Introduction

Data science and business teams are working together now, more than ever. In fact, most CTOs and analytics teams are measured by the success rate of their collaborative projects used at scale. NetBase Quid® now makes it easier than ever for data science to collaborate with business teams to incubate solutions to consumer and market intelligence needs.

With Intelligence Connector, data teams can access streaming consumer and market data on-demand through our self-service capabilities, and easily pull data to rank and prioritize risks, discern between short and long-term trends with statistical significance, or run a competitive analysis, with the flexibility to scale up to include thousands of requests at a time. Intelligence Connector empowers you to create new internal products and also allows you to supercharge your existing investments, by enriching your models with the world's most accurate and precise social data and analytics.

Analytics and data science teams are centralized hubs for accessing, manipulating and disseminating data and metrics relevant to answering strategic consumer and market intelligence questions throughout their organizations. The requests often require scaling access to text-based data and metrics, as creating the requisite BI visualizations and dashboards requires technical prowess on the backend.

In collaboration with marketing, competitive intelligence, consumer insights, risk, strategy, corporate communications, corporate
development and others, data science teams answer business critical questions, including:

- Which companies should we partner with or acquire?
- Who are the influencers we should target from a business development or strategic communications perspective?
- Are there trends that could impact product innovation and marketing decisions? Fads or noise that could distract or otherwise impact efforts?
- Which reputational or supply chain risks are most relevant to our brand or client?
- Where are our competitors investing, growing and developing new offerings? What are the offerings, and how are they being received?
- What are technology trends that could impact our business and who are the key players involved?
- What are emerging trends and potential disruptors hovering in peripheral categories that we should be aware of?

And with ad hoc requests focused on specific (and often unique) use cases increasing, data scientists need the ability to access, supplement and transform data and metrics on the fly. Time to insight is paramount, as is the accuracy of the intelligence. NetBase Quid® sets the bar with both, offering a single source of truth for social, news, investment, M&A and patent data that is available in near real-time. It makes short work of answering the most complex market and consumer intelligence questions, freeing data scientists to analyze, data scientists to extrapolate, and enhancing existing in-house BI capabilities. Scaling data science capabilities requires no less.

**Questions to consider when evaluating data analytics options:**

- How accurate is the data?
- How transparent is the insight?
- Can the solution accommodate large volumes of data?
- Does the solution offer real-time access to the insights and underlying data?
- Can we continuously—and collaboratively—monitor consumer, market, and our own proprietary intelligence?
- Can we export business intelligence into a configurable output (e.g., relational database)—and is it easy?
NetBase Quid® is rooted in NLP technology at its core, with advanced AI processing billions of indexed resources across all forms of structured and unstructured data and delivering contextual insight to inform data-driven decisions.

The first hurdle data scientists face is trusting the accuracy of the extracted consumer and market data, as strategic decisions made using less than accurate intelligence can prove catastrophic. Our data is industry-leading, cleansed, de-duplicated and enhanced with critical metadata. Industry leaders recognize the importance of not only accessing aggregate metrics but also having confidence in the supporting underlying source data (social media posts, news articles, company and patent data).

Our accuracy is unmatched, and our data is 30% more accurate than our top competitors, as our process removes the potential for subjective analyses thanks to our advanced AI capabilities, and commitment to offering the most in-depth, transparent analyses.

Successful sentiment analysis depends on the presence of several advanced capabilities of the platform, including the ability to understand the context rather than individual words, as well as the ability to interpret sarcasm correctly (when the words used might be positive overall but the general sentiment is negative). And all of this comprises an in-depth, entity-level understanding, of what people are saying about your brand or products, your competition, your market and or on any other topic that is relevant to your business.

Many of our competitors, as well as many sentiment analysis tools developed in academia, simply do not provide this in-depth level of analysis. For each sentence, or even for entire documents, they simply output a label: ‘positive’, ‘negative’ or perhaps ‘neutral’. Some also present a score alongside or instead of a label, on a range from strongly negative to strongly positive (e.g. -100 to +100).

Also—and critically—they often provide little detail about the ‘source’ of these positive or negative sentiments. Some products don’t even allow you to see sentiment results for individual posts. Instead, they offer a summary score across an entire group of results.
None of this is very helpful for understanding the details that give rise to the opinions found in qualitative data. And transparency around this intelligence is crucial, as it validates an accurate analysis. Without it, the results are unsubstantiated and its reliability is questionable.

Machine learning has made great strides in handling low-level tasks, such as POS-tagging and lemmatization. There has also been considerable progress on syntactic analysis, when enough good data is available. But when it comes to understanding the meaning of human language, there are still many problems with the current state of the art—and there are many ways in which it is inferior to rule-based systems.

And, contrary to the latest statistics widely reported in the media, it is not easy to adapt these new technologies to a particular use case. Machine learning sentiment systems are actually very, very far from being able to handle even simple 'document-level' sentiment scoring, let alone extract and identify the roles and emotions that humans can understand with ease.

Machine learning systems are only as good as the data they are trained on, and unfortunately, these systems are often trained on very questionable datasets. And for the most part, these datasets typically contain little to no social media or news data, which are significant consumer and market intelligence data sets—using data sets lacking social and news components as the basis for data analysis tools is not recommended without a great deal of human oversight and additional review.

Any company claiming that they have ‘upgraded’ or ‘retrained’ their sentiment systems based on machine learning models should be viewed with deep skepticism—even more so if the language involved is not English. Unfortunately, NLP resources available for languages other than English and a handful of other major European languages are still quite lacking.

Having a continuous and automatic stream of metrics and data, analyses that may have taken an FTE months to conduct can be made agile and scalable, with tools accessible to the entire organization rather than reports shared in one team.

Combining NetBase Quid® data with other proprietary datasets lends to a specifically tailored understanding of whatever metrics your organization needs to measure while keeping it apprised on emerging trends, competitive intelligence and its place in the market.
Your company has likely built internal systems to manage consumer and market research requests. The missing piece is a reliable insights provider. Rather than pushing relatively low-tech options into your BI universe for individualized and tedious analyses or having to learn an entirely new platform to process requests, many data experts seek ways to seamlessly transfer cleansed and relational database-ready insight data into their propriety BI platforms. NetBase Quid’s Intelligence Connector offers this capability and even moves the process beyond the constraints of an API transfer, which are very expensive at large volumes of data.

Data scientists query our engine, bypassing our application. They use a topic, theme and workflow management system designed to generate queries and workflows for thousands of requests at a time, which is easily manageable.

With it, relevant metrics and data for each request are populated into a PostgreSQL database, which powers any BI platform or other internal system on a continuous basis. Data scientists can build interactive

<table>
<thead>
<tr>
<th></th>
<th>API</th>
<th>Intelligence Connector</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Data Scale</strong></td>
<td>• Volume limited to thousands of data points per week</td>
<td><strong>Improved Scale</strong></td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Up to millions of data points per week</td>
</tr>
<tr>
<td><strong>Data Transfer</strong></td>
<td>• Users pull limited data volumes at a time under a capped rate limit (batch process)</td>
<td><strong>Improved Latency</strong></td>
</tr>
<tr>
<td></td>
<td>• Manual refresh of through programming queries</td>
<td>• Data from NetBase Quid® is published in near real-time to a realtional table format</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Data is automatically refreshed</td>
</tr>
<tr>
<td><strong>Data Integrity</strong></td>
<td>• End-users are responsible for maintaining queries and writing calls</td>
<td><strong>Improved Maintenance</strong></td>
</tr>
<tr>
<td></td>
<td></td>
<td>• NetBase Quid® handles configuration and data integrity, removing need for writing calls de-duping, etc.</td>
</tr>
<tr>
<td><strong>Datasets</strong></td>
<td>• Social and News only</td>
<td><strong>Multiple Datasets</strong></td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Social, News, Companies, Patents, Datasets</td>
</tr>
<tr>
<td><strong>Data Output</strong></td>
<td>• CVS only</td>
<td>• Relational Database</td>
</tr>
<tr>
<td><strong>Metrics</strong></td>
<td>• Delivers underlying data and out-of-the-box metrics only</td>
<td><strong>Custom KPIs and Methodologies</strong></td>
</tr>
<tr>
<td></td>
<td>• Access to only a subset of the out-of-the-box metrics</td>
<td>• Data can undergo complex transformation and be directly visualized in BI platforms through built-in ETL support for workflow automation</td>
</tr>
</tbody>
</table>
dashboards or custom workflows for their internal and external clients, powered by a continuous and supremely accurate feed of data.

When a centralized data science team receives an intelligence request from anywhere within their organization, they can query using our SaaS application or more likely, outside the application using our topic and workflow management system. Then, relevant metrics populate the database. A couple of examples follow:

**Competitive Intelligence Comparative Index**
A consulting client wanted to create a competitive intelligence index, comparing them against their top 15 competitors by industry, category, and practice domain. We configured a system to segment the competitive set by metrics they care about, resulting in a score that ranks competitors against all of those factors combined and also individually.

At another major strategy consulting firm, the Intelligence Connector enabled their data science team to call our database virtually on-demand for critical brand health metrics across thousands of brands and multiple clients, all with different needs. They used Intelligence Connector’s topic and theme manager, as well as the workflow manager to schedule these requests, which allowed them to successfully scale their research.

**Transitioning to an Automated Workflow**
The Director of Digital Marketing analytics of a major energy drink manufacturer wanted to transition her manual workflow to an automated platform distributed via our Intelligence Connector. Our analytics solution was connected to Google Studio and used to inform the executives about consumer sentiment and influencer impact about their brands and products.
Continuous intelligence data connections can be built into existing dashboards in your business intelligence platforms (Domo, Power BI, Tableau, Qlik, etc.) or new platforms or dashboards that we create for your specific use case. To summarize, it offers:

- **Scale**: Hundreds of data scientists can access powerful metrics and data without requiring direct access to the core platform
- **Flexibility**: Call the data/metrics when needed, as new ad-hoc projects arise
- **Volume-based**: Only pay for the data/metrics pulled
- **Custom workflows**: Easily combine NetBase Quid’s enriched metrics with other data sources you have

Data scientists can programmatically generate multiple topics and themes through a CSV template, with sample topic creation parameters, including primary terms, time interval, exclude terms and source. Next, they can upload the data to NetBase Quid’s platform via a dedicated portal. The portal will include syntax validation, allowing the user to efficiently identify and resolve any errors in the input file. It will display the status of topic and theme creation, and it will be shared with users via email. Clients can also create large upload queries by providing a CSV, which can then be configured by the NetBase Quid® team liaisons through our Intelligence Connector.

Topic Manager performs basic automated QA to make sure topics are defined correctly, ahead of them being automatically generated within NetBase Quid. And from there, sentiment metrics can be pushed to a relational database, bypassing NetBase Quid® software but employing the advanced AI that powers it. This all happens in near real-time and automatically refreshes as scheduled in Workflow Manager.

AI-powered continuous intelligence is available in real-time and can scale to meet any use case. Reach out for a demo to discuss the potential and see a sample workflow automation in action.
NetBase Quid® delivers AI-powered consumer and market intelligence to enable business reinvention in a noisy and unpredictable world.

Our platform uses advanced artificial intelligence to process billions of indexed resources across all forms of structured and unstructured data, empowering brand, agency, and consulting services customers to make smart, data-driven decisions accurately, quickly, and efficiently.

We are the trusted partner of Ogilvy, T-Mobile, United Airlines, YUM! Brands, Walmart, Hyundai, Wunderman Thompson, Microsoft, BCG, and The New York Times.

Learn more at www.netbasequid.com