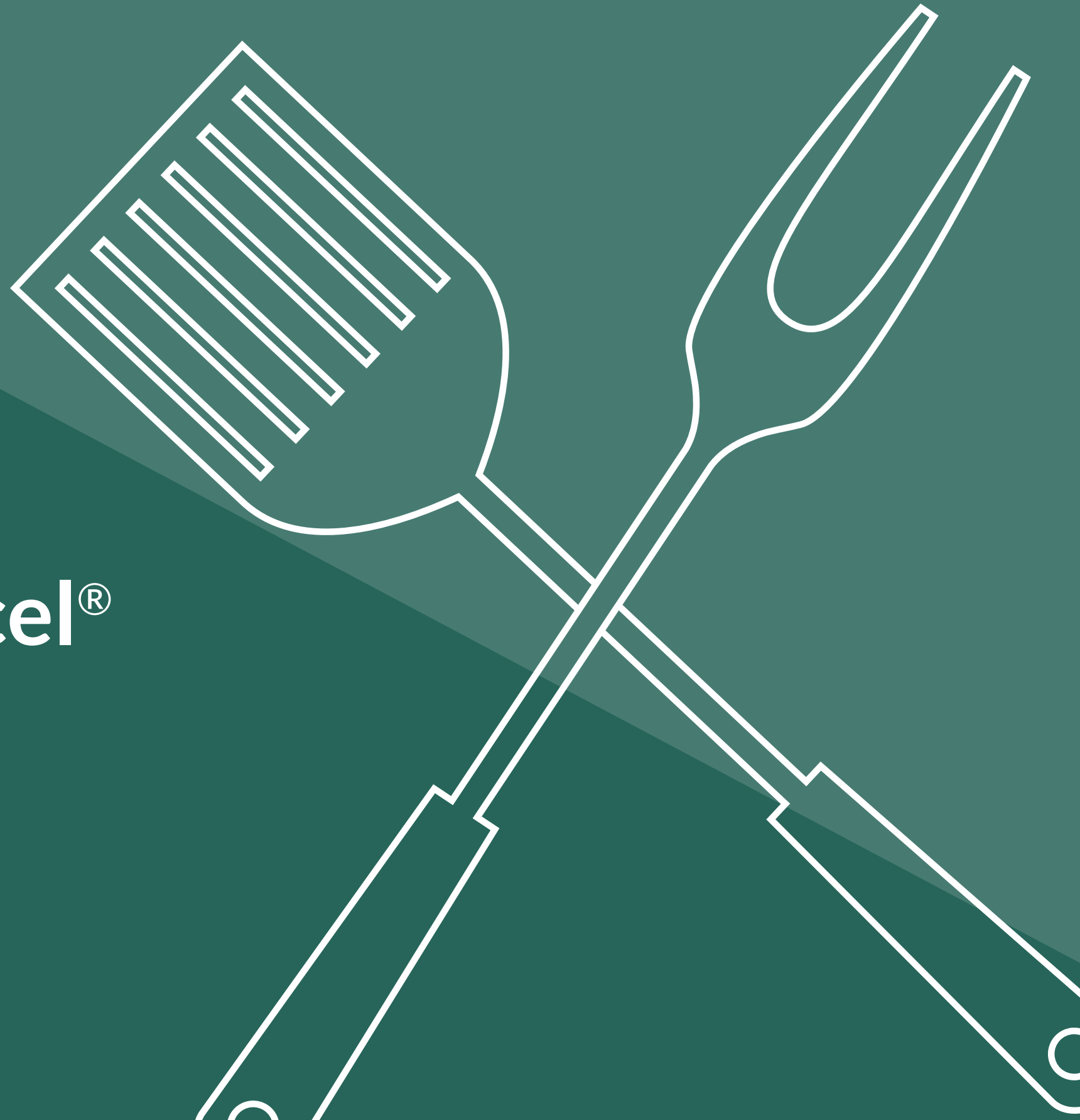# alteryx

7 Steps to Successful Data Blending for Excel®
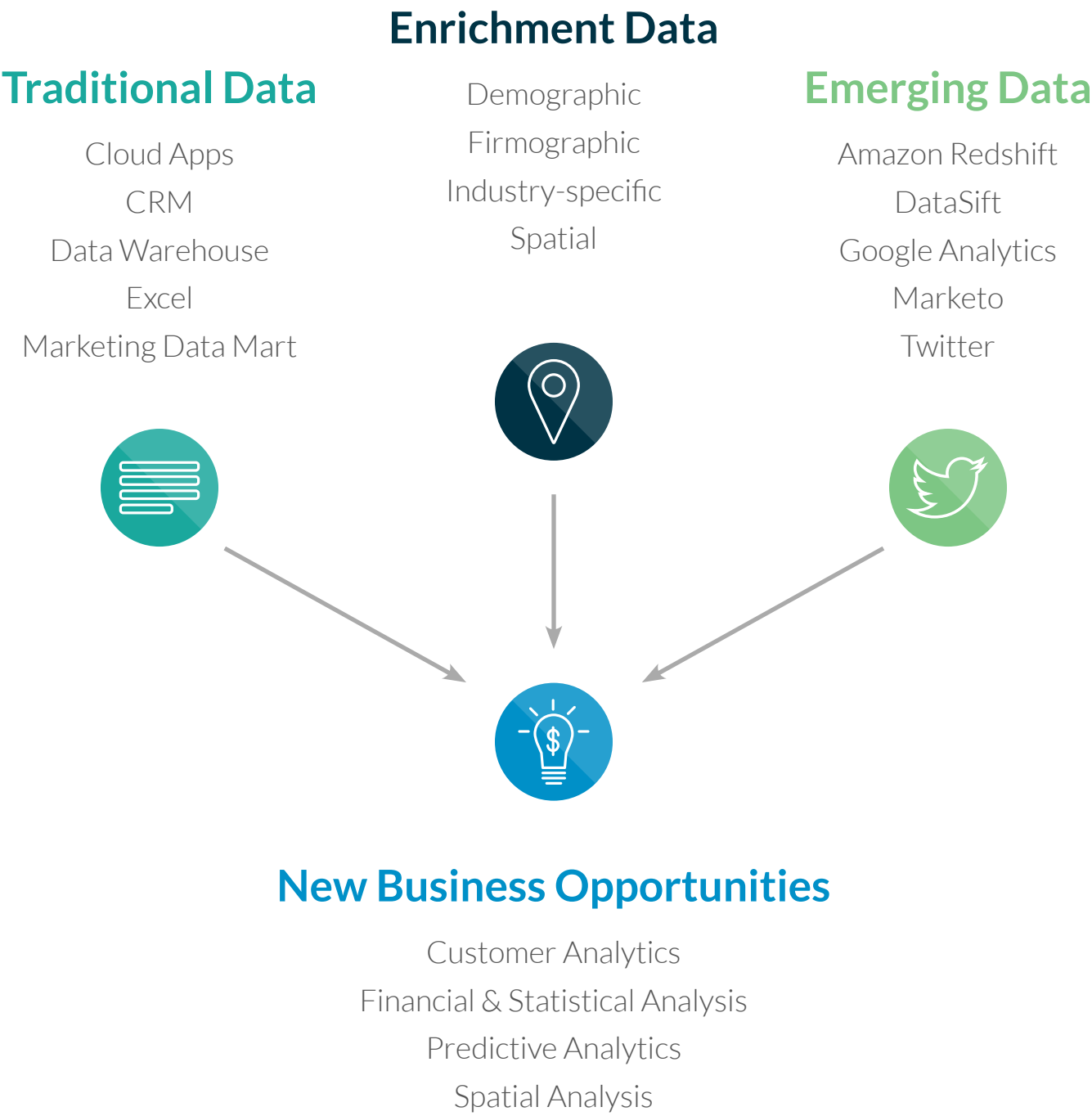
What is Data Blending?

The evolution of self-service analytics is upon us. What started out as a means to an end for a data analyst who dealt with a single source of data, has now led to the necessity of combining multiple sources of data.

Throughout this evolution, data blending has empowered those analysts in the line of business with the ability to access and combine data from multiple sources to reveal deeper intelligence that drives better business decision-making.

Analysts use data blending to build an analytic dataset to answer a specific business question or take advantage of opportunities, with insight into customer preferences, marketing campaign results, financial operations, site and merchandising optimization, and much more.

Enrichment Data

Demographic
Firmographic
Industry-specific
Spatial

Traditional Data

Cloud Apps
CRM
Data Warehouse
Excel
Marketing Data Mart

Emerging Data

Amazon Redshift
DataSift
Google Analytics
Marketo
Twitter

New Business Opportunities

Customer Analytics
Financial & Statistical Analysis
Predictive Analytics
Spatial Analysis

What is Data Blending for Excel?

Microsoft Excel® is everywhere; it can be an analyst's best friend and their worst nightmare at the same time. It is great for calculations and manipulating numeric data. On the other hand, it can be a headache for those who utilize it for heavy data cleansing and processing, blending multiple data sources, and anything but the most basic analytics.

Many analysts who rely on Excel for data blending struggle with:

- Accessing any type and size of data
- Preparing and transforming large data files
- Joining multiple datasets/tabs/spreadsheets
- Understanding the complexity within a spreadsheet

Excel is not equipped to combine large and multiple sources of data easily

Incomplete data and small differences between fields require manual work before combining data

Analysts have to remember and repeat the same tedious steps whenever data changes
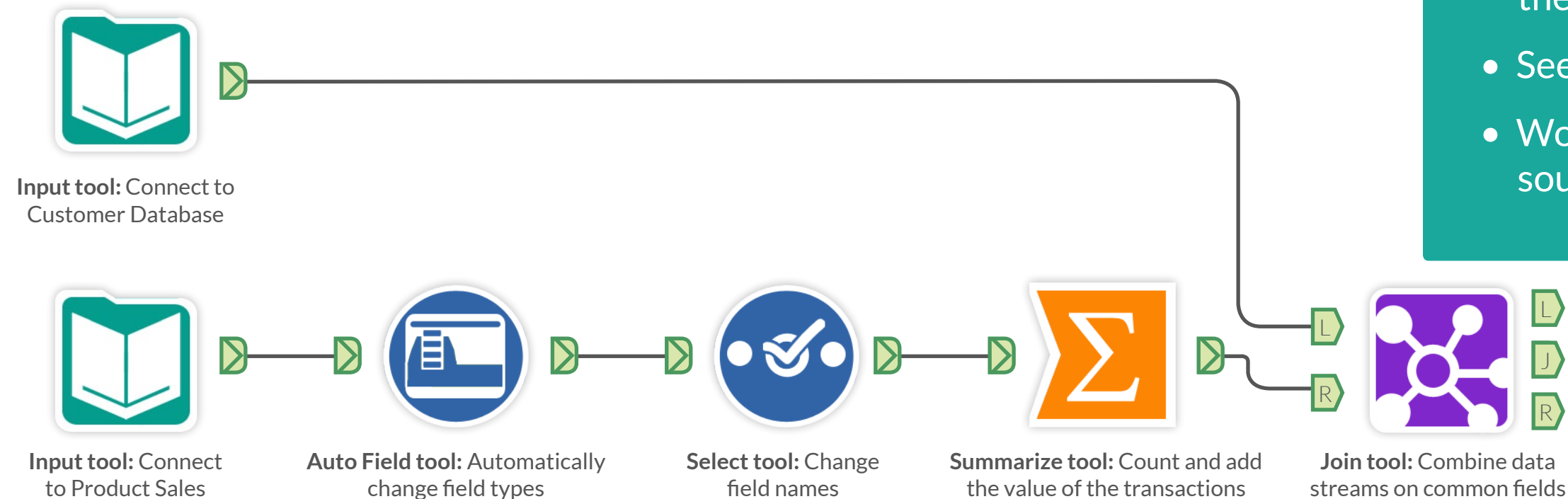
Alteryx addresses the Transparency Challenge

Understanding your business begins with understanding your data.

Alteryx delivers an intuitive, drag and drop workflow for data blending that leads to deeper insights in hours, not weeks. It makes analysts more productive, and delivers the transparency and automation they need to ensure a thorough and accurate analysis.

The Intuitive Workflow of Alteryx Analytics helps analysts

- Self document the data blending process

- Understand every transition the data takes

- See where errors/issues arise

- Work with multiple data sources easier

Input tool: Connect to Customer Database

Input tool: Connect to Product Sales

Auto Field tool: Automatically change field types

Select tool: Change field names

Summarize tool: Count and add the value of the transactions

Join tool: Combine data streams on common fields

Recipe for faster data blending

1 Get data from the sources needed for your analysis

2 Prepare, cleanse and isolate data

3 Transform your data without manual formulas or copying data

4 Join the specific data required from all your different types of sources

5 Reformat or restructure your data

6 Output results to Excel

7 Automate and Parameterize your data processes

Ingredients you need

- A copy of Alteryx alteryx.com/download

- A list of the data sources you want to blend

- Access to each database or source you are going to use

- A rough specification of the dataset you need

- A clear understanding of the analysis you want to deliver

See demo videos on Data Blending at alteryx.com/solutions/data-blending

1 Get data from the sources needed for your analysis

- By using the *Input* tool you can drag and drop data sources onto the Alteryx canvas to start building your workflow

- Unlike Excel, Alteryx can handle any dataset regardless of size – even spreadsheets with millions of records

- Preview your datasets so that before you blend them together you can understand if you need to make changes later in the workflow

Input tool: Connect to Customer Database

Input tool: Connect to Product Sales

Input tool: Connect to Store Information

| | | 1,623,320 records, 5 fields, 15 MB | | | |

Table

5 of 5 Fields · Cell Viewer

Record #	PartyID	Date	MemberID	Desc	Price
1	202861	2011-08-05	999999	Jalapeno Poppers	7
2	202861	2011-08-05	999999	Stromboli	7.5
3	202861	2011-08-05	999999	Soup of the Day - Bowl	5
4	202861	2011-08-05	999999	Meat Grinder - Small	9
5	202861	2011-08-05	999999	Garden Fresh - Small	9
6	202861	2011-08-05	999999	Barbecue Chicken - Medium	14
7	202861	2011-08-05	999999	Buffalo Chicken - Small	9
8	202861	2011-08-05	999999	Soda - Small	2
9	202861	2011-08-05	999999	Soda - Small	2
10	202861	2011-08-05	999999	Soda - Small	2
11	202861	2011-08-05	999999	Jalapeno Poppers	7
12	202861	2011-08-05	999999	Stromboli	7.5
13	202861	2011-08-05	999999	Soup of the Day - Bowl	5
14	202861	2011-08-05	999999	Meat Grinder - Small	9
15	202861	2011-08-05	999999	Garden Fresh - Small	9
16	202861	2011-08-05	999999	Barbecue Chicken - Medium	14
17	202861	2011-08-05	999999	Buffalo Chicken - Small	9
18	202861	2011-08-05	999999	Soda - Small	2
19	202861	2011-08-05	999999	Soda - Small	2

Recipe for analytic greatness

- Ensure you have the right credentials to access your data sources

- Analyze all data types without data size limitations

- Bring all Excel tabs and worksheets into a single view

- Blend data from Excel, data warehouses, third-party data providers, and cloud-based data, including social media

2 Prepare, cleanse and isolate data

- Once you have accessed your datasets you can now prepare them for blending and analysis

- The *Auto Field* tool automatically sets the field type for each string field

- Use the *Select* tool to reformat the data, plus change or rename fields

- Utilize the *Filter* tool to isolate a subset of the data you are interested in

Recipe for analytic greatness

- Make product names, categories, and user IDs consistent as you bring multiple datasets together

- Read CSV or XML files in as string or text fields

Input tool: Connect to Product Sales

Auto Field tool: Automatically change field types

Select tool: Change field names

Input tool: Connect to Customer Database

Filter tool: Isolate a subset of data

3 Transform your data without manual formulas or copying data

- Use the *Summarize* tool to aggregate data; For example, calculate Total Spend and Number of Transactions by Customer ID

- The *Summarize* tool does the work that pivot tables do in Excel

Summarize tool: Count the number of transactions, and add the value of the transactions
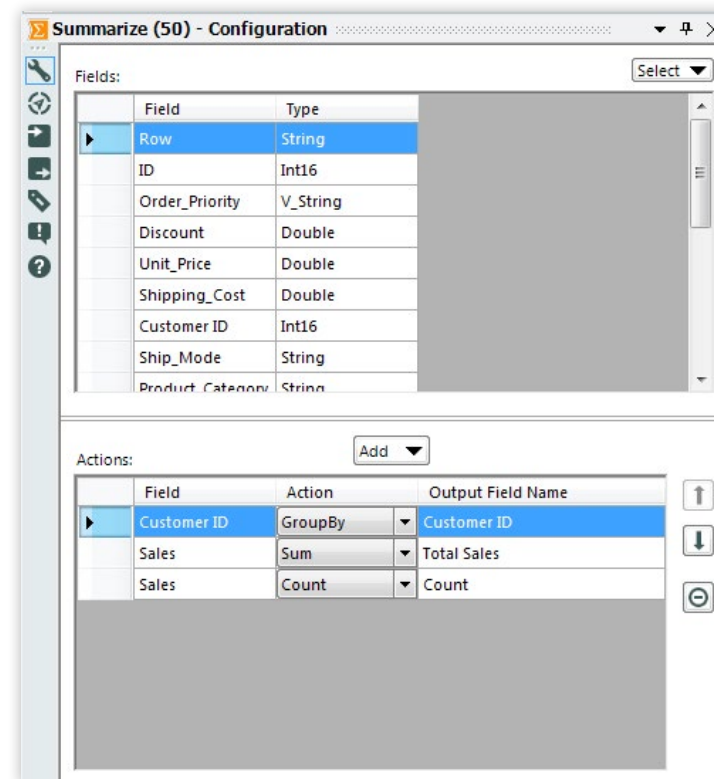
Recipe for analytic greatness

- Group and count records passing through a data stream

- Determine min and max values, plus keep a running total

4 Join the specific data required from all your different types of sources

- Combine each spreadsheet file or tab into a single stream using the *Union* tool

- Join multiple fields without having to pre-process and concatenate key fields together

- Perform inner and outer joins without multiple VLOOKUP expressions

- Incorporate Fuzzy Matching to handle non-exact matching of customer names or addresses (e.g. John, Jon, Johnny, or Jonathan)

Union tool: Combine each data source into a single stream

Join tool: Combine data streams on common fields
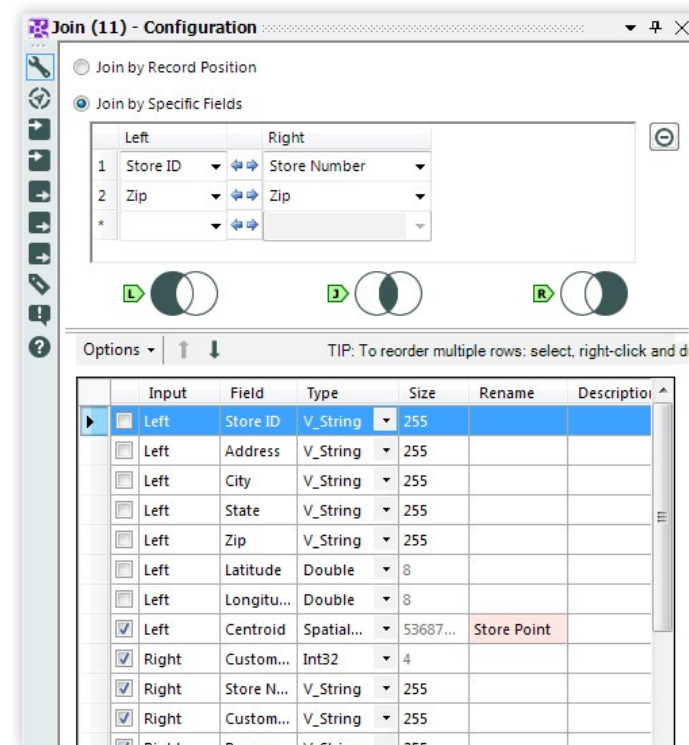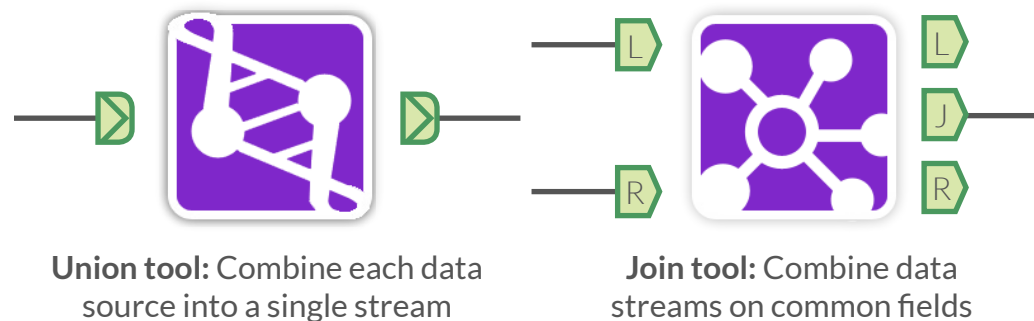
Recipe for analytic greatness

- Bring together fields that don't match exactly using the Fuzzy Match tool

- Create a macro that brings in all spreadsheet tabs in a simple click

5

Reformat or restructure your data

- Transpose and rearrange fields in large sets of data without the worry of your system crashing as it does in Excel when very large datasets are used

- Use the *Formula* tool to create expressions, which are similar to formulas you can create in Excel

Recipe for analytic greatness

- Crosstab and transpose on a full dataset rather than working on separate spreadsheets

Transpose tool: Move data from columns to rows (or vice versa)

Formula tool: Create a new field based on IF THEN statements

6

Output results to Excel

- Deliver output from Alteryx back to Excel for further reporting or analysis

- Format the output to deliver data into multiple tabs in a spreadsheet

- Feed output to a specific table where it can append or replace records in the table

Output tool: Export data in the format you need

Recipe for analytic greatness

- Use Alteryx Server to schedule updates to the files, ensuring analysts are working with up-to-date transactional information

- Output data in a wide variety of flat file and relational database formats

7 Automate and Parameterize your data processes

- Save and automate your workflow to run the same processes with updated data and eliminate the potential for error

- Package your workflow into an analytic application that can run in a browser-based environment

- Give decision makers the ability to customize and run analytic applications without having to build workflows

Recipe for analytic greatness

- Create a workflow once and reuse it for future processes or outputs

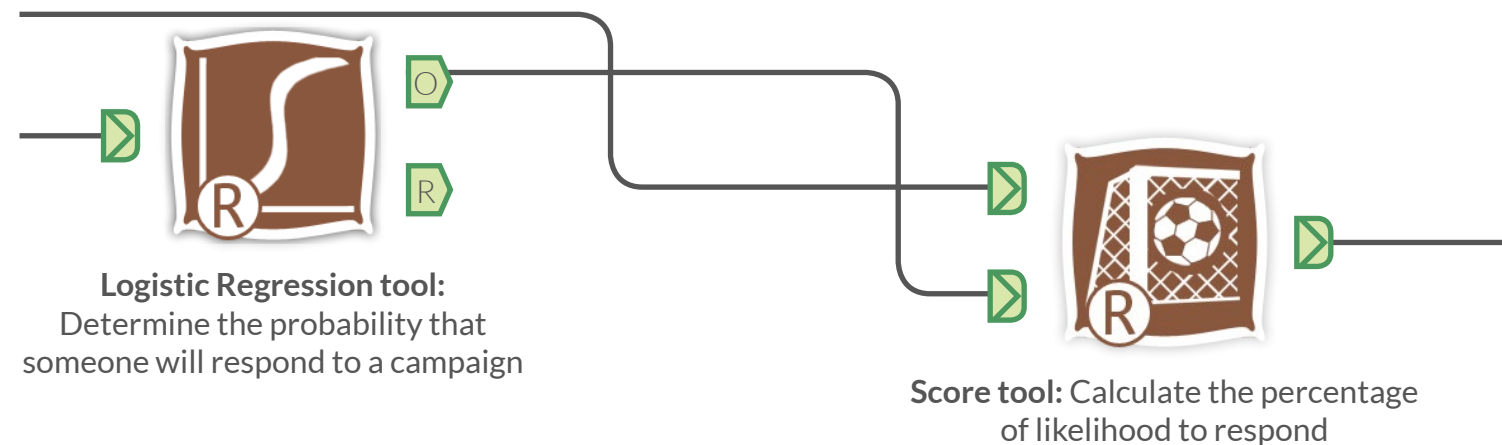- Create a macro to ease repeatable processes

Use Advanced Analytics to score customers

- Utilize advanced analytics to better understand and predict customer behavior

- Calculate the likelihood that a customer will respond to an ad or mailing

- Score customers and future prospects based on historical patterns

Recipe for analytic greatness

- Utilize boosted models to understand the importance of predictor fields

- Perform advanced analytics without writing code or scripts

Logistic Regression tool:
Determine the probability that someone will respond to a campaign

Score tool: Calculate the percentage of likelihood to respond

# Incorporate spatial analysis to find customers

- Delivering deep spatial analysis in Excel can be very difficult or require other tools

- Understand where customers and store locations fall on a map with the *Create Points* tool

- Understand how long it takes to drive to store locations, not just distance

Create Points tool: Geocode addresses to create spatial data

Distance tool: Calculate the drive time between two points or define a trade area
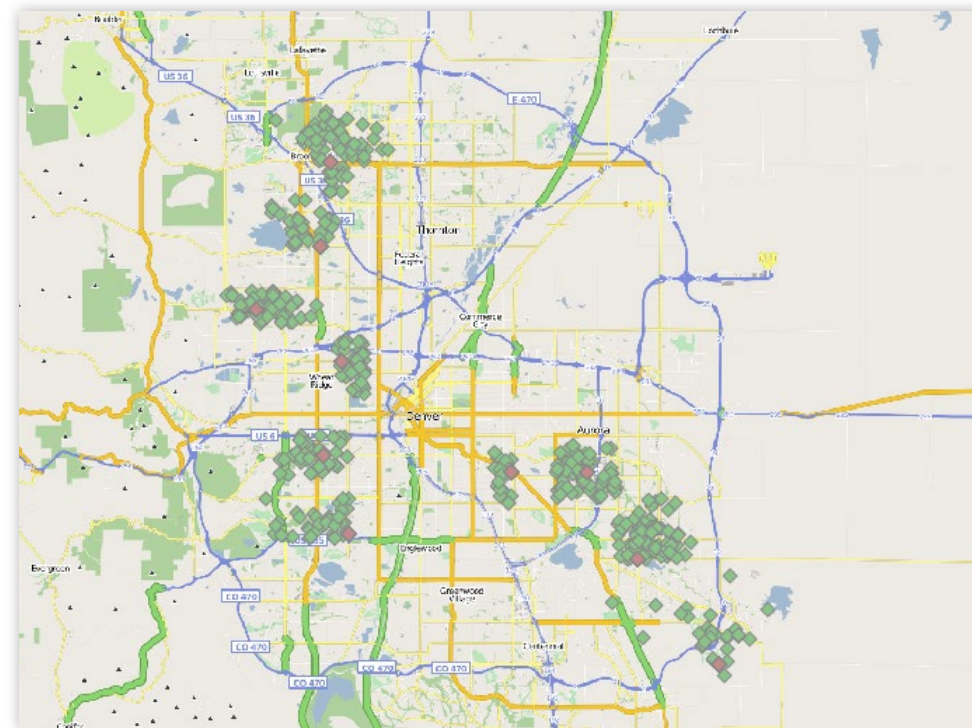
Recipe for analytic greatness

- Match data based on spatial information (e.g. customers inside a trade area)

- Use heat maps to spot trends in data

- Use spatial tools to perform tasks in seconds that would normally take days or weeks

"Using Excel and Mapinfo could easily take 4 hours to put together the raw data. Using Alteryx it can take under a minute."

Systems Engineer, Verizon Wireless

NOVUS

> "In today's fast-paced data-driven world, we could no longer rely on spreadsheets and limited business intelligence tools. We needed to put flexibility and power into the hands of our key business users."
>
> **– Margy Campion**
> **Senior Vice President of Business Operations at Novus**

Novus Manages Complex Advertising Campaigns and Forecasts Outcomes with Alteryx

Using Alteryx, Novus quickly gleaned strategic insights from hundreds of data inputs to manage the current advertising planning process for its clients while also forecasting anticipated outcomes.

Deeper Insights
Analyzed effectiveness metrics for thousands of placements, supporting timely optimization

Hours vs. Weeks
Produced insights in 30 minutes, allowing for continuous evaluation of and improvement to media targeting efforts

Intuitive Workflow
Simplified processes to create a way to run through multiple cause-and-effect scenarios with many variables

Why should analysts use Alteryx and Excel together?

Deliver faster results, utilizing more data

Eliminate manual processes to deliver more consistent data

Spend more time focusing on the business rather than preparing data

"With Alteryx, we can string components together and lock down a build process. If there are any anomalies during quality control, we know exactly what component to go back to and correct based on what we are seeing— and we don't miss deadlines."

– Erich Kaiser
VP of Data Processing & Special Projects
DatabaseUSA

Alteryx Delivers on the three things analysts need most

Empowered analysts who can access all the data they need, when they need it

Single intuitive workflow for a complete data blending & advanced analytics process

Deeper business insight that can be achieved without relying on others

Next Steps

Try data blending in Alteryx
alteryx.com/download

Download the data blending kit
bit.ly/datablendingkit

View Customer videos
alteryx.com/customers

alteryx

Data Blending and Advanced Analytics

More than 700 customers and thousands of
data analysts worldwide rely on Alteryx daily.
alteryx.com/solutions/data-blending