The 2019 National Multistate Tax Symposium
State tax reboot—The age of Multistate
February 6-8, 2019
Technology, robotics, and automation: Keeping your Tax department current

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Agenda

• Introduction

• Transforming Impacts on the State Tax Department

• From the “Art of the Possible” – Technology Applied
  – Automation
  – Analytics
  – Migration to the Cloud

• Getting Started

• Q&A
Transforming the tax function through data and technology
The impact of technology

“We stand on the brink of a technological revolution that will fundamentally alter the way we live, work, and relate to one another. In its scale, scope, and complexity, the transformation will be unlike anything humankind has experienced before.”

World Economic Forum, 2016
Tax trends & technology

Tax department trends

Data management & process automation
- Big Data
- Disparate systems
- Need for speed
- Global integration

Regulatory changes & scenario planning

Suite expectations

Related emerging technologies
- Analytics
- Robotic Process Automation (RPA)
- Optical Character Recognition (OCR)
- Extract Transform Load (“ETL”) solutions
- Cognitive computing
Enhancing the tax function and strategic partnering across the business increases value from the tax department.

Business value enabled by tax transformation comes in 3 ways:

- **Enhanced operational efficiency**: Free up personnel to perform value-added tax planning activities with increased compliance and reporting efficiency driven by automation and process standardization.
- **Improved risk management**: Increased transparency and formalized risk procedures may help effectively address financial statement and audit risk.
- **Increased value to the organization**: Known as a value-added tax function, aligned with the organization’s strategies through partnership within the organization.
Moving from the “art of the possible” – Technology Applied
Automation
- Data Wrangling
- Robotic Process Automation
What is Data Wrangling?

Data wrangling is the process of transforming “raw” data into user-friendly data that can be analyzed to generate actionable insights.

Benefits of Data Wrangling

- Automation
- Integration
- Data Accessibility
- Autonomy
- Data detail
- Data reconciliation

Applicability of Data Wrangling

- Apportionment
- Compliance
- Provision
- Indirect Tax

Provide seamless workflow across modules to simplify user experience
Data Wrangling Tools
Basic Functionality

STORING
Data wrangling requires a series of data structures or objects that contain or store data in its “raw” form, e.g. data-frames and tables.

MERGING
Combining or joining multiple data sources into a single unit; merging can be either column-wise or row-wise and done by specifying a joining key.

RESHAPING
Modify and manipulate data into a consistent data structure by gathering columns into rows or creating multiple columns from a single row.

SUBSETTING
Selecting or retrieving a particular part of the entire dataset by specifying subset of columns and/or rows.

AGGREGATING
Grouping multiple data records that share one or multiple characteristics and calculate values that describe the group as a whole.

TRANSFORMING
Applying a mathematical or logical function to a particular column to either enrich, extract or translate information.

RESHAPING
Modify and manipulate data into a consistent data structure by gathering columns into rows or creating multiple columns from a single row.

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Data Wrangling
Illustrative Workflow for State Apportionment
RPA - Overview

**What It Is**
- Computer coded software
- Cheaper and faster way to automate processes
- Cross-functional, cross-application macros

**What It Is Not**
- Physical hardware
- A multi-year technology deployment
- Artificial intelligence

**What It Can Do**
- Open, read and create emails
- Log into web/enterprise apps
- Move files & folders
- Copy / paste
- Fill in forms
- Read / write to DB’s
- Pull data from the web
- Obtain human input via email / workflow
- Make calculations
- Extract data from docs
- Collect statistics
- Follow “if/then” decision rules

**Benefits**
- Lower labor costs / labor redeployed to higher value activities
- Increased process throughput
- Improved process quality
- Greater delivery model flexibility
- Better scalability
- Better payback / ROI – relatively low cost to implement

Source: 2018 Deloitte RPA Survey
How to identify suitable process candidates for RPA

Well-defined, measurable, rules-based processes can be prioritized for automation by rating complexity against value

<table>
<thead>
<tr>
<th>Criteria</th>
<th>Typical examples and questions</th>
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<tbody>
<tr>
<td>High transaction volume /</td>
<td>Process candidates with high value or volume transactions (especially monotonous) are often strong candidates for automation</td>
</tr>
<tr>
<td>value transaction</td>
<td></td>
</tr>
<tr>
<td>Prone to errors or re-work</td>
<td>Processes with many manual activities in the process today that result in a substantial number of errors due to human operator mistakes, e.g. flexibility of work-force, complexity of work or infrequency of activity</td>
</tr>
<tr>
<td>High predictability /</td>
<td>Processes with a defined set of predictable, unambiguous business rules are ideal for automation</td>
</tr>
<tr>
<td>rules-based</td>
<td></td>
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<tr>
<td>Limited exception handling</td>
<td>Processes with few exceptions in delivery are excellent candidates for automation in the beginning. With learning, the organization can expand to processes which are complex or error prone</td>
</tr>
<tr>
<td>Significant manual work</td>
<td>Processes with little automation support today and large chunks of manual work involved benefit more from RPA, although the process does not need to be completely ‘straight through processed’ to benefit from automation</td>
</tr>
<tr>
<td>involved</td>
<td></td>
</tr>
<tr>
<td>Seasonal Peaks and Troughs</td>
<td>Processes that vary greatly in terms of throughput and require large influx of resource support may be a strong candidate for robotics</td>
</tr>
<tr>
<td>Out of Office Hours</td>
<td>Processes that involve out-of-office hours support are often strong candidates for automation as they contribute to the normalization of an employee’s workday</td>
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<tr>
<td>Support</td>
<td></td>
</tr>
<tr>
<td>Process/system stability</td>
<td>Processes with no planned changes or updates are often stronger candidates for automation as significant changes can create a substantial amount of rework</td>
</tr>
</tbody>
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RPA: How It Works

RPA can easily be deployed and managed from a central controller to interact with a wide range of business applications

1. Business Architects specify the detailed instructions for robots to perform and "publish" them to the robot controller repository

2. The Control Room is used to assign jobs to robots and to monitor their activities

3. Each Robot is located on an organization environment – which may be virtualized or physical (i.e., desktop computer) – where it interacts directly with business applications

4. Business Users review and resolve any exceptions or escalations

5. Robots are capable of interacting with a wide range of Applications
RPA Tax Examples

Indirect tax compliance – sub processes

- E-filing
- Use tax reconciliation
- Pulling invoices
- Tax provision – sub processes

Direct tax compliance – sub processes

And more....
Automation / Data Wrangling
Anthem’s Lessons Learned......so far

- Early experience with Alteryx
- Capitalizing on broader RPA initiatives
- Sustaining the automation
Realizing Value from RPA: More Than Just Building Robots

Building robots is only the start to deriving value from an automation program

Key RPA Decisions, Impacts, & Considerations

- **Operating Model**
  - How are roles and responsibilities being shifted? Who is accountable?

- **Governance**
  - Who manages exceptions and escalations? Who makes key decisions?

- **Process Redesign**
  - How does a process need to change to drive savings, improved accuracy and/or the shift of resources to higher value work?

- **Financial Analysis & Decisions**
  - What are the implementation costs? Who is funding?

- **Labor Impact**
  - Who is impacted? What is the future for those resources? What training is required?
Data Wrangling / Automation Tools - Considerations

- Choosing the right technology tool(s) based upon need
- Approaches to deployment
- Training and change management needs
- Lessons learned
State Tax Analytics
- Visual Data Analytics
- Analytics within Tax Portal
- Tax Modeling
State tax analytics / dashboards
State apportionment
Analytics dashboard

Activity Map and KPIs for Sales, Property, and Payroll

Drill-Down into detail by Entity, Account, State, and Location
State tax analytics
Illustrated (indirect tax)
State tax analytics
Illustrated (indirect tax)
Analytics Experiences
Challenges & Benefits

CHALLENGES

- Getting at the data
- Access to technology platform(s)
- Leveraging experienced resources
- Understanding where to start
- Cost

BENEFITS

- Ability to leverage for insights
- Getting behind errors / improve accuracy
- Effective communication tool
- Drives fact based action / outcomes
Framework and Functionality of a Tax Portal

Financial data
- ERP data
- Consolidation
- Other

Non-financial data
- Nielsen
- IRI
- Surveys & data collects
- Other

Data management
- Data collection templates
- Survey templates
- Data integration platform

Data model
- Tracker Data Model
- Workflow & Process DM
- Master Data
- External Data Model
- Customized Data Collect
- Ad hoc Data Model

Applications
- ERP
- CRM
- HRMS
- Tax Systems
- Product Info Management
- Marketing Automation Platform
- Advanced analytic & predictive models

Control center
- Workflows
- Dashboards
- Mobile analytics
- Knowledge /social
- Multi-dimensional
- Ad-hoc reports

End user
- Business executive
- Manager
- Casual user
- Community
Value from leveraging a Tax Portal in your organization

- **Standardized Processes**
  - Transparency and accountability supported by global calendar
  - Access and reporting to key department filings, documents, and data

- **Produce and consume large volume of documents**
  - Tracking document versions
  - Centralized repositories shared by access given users
  - Ability to secure documents to limited desired users

- **Consistent data gathering across functions or locations**
  - Automated and integrated data collection across functions, countries, regions, or global
  - Standardized data collection processes

- **Reduced silos across functions**
  - Connected processes connected corporate functions
  - Common user interface, workflow, and document management platform

- **Data analytics and information management**
  - Designated idea repository and data analytics platform
  - Ability to prioritize and track planning ideas and future projects
A Framework for Analytics – Deloitte’s 3DIntelligence™
An illustration using S4/HANA & BOBJ and Tableau

1. Data will be extracted directly from the data sources including ERP, non-tax systems, and tax systems.
2. Data can be stored in the existing analytics warehouse and sometimes can be directly accessed from the sources.
3. Business layer of BI tool will do the required calculations.
4. Results will be displayed in Tableau.

Users will be transparent to the automated data flow and analytics engine calculations, but are empowered to perform analysis in Tableau.
Data Analytics Tool

State profile heat map
Cognitive technology
Indirect tax – use case
The tool uses machine learning to develop artificial intelligence.
Migration to the Cloud
Migration to the cloud supports everything

From on-premises...

Using **a local server or computer** to store, manage, and process data

...to cloud based

Using a **network of remote servers hosted on the Internet** to store, manage, and process data
Cloud represents a major shift in IT for enterprises...
Driving tax value with migration to cloud ERP
Quantitative and qualitative benefits for tax

Potential for cash tax savings by identifying new opportunities or sustaining current tax positions

Increase efficiency in tax compliance and reporting through automation and process standardization

Mitigate financial statement and audit risk by increasing transparency, enhancing controls and supporting tax positions
ERP integration points for direct taxes

ERP transformation initiatives offer a tax department the opportunity to identify and sensitize tax data for planning and reporting activities. The center box below identifies some key integration points, but it is equally important to obtain and understand the requirements that support the business processes, as corporate income taxes are impacted by virtually every accounting process.

### Tax Integration Points

<table>
<thead>
<tr>
<th>Key Accounting Field Definitions</th>
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<tbody>
<tr>
<td><strong>COA</strong></td>
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<tr>
<td><strong>Separate Legal Entity</strong></td>
</tr>
<tr>
<td><strong>Intercompany Accounting</strong></td>
</tr>
<tr>
<td><strong>Ledgers and Ledger Sets</strong></td>
</tr>
<tr>
<td><strong>GL design (journal categories)</strong></td>
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<tr>
<td><strong>Descriptive Flexfields</strong></td>
</tr>
<tr>
<td><strong>Tax Fixed Asset configuration</strong></td>
</tr>
<tr>
<td><strong>Business Process &amp; Procedures</strong></td>
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<tr>
<td>(BPP’s)</td>
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<tr>
<td><strong>Withholding tax configuration</strong></td>
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<tr>
<td><strong>Reporting:</strong></td>
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<tr>
<td><strong>RICEF’s</strong></td>
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<tr>
<td><strong>Standard Reporting</strong></td>
</tr>
<tr>
<td><strong>ERP Cloud Design</strong></td>
</tr>
</tbody>
</table>

### Impacted Financial Systems

- G/L
- Global Consolidation
- Sub Ledger Accounting
- Payments
- A/P
- A/R
- Purchasing
- Asset Management
- Projects
- Budgets
- Expense Tracking
- Treasury
- Cash Management

### Impacted Tax Topics

#### Federal / Int’l

- Legal Entity P&L/BS
- Book/Tax Depreciation & Amortization
- Gain/Loss on asset Dispositions
- Financial Derivatives
- Schedule M-1/M-3
- 1120 Detail
- E&P Specific Items
- AMT Specific Items
- Tax attributes
- Purchase Accounting
- Foreign Source Income and Related Reporting
- Transfer Pricing
- Depletion

#### State / Local Tax

- Apportionment Factors
- Sales/use Tax
- GST, PST, VAT
- Transfer pricing

#### Withholding

- Federal
- Municipal
Getting Started
Leveraging the power of data and technology
Some ways to get started

- Identify “Pain Points”
- Establish a technology roadmap
- Develop resource plan
- Conduct data health check
- Build your business case
- Consider leading practices
Questions?
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