alteryx

Qlik **Q**
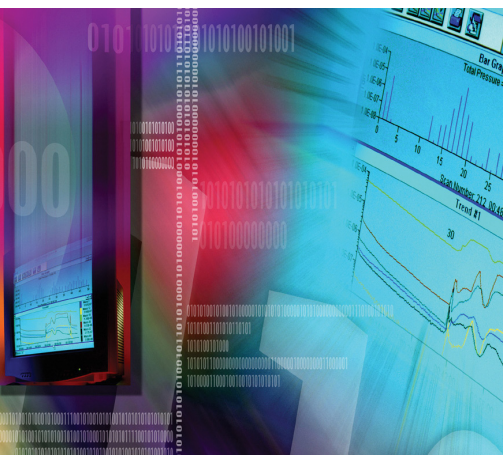
Alteryx + Qlik®:

Driving Data Discovery with Predictive Analytics

With Alteryx and Qlik, you can:

- Make bigger decisions about your customers with new sources of customer insight from Google, DataSift, Marketo and more.
- Scale your analytics to every need and every analyst.
- Unchain your data from legacy analytics.
- Gather data using an intuitive workflow that replaces complicated coding.
- Visualize your analytic results and share them across the organization, driving deeper insights and better business decisions.

Introduction

The power to predict future business conditions and know a customers' wants and needs is a huge asset for any business leader. While traditional BI can provide useful historical information, and modern dashboards can provide alerts and real-time monitoring, the ability to be forward-looking with these tools is limited. Predictive analytics fills this gap by allowing users to operate on historical and current information and predict the likely future environment using the statistical R language and other methodologies. These insights allow better-informed decision making and improved results.

Attempts have been made to create viable predictive analytics tools in the past. However, these tools tended to be too complex to use without a team of skilled data scientists and long hours. Companies stuck in this predictive quagmire would often find that the business opportunity was already in their rear-view mirror by the time they found the answer to their data problem.
Even when data teams were able to find timely answers, the results could be too complex to be useful or actionable by actual line-of-business users.

Over the past five years, the amount of customer insight data available to organizations has grown rapidly, with no signs of slowing down. These datasets contain a wealth of information to leverage for customer-focused decision making. However, few tools usable by analysts have kept pace with the expanding range of data, and fewer still have provided the ability to blend varied data together to perform spatial and predictive analytics tasks. Alteryx meets these requirements by delivering insight from both major and emerging repositories of customer insight information.

But Predictive Analytics isn't Enough.

Building on the high-level transformations provided by Alteryx, Qlik allows users to dig deeper—exploring data at a granular level. Visually answering question after question, click by click, moving along their own path to discovery. Qlik users are empowered to explore information in an associative way by freely clicking on field values in list boxes, lassoing data in charts, graphs and maps, manipulating sliders, choosing dates in calendars, cycling through various charts and graphs, and more—with the click of a mouse or a tap of their finger on a touchscreen device, Qlik applications empower users to easily understand the associations in the data across any source, the output of any predictive model and/or a blended mix of sources.

This paper explores novel use cases for predictive analytics and illustrates how Alteryx and Qlik can provide a unified, actionable approach for visualization and data discovery.

Use Case 1: Churn Analysis to Improve and Focus Customer Retention

The world over, the cost of customer acquisition and retention is quite high. The stakes are even higher for companies in highly saturated markets such as the wireless industry, where subscribers have many competing options vying for customer loyalty including traditional wire line carriers, cable, and other wireless options.


Assessment of Customer 4290110

Customer Monthly Spend: **$114**

Customer Yearly Spend: **$1,368**
Based on call connection criteria,
This should be a **At-Risk Customer**
with a composite score of **14**

Weighted Call Scores

Churn	Complaints	Dropped Calls	Coverage	Tower distance
2	2	4	6	0

With many carriers now seeing three to five percent churn rates every quarter (a $30 to $50 million dollar loss compounded quarterly for a carrier with 10 million subscribers), the stakes are immense.

By using predictive analytics to determine a customer's propensity to churn, carriers can focus retention campaigns and deliver preferential services to at- risk, high-value subscribers whose loss would cause the greatest impact to revenue.

Using Alteryx, a carrier can readily integrate BSS (Business Support Systems) information, such as length of contract, minutes of usage, handset history, and frequency/duration of customer support calls, with technical information from their OSS (Operational Support Systems), such as location information, RF coverage, call failure codes, and frequency/duration of outages; Alteryx can then enable carriers to assign individual customer experience scores.

Customer experience scores, which can be weighted according to individual business rules, allow users to easily segment customers to target at-risk, high-value customers with retention campaigns. Incoming customer care calls can also be routed based on the customer's score to speed problem resolution and arm support personnel with the appropriate details before connecting the customer.

Once the model is completed, the entire workflow and output can be exported into Qlik applications where the users can easily keep enriching the model with diverse type of data sets coming from either transactional systems, relational databases, personal databases, big data, unstructured data sources, web-based data, etc. in order to accomplish business discovery in a visual way. For example, once the input variables of the predictive model are understood, modeled and processed, Qlik enables users to analyze different 'What-if' scenarios by modifying the values of the different variables and assess their overall impact on the particular output.
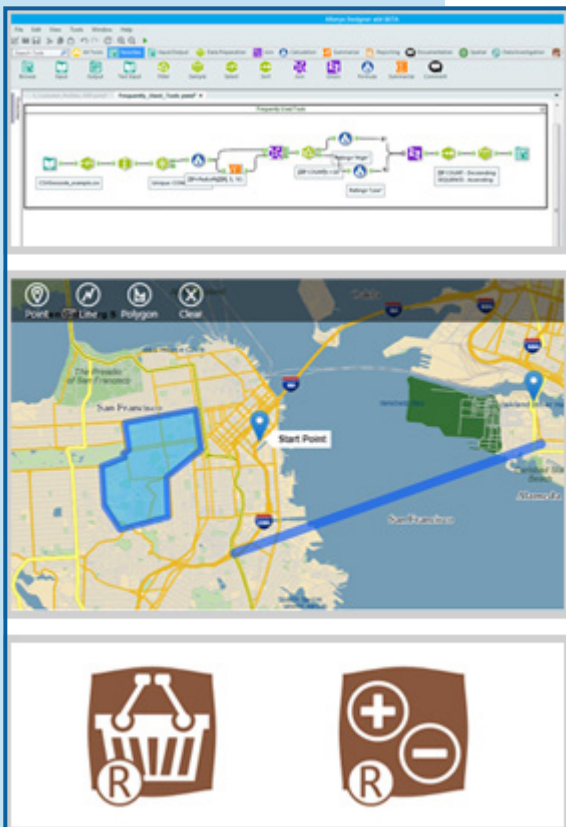

Use Case 2: Market Basket Analysis for Determining Ideal Product or Service Mix

Another challenge virtually all businesses face is determining the right mix of products and services to promote, merchandise, bundle and correctly price to maximize sales. Traditionally, this is done with a lot of guess work based on trial and error. However, the 'hope and pray' approach to product selection is less than ideal if the choice of products or services can adversely effect sales.

Alteryx helps uncover these previously unknown relationships between items with its Market Basket Analysis tools. For example, a movie theater chain tracking concession sales may already know that people who buy popcorn almost always buy a beverage. But with Market Basket Analysis, they could also identify relationships that are more esoteric—like customers attending romantic movies buy more chocolates than nachos—*unless it's Tuesday.*

Armed with this deep knowledge of customer behavior, decision makers can create better, more effective promotions, bundles and sales.

Enhancing predictive ability, Alteryx can also uncover how likely a customer is to be cross-sold, estimating how much of a lift in sales a relationship provides beyond random variation within a transaction dataset.
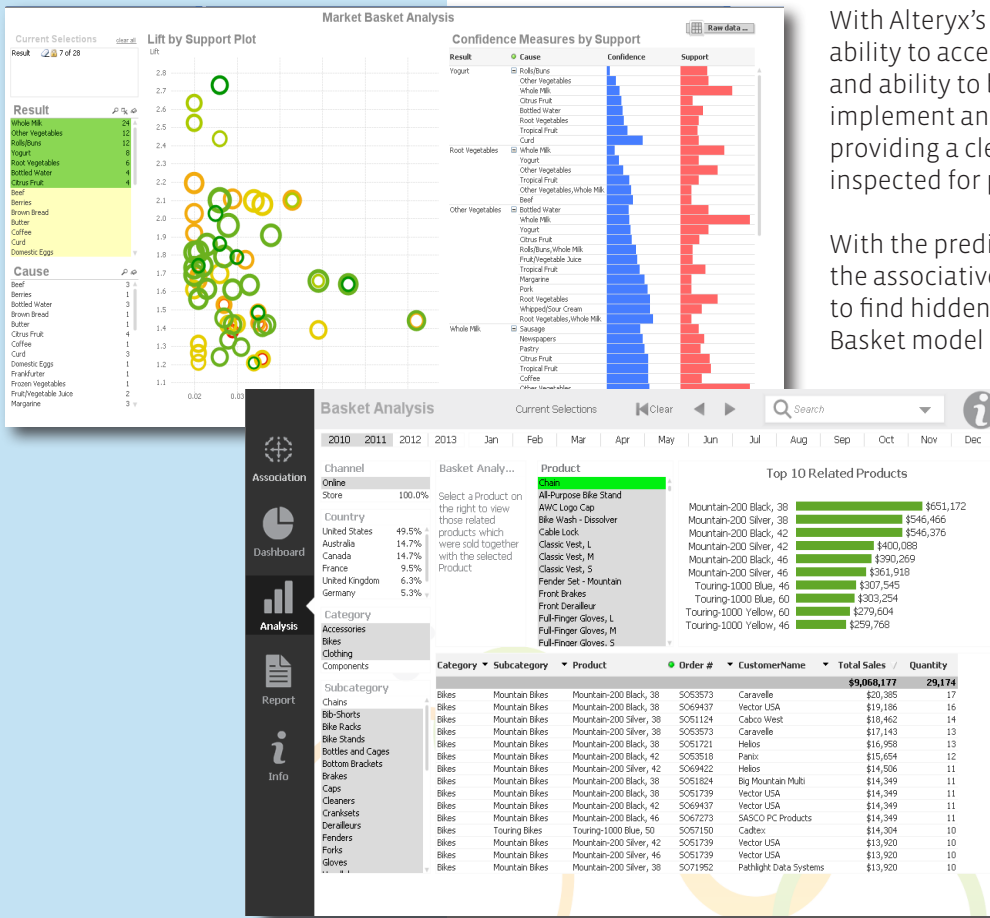
With Alteryx's intuitive drag-and-drop interface, ability to access data from virtually any data source and ability to browse data as you go—it's easy to implement and iterate a Market Basket Analysis providing a clear R stream that can be further inspected for patterns.

With the predictive analytics roadwork laid down, the associative power of Qlik makes it very easy to find hidden associations within the Market Basket model output as well as with any other relevant business dimension. For example, adding a bar chart to the mix would let users click on specific items and see the amount of lift certain products or groups of products provide when correlated.

Furthermore, Qlik can capture any specific business rule and/or threshold that should be applied to the entire Market Basket analysis output reinforcing the universal concept of single version of the truth throughout the organization.

"Social media data is critical to decision making—it isn't just about sentiment analysis any more, it is about blending social insight with other relevant data to be able to drive more revenue. With the integration of Alteryx and DataSift, we're giving every analyst the ability to blend social data with all the other relevant data about their customers leading to real impact across organizations."

- Paul Ross
VP Product Marketing,
Alteryx

Use Case 3: Enhanced Social Media Integration for Better Customer Optics

Amongst the many new features of Alteryx 9.0 are tools and macros integrating DataSift, FourSquare, GNIP, Google Analytics, Marketo and Twitter. With these full fidelity sources, users can now achieve unprecedented levels of insight into their business, its customers and their overall positioning in the market. Effectively making bigger decisions in less time—without a programmer or data analyst.

For example, a hotel chain can get better optics on its customers and the effectiveness of their marketing campaigns by incentivizing clients to check-in, tweet or photo share for VIP access or a room upgrade. Then, combining this customer data in Alteryx with the DataSift macro to access the full fidelity Firehose of Twitter (including 4+ years of past tweets), the hotel can see both the historic growth of their hotel brand and make predictions about where it might go. To estimate this, Alteryx has an R-based tool called a Stepwise macro that can take the initial regression model dataset generated from Twitter and automatically analyze a large number of predictors (in this case, hash tags) about or by the hotel. Using predictive analysis combined with social media to 'expand the net,' companies can learn what brands, topics and activities their customer segments are interested in.

Outputting the result to Qlik as a QVX, the organization can then visually drill in on key predictors, for example isolating that customers of the hotel might also favor a particular celebrity or news topic. With this type of information in hand, the hotel chain can now strategically target segments appealing to the interests and tastes of their customers.

From Predictive Analytics to Data Discovery—Qlik

With the heavy back end lifting by Alteryx done, the processed data is seamlessly output as a native QlikView Exchange .QVX file. Then, once in a Qlik application, interactive elements such as heat maps, graphs, select lists, charts, tables and more are easily added. Evolving quickly with simple point and clicks, an advanced customer profiling app is born.

In this way, a first take on a Qlik app can be presented to the company for review and changed in minutes or hours, rather than days or weeks. And, if the underlying data model requires an adjustment, it's easy to jump back to Alteryx to do the adjustment and then simply output a new QVX to carry forward.

Likewise, once a Qlik application has received the output of the predictive model and it's been analyzed in conjunction with other data, it's equally easy to export a new data set from the Qlik app and re-run it through Alteryx as a means of refining or educating the model. This is perfect for what-if analysis in Qlik or for situations where users might wish to input new scenarios into the predictive model.

And because Qlik is a leader in the in-memory Data Discovery space, the responsiveness of the app is near real time with common calculations such as heat mapping shared amongst users so they don't have to be redone every time the app is queried.

In situations where data sets are too large for Qlik's in-memory engine, Qlik's flexible nature enables organizations to leverage Direct Discovery. This feature seamlessly combines data stored in memory with data direct from external big data sources, thereby maintaining Qlik's rich, associative experience.

Built as light-weight apps, Qlik allows data discovery to be fully mobile, meaning users in the field can easily enjoy the same business discovery experience with the data just as well as the people at head office. As an example, seeing a disproportionate number of hotel bookings being lost compared to their predictive models, front desk staff can collaborate real time with the marketing department through collaboration sessions where relevant information can be analyzed collectively. Selections and discoveries can then be readily shared throughout the organization. Empowered to see and understand the data for themselves, line of business users can ensure businesses stay competitive.

Fully deployed, the app offers the company a variety of useful features to assist the business decision making process, including:

Social data annotation and sharing—Useful data perspectives can be snap-shot, bookmarked and shared with others in the company for future reference. Additionally, users can comment on app states based on where they clicked on data. This can also be useful to create a log of how group decisions were arrived at. For example, perhaps a particular hotel has exceptionally high sales despite a lot of competition in the area. The marketing team can query the manager there to determine what lifted sales above the norm.

In app collaboration—Links to the app can be shared via e-mail, SMS or instant messaging, allowing real-time interaction with others in the same Qlik app. Then whenever anyone makes a selection or clicks on a different tab in the app everyone's view updates instantly. This makes meetings even more effective and allows for a social learning and discovery experience.

About Alteryx

Alteryx is the leader in data blending and advanced analytics software. Alteryx Analytics provides analysts with an intuitive workflow for data blending and advanced analytics that leads to deeper insights in hours, not the weeks typical of traditional approaches. Analysts love the Alteryx analytics platform because they can deliver deeper insights by seamlessly blending internal, third party, and cloud data, and then analyze it using spatial and predictive drag-and-drop tools. This is all done in a single workflow, with no programming required. More than 600 customers, including Experian, Kaiser, Ford, and McDonald's, and 200,000+ users worldwide rely on Alteryx daily. Visit www.alteryx.com or call 1-888-836-4274.

Conclusion

Evolving with changing business needs, Alteryx and Qlik together provide elegant, quick, iterative and reliable solutions. Alteryx constructs a robust predictive analytics model that can then be used as the foundation for associative applications in Qlik. Such applications can then be further enriched with any kind of data source for discovery purposes and efficiently shared enterprise-wide.

The use of Alteryx for the 'heavy lifting'—to collect, blend, clean and analyze data—offers a huge cost advantage over calling upon IT and data scientists for every model change. Likewise, the use of Alteryx's included 3rd party data sources, macros and tools offers an exemplary means to truly 'get in the head' of the customer or target market. With Alteryx, business leaders can truly tap into the 'Big' of Big Data.

Alteryx has built connectors for Foursquare and Twitter to derive insights from user interactions across an even wider variety of social media sources. Additionally, patterns can be observed using historical data from DataSift and GNIP connectors, which provide further access to over 20 sources of social data including Sino Weibo for Asian blogs and LexisNexis for a wealth of traditional high quality news sources.

While social media sources offer insight into what customers are saying, the key to nurturing customer relationships is to take control of the full marketing and sales cycles. Alteryx facilitates this process by additionally providing connectivity to Google Analytics, Marketo, and Salesforce.

Qlik in turn offers an intuitive, associative experience that makes drilling into Alteryx's outputted data painless, fun and readily shareable. With a plethora of visualization options, business discovery apps can be rolled out and evolved in days rather than months. The associative experience of Qlik provides answers as fast as users can think up questions, letting users interact with data without limitations to generate insight in ways they never imagined. Qlik empowers business users to:

- Uncover hidden trends and make discoveries that drive innovative decisions.
- Ask questions and pursue insights on their own or collaboratively—on the fly, on the road.
- Search across all data to get the big picture. Users just type any word or phrase, in any order, into the Qlik search box for instant, associative results that let you see new connections and relationships across your data.
- Benefit from self-service BI with no need to go back to IT or business analysts for new queries or reports.

To learn more about the success that Alteryx and partners like Qlik are delivering for companies like yours, explore best practices for success with predictive analytics, or to simply experience the power and ease-of-use of Alteryx for yourself, please visit www.alteryx.com.

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