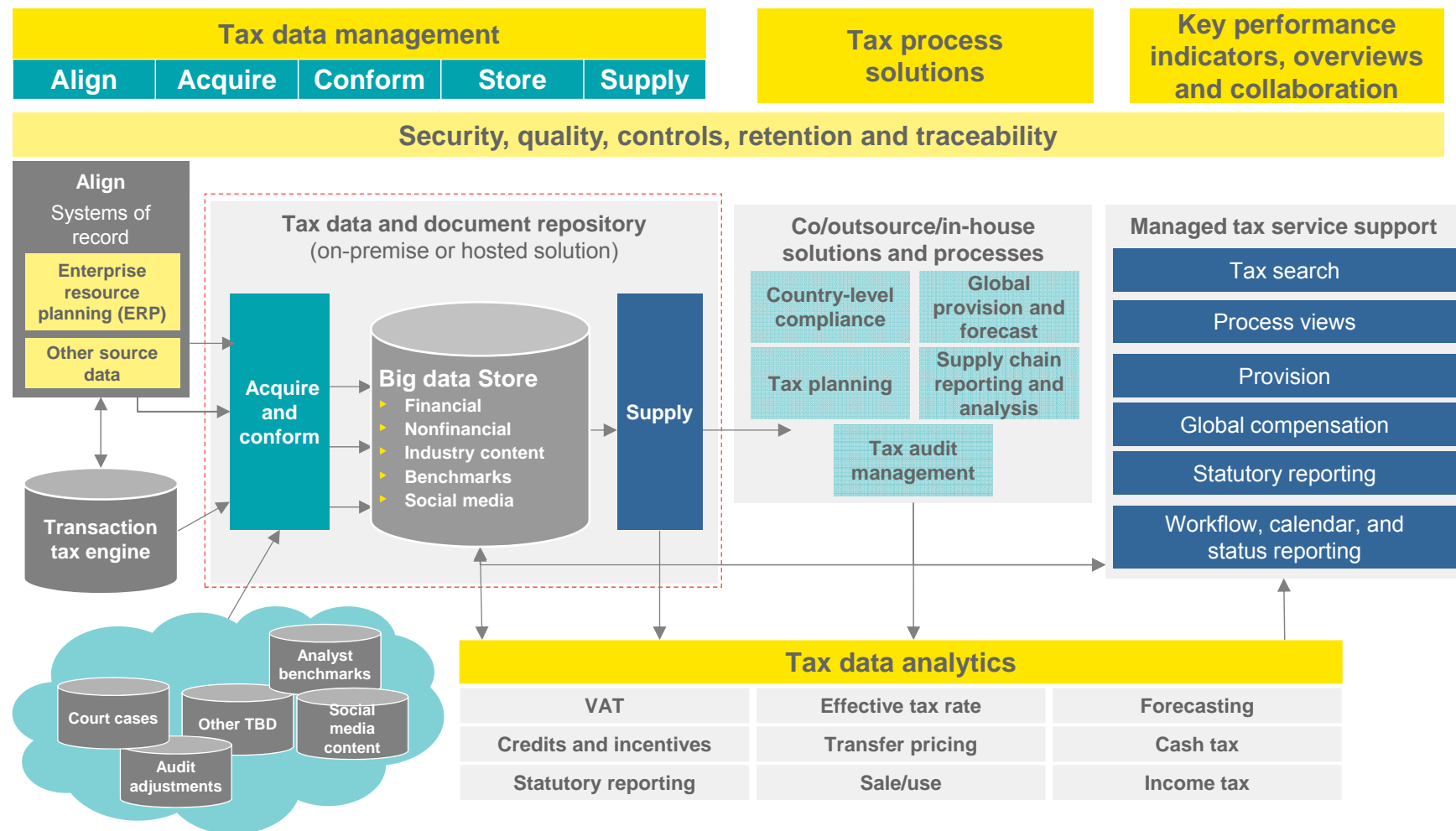
Traditional tax data flow (income tax)



This is what tax data management used to look like ...



Tax big data management and analytics road map



Old vs new paradigm

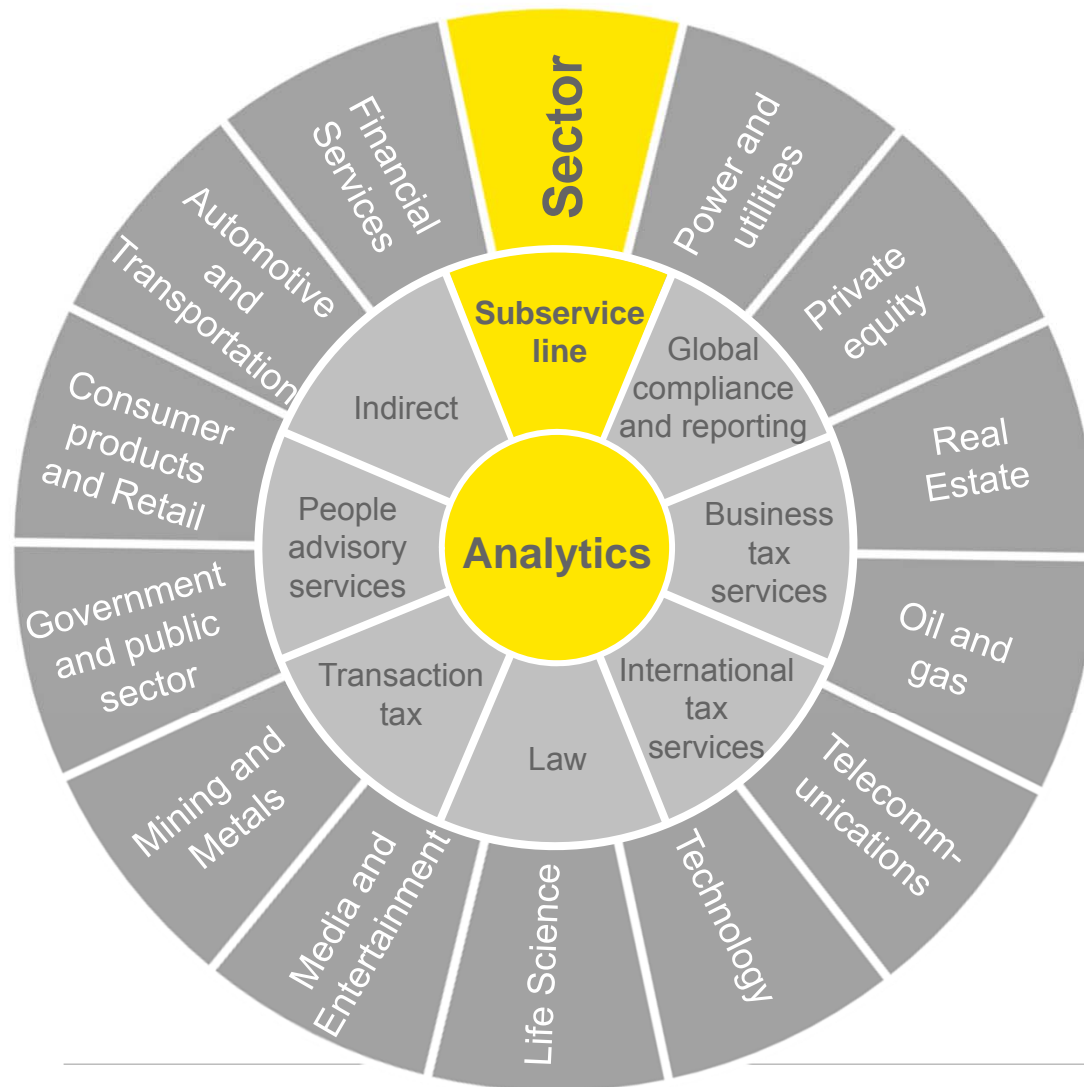
Solution	Pros	Cons
Traditional DW	<ul style="list-style-type: none">▶ Rigid standardized data model▶ Strict data standards▶ Manages structured data▶ Technology/resource availability	<ul style="list-style-type: none">▶ Data mapping intense (total cost of ownership and expense)▶ Slowest time to market▶ Difficulty in handling unstructured data requirements
Tax data management services	<ul style="list-style-type: none">▶ Agile-based approach for rapid prototyping and development▶ Faster time to market▶ Data extract and reporting similar to traditional data warehouse approach▶ Reduced reliance on data modeling▶ Provides a discovery component▶ Managed service or in-house	<ul style="list-style-type: none">▶ Data marts, like traditional DW, still needed▶ Technology resources not as readily available▶ Data governance is still required

Data analytics

Impact on tax management



Embedding analytics across tax services



Analytics is not an isolated tax offering.

Analytics is the method through which all tax services will be delivered.

Analytics is the future of tax.

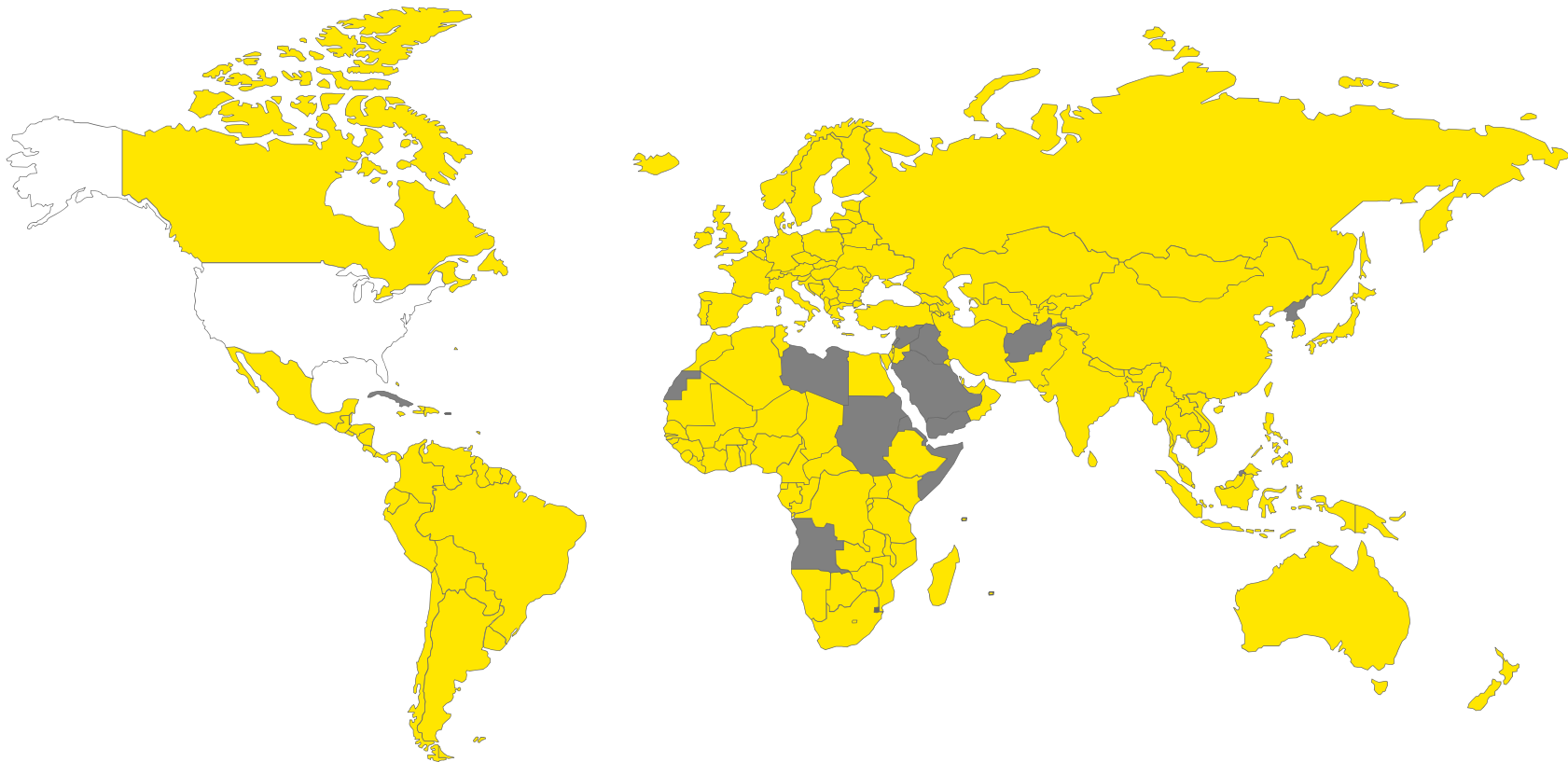
Data analytics

Impact on tax management – VAT



Data analytics: impact on VAT management

Global scope of VAT



Note that countries in yellow have VAT regimes. Countries in grey do not have VAT regimes.

VAT includes: GST/HST, ICMS, IPI, ISS, PIS/COFINS, municipal VATs, withholding VAT and various other similar taxes.

Recent VAT system introduction: Bahamas and Malaysia. India is currently debating a national GST regime.

Data analytics: impact on VAT management

Impact on global companies

- ▶ More effective and efficient management of global VAT:
 - ▶ Process and risk reviews
 - ▶ Identification of potential cash tax savings
 - ▶ Optimization of working capital and cash flow
 - ▶ Global dashboarding
- ▶ Increased tax authority scrutiny:
 - ▶ More effective analysis including remote audits
 - ▶ More in-depth scrutiny
 - ▶ Increased risk of exposures and penalties



Data analytics: impact on VAT management

Impact on professional services

Global VAT reviews

Planning | Accounting | Compliance | Controversy

- ▶ Process and risk reviews
- ▶ Cash recovery/cash flow savings reviews
- ▶ VAT function reviews
- ▶ ERP health checks (pre- and post-implementation reviews)

Global VAT compliance

Accounting | Compliance | Controversy

- ▶ Preparation of VAT returns
- ▶ Global visibility
- ▶ VAT controversy

Supply Chain planning

Planning

- ▶ Supply chain mapping and modeling
- ▶ Working capital/cash flow management

New VAT regimes

Planning | Accounting | Compliance | Controversy

- ▶ Pricing and predictive modelling to assess the impact of the new indirect taxes

VAT and the tax function



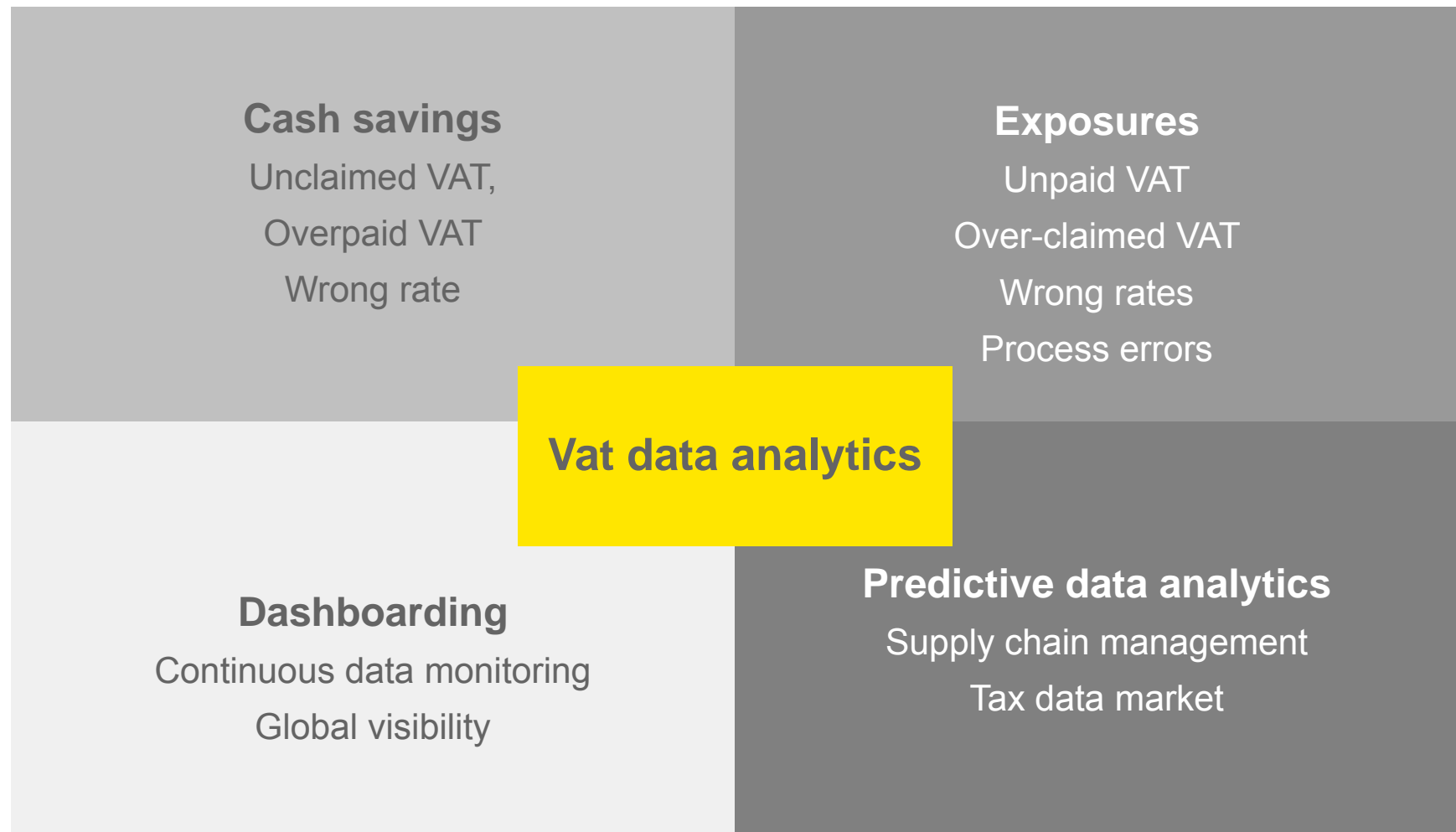
Global finance transformation

Planning | Accounting | Compliance | Controversy

- ▶ Implementation of new ERP systems
- ▶ Adapting global ERP systems

Data analytics: impact on VAT management

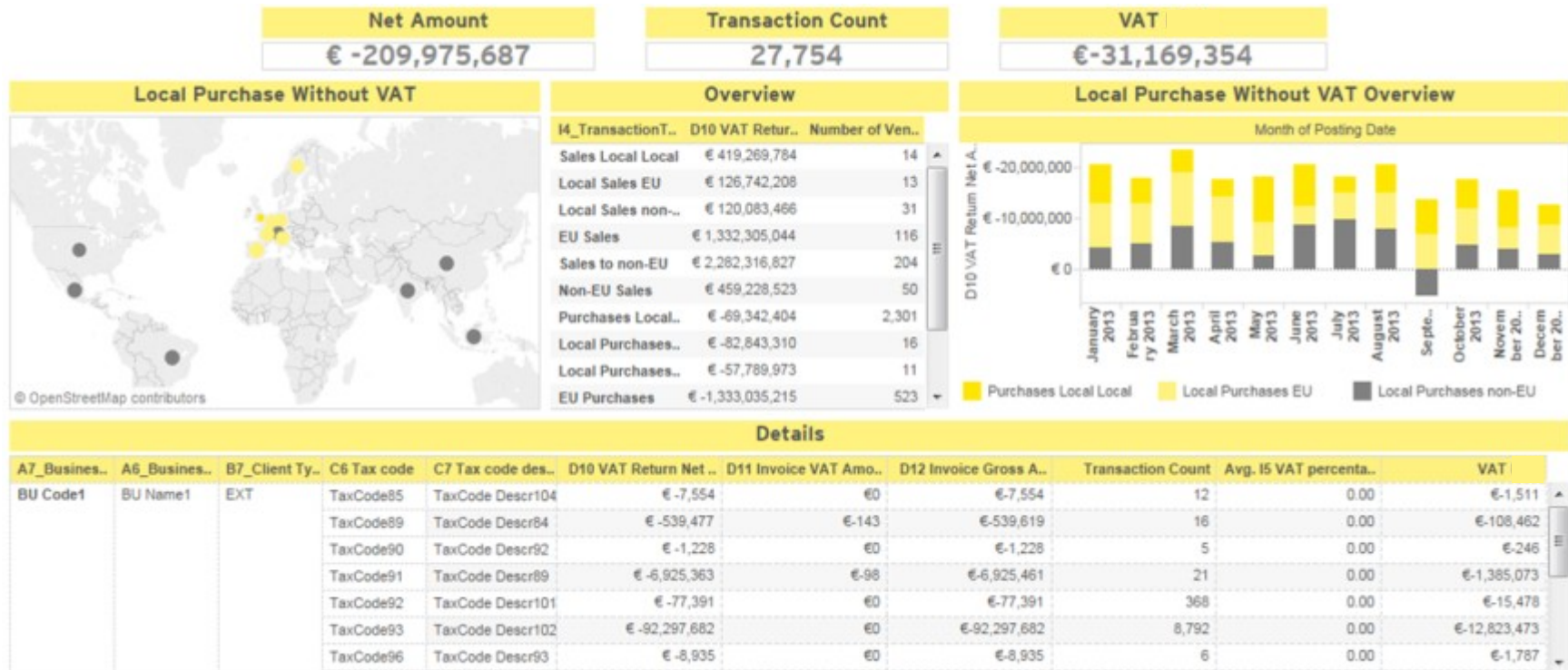
Scope of data analytics



Data analytics - Impact on management of VAT

Scope of data analytics

Local purchase without VAT



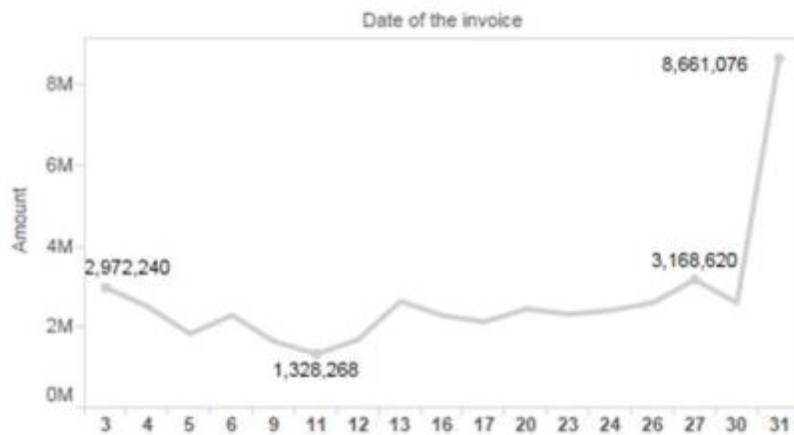
- The analysis of purchases posted without VAT provides a detailed perspective of the company transactions, such as the countries/states of suppliers, type of purchase (local, import, etc.), month of purchase, tax codes, number of vendors, etc.

Data analytics - Impact on management of VAT

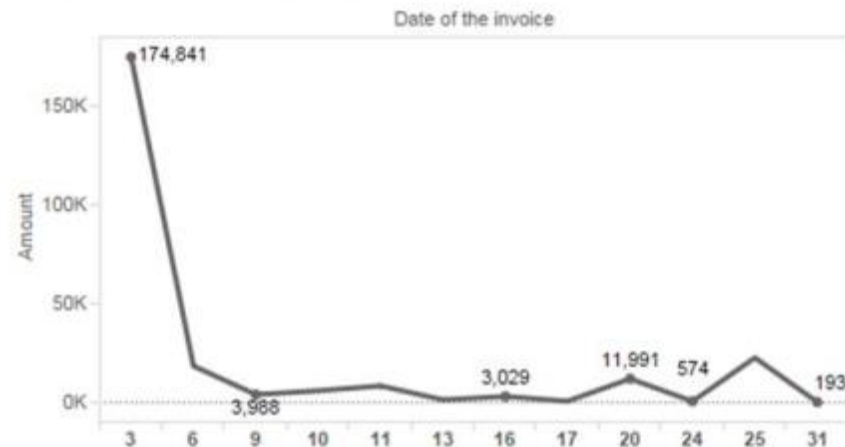
Scope of data analytics

Cancelled invoices profile – Process improvement

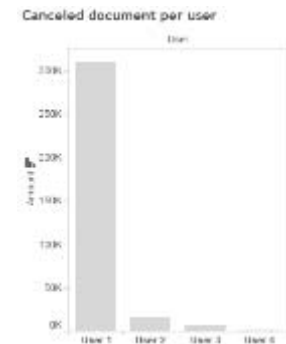
Timeline - Issuance of invoices - March/14



Timeline - Canceled document - April/14



- ▶ The company can analyse the timeline of the issuance of invoices (left graphic above) along the month and the timeline of the canceled document (right graphic above) on the following month.
- ▶ Additionally it is possible to identify the users that are canceling the documents (right graphic).



Data analytics

Impact on tax management : compliance



Global data analytics services

Connecting the phases of the tax life cycle

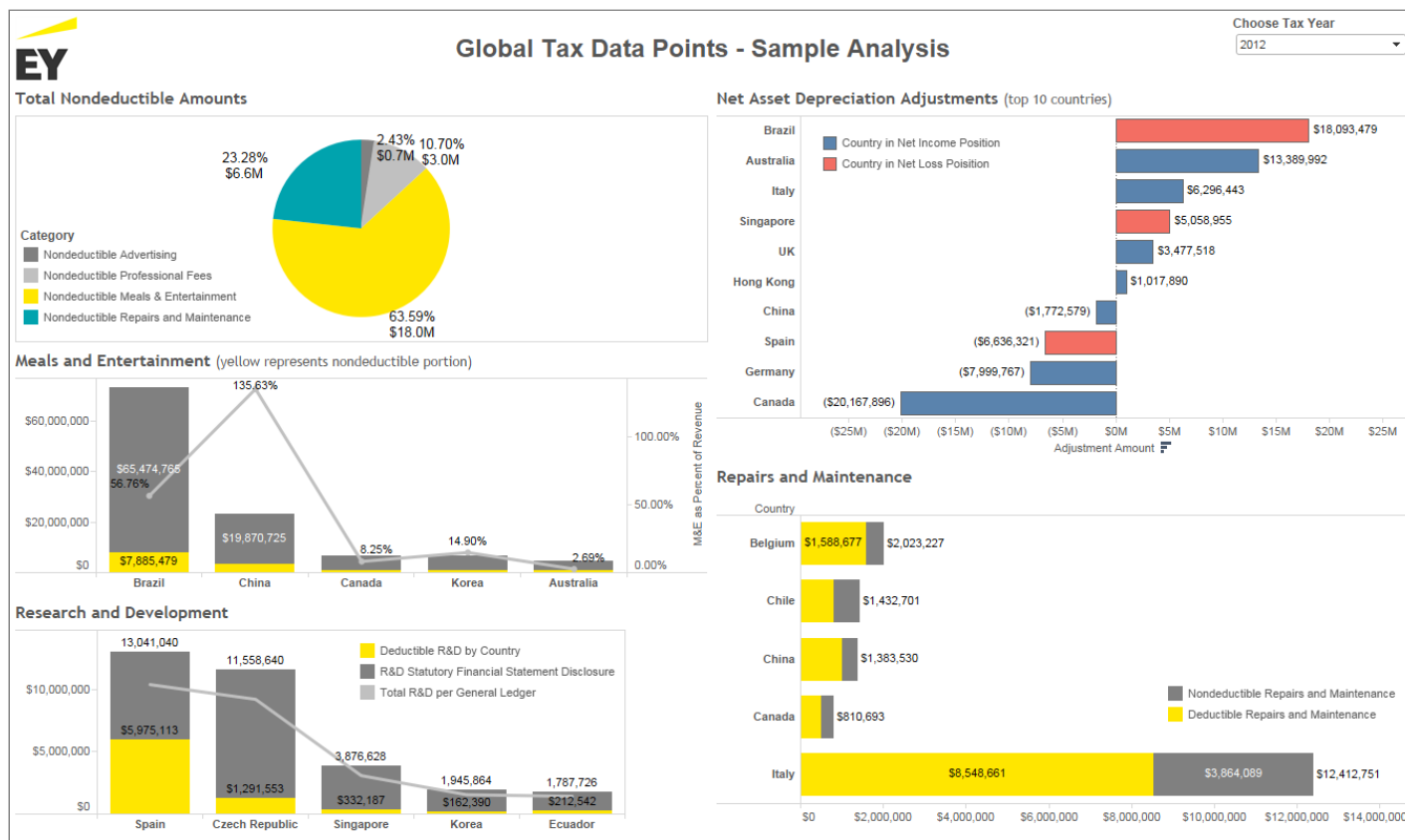


Benefits

- ▶ Be proactive in seeking potential issues and concerns that impact your organization
- ▶ Generate insights to help you plan for future taxes and resolve issues
- ▶ Take advantage of leading-edge tools to access data in real time
- ▶ Build knowledge about your tax data and prepare for tax controversy
- ▶ Deliver tax filings locally; manage them globally
- ▶ Support your return to provision analysis
- ▶ Plan your estimated tax payments

Summary of local tax attributes

Global tax data points

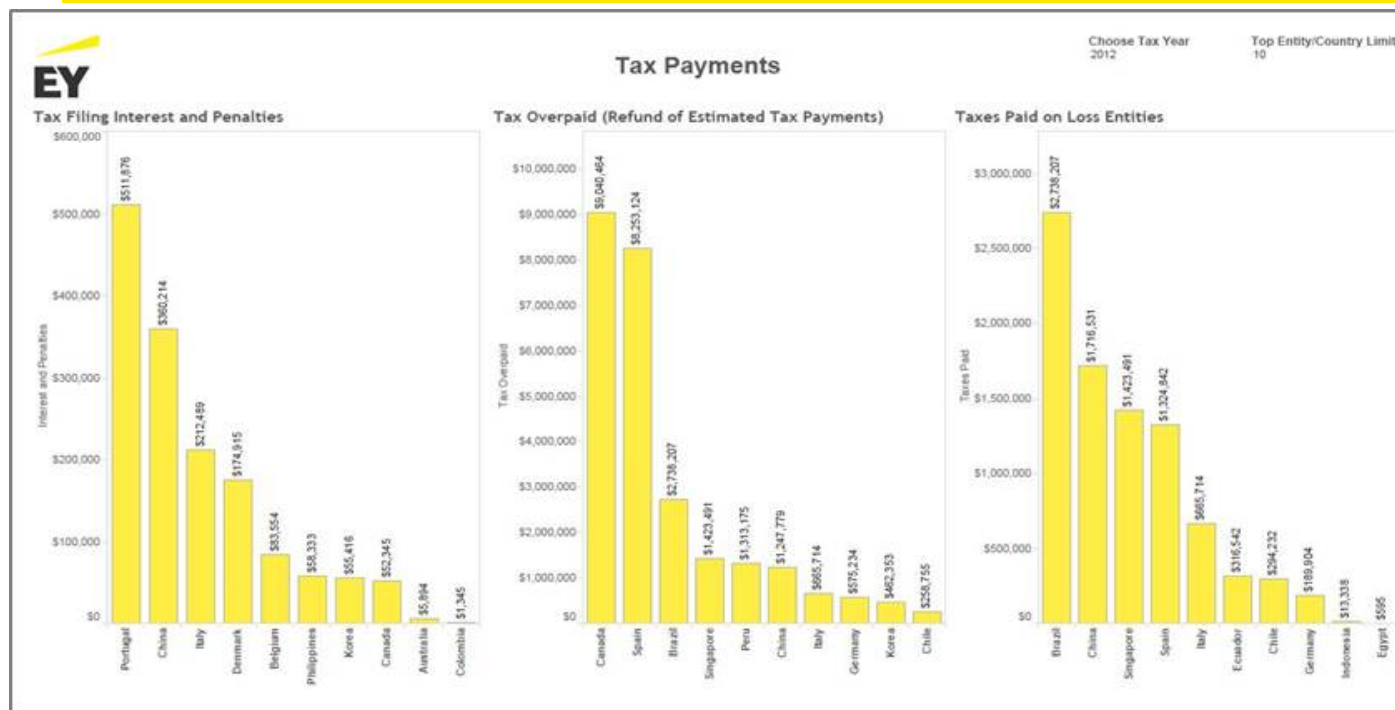


Values and benefits

- Identification of potential local cash tax opportunities requiring investigation
- Prioritization of countries where focus may be merited
- Standardized approach to identify planning opportunities applied globally
- Ability to measure on a country by country basis against key performance indicators

Global tax payments process

Global tax payments

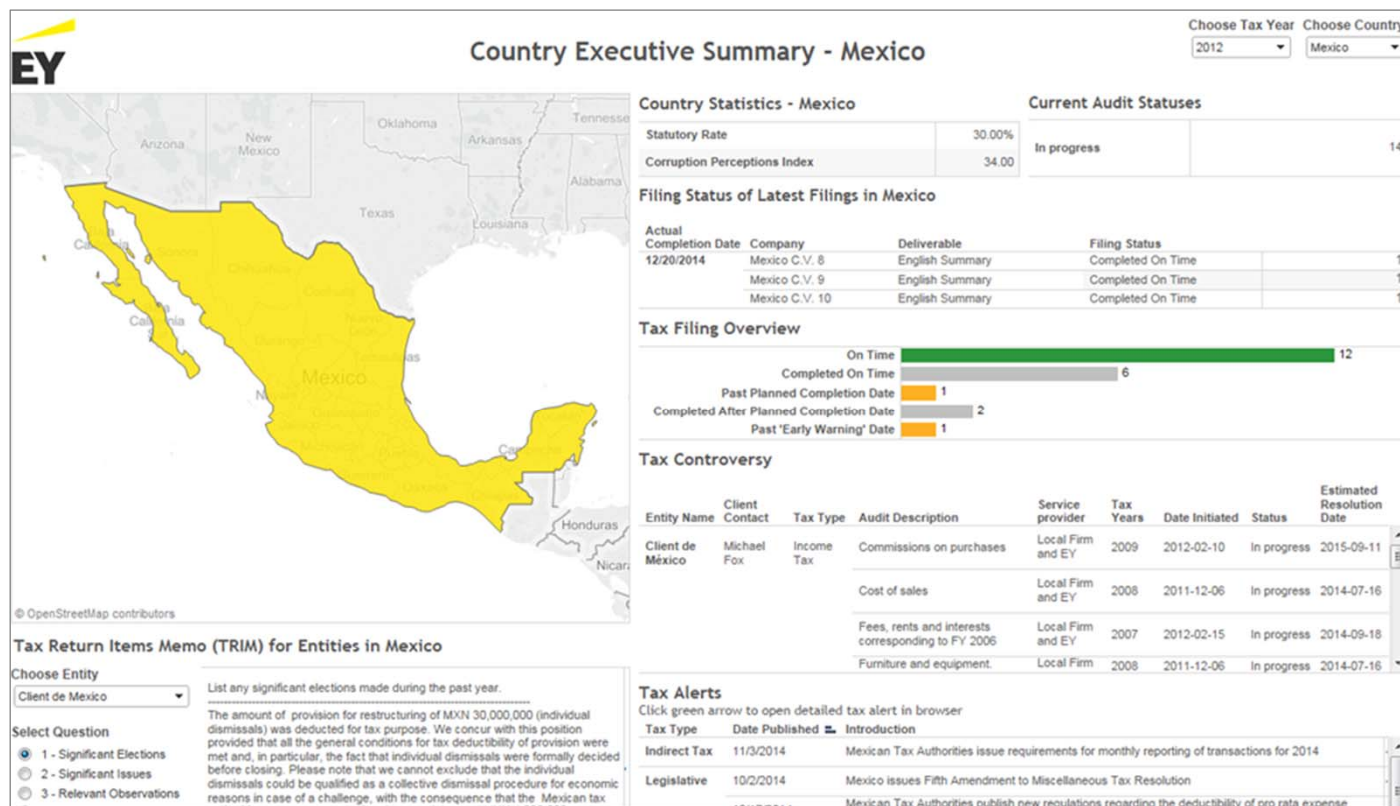


Values and benefits

- Identify local entities where potential cash flow can be improved by not overpaying estimated taxes or where taxes are paid for loss entities
- Provide enhanced control and visibility over penalties and interest impacting overseas subsidiaries
- Identify potential US reporting of items such as foreign and deemed paid tax credit computations

Tax risk management assistance

Country executive summary



Values and benefits

- ▶ Streamline and standardize review for tax risk assessment and identification of uncertain tax positions
- ▶ Eliminate redundant data gathering
- ▶ Identify local tax planning opportunities for further consideration
- ▶ Stay abreast of local tax controversy and tax developments
- ▶ Access local finance and EY member firm country resources

The future tax professional



We need resources with the competencies to embed and consume analytics in our services

"Whenever new technologies ... enter the market, they present an enormous opportunity but create another skills deficit to fill."

– Mike Merritt-Holmes
CEO Big Data Partnership

Analytics delivery



Analytics consumption



Data capture

Analytics innovation

Analytics planning
and coordination

Professionals with an analytics mindset

We need resources with the competencies to embed and consume analytics in our services

Analytic professional				Tax professional
	Data capture	Analytics innovation	Analytics planning and coordination	Professional with analytical mindset
Competency	Execute the process to efficiently and cost effectively obtain client data by establishing repeatable capture methods	Design and build process and sector specific analytics that align with our respective service methodologies	Assist engagement teams with developing analytics plans and coordinate analytics delivery	Integrate analytics into the service delivery process using analytics to high quality work products and insight
Skills	<ul style="list-style-type: none">▶ Understanding and experience with various techniques for extracting data from client systems▶ Knowledgeable on data structures with key ERP systems▶ Experience managing the transfer, reconciliation and validation of large data sets	<ul style="list-style-type: none">▶ Understand the delivery process, methodology and objectives▶ Skilled at designing and building analytic models▶ Understand the flow of data through business processes on common ERP or business systems▶ App design and programing experience	<ul style="list-style-type: none">▶ Executing the end-to-end analytics process▶ Creating client-specific plans defining nature and scope of analytics▶ Identifying the client data needed to support the plan▶ Coordinating the delivery of analytics to the engagement team	<ul style="list-style-type: none">▶ Core experience complemented by an understanding of the impact of analytics on each phase of service delivery▶ Understand the flow of data through key business process and key account relationships
Knowledge	<ul style="list-style-type: none">▶ Basic accounting and finance▶ Data structures and big data▶ Business information systems▶ Extraction tools and techniques	<ul style="list-style-type: none">▶ Programming▶ Data management▶ Data visualization▶ Data science and statistics	<ul style="list-style-type: none">▶ Project management▶ Strong communication▶ Service delivery methodology▶ Analytics application	<ul style="list-style-type: none">▶ Business information systems▶ Business process and transactions flows▶ Business analytics

Questions and/or comments



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