Name Matching Software Surmounts Four Major AML/KYC Challenges

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Introduction

Why do so many developers of financial software turn to Babel Street to meet the challenges of high-speed, high-stakes name matching?

Partnering with Babel Street helps original equipment manufacturers (OEMs) build "successful revenue-generating solutions…," according to The Partner Opportunity For Rosette Name Indexer: A Total Economic Impact™ Partner Opportunity Analysis. The analysis, commissioned by Babel Street and conducted by Forrester Consulting (which maintained editorial control over study results), calls Rosette Name Indexer a "powerful and scalable name matching solution" that contributed to the success of products created by each OEM interviewed. (In March 2024, Rosette Name Indexer was renamed Babel Street Analytics Name Match.)

If Name Match is powerful enough for use as an integral component of cutting-edge financial software, imagine what it can do for banks, other financial institutions (FIs), and fintechs that need to improve name matching.

As a world-class, AI-powered name matching software solution, Name Match works across 25 languages and a variety of different scripts to quickly compare, match, and score the names of individuals, organizations, addresses, and dates. Name Match accelerates identity verification and list screening to streamline customer onboarding, anti-money laundering processes, and know your customer efforts; and hastens transaction processing.

By dramatically reducing false positives and the concurrent need for manual investigation, Name Match helps FIs save significant investigative time and costs while reducing regulatory and reputational risk.

To determine the economic opportunity presented by using Name Match within software products developed by third parties, Forrester interviewed Babel Street OEM partners working in the financial services and financial consulting sectors. These companies' revenues range from $20 million to $5 billion annually. For illustrative purposes, Forrester aggregated the characteristics of these companies and combined the results into a single representative or "composite" organization — a global company headquartered in North America.

This composite — which employs Name Match as a component of its own products, rather than building name matching capabilities in-house — realized a return on investment of 82 percent over three years, while achieving investment payback in less than 12 months.

Additional benefits help OEMs improve business for themselves and their financial services customers. In the words of one solution architect interviewed for the study, "Another half a dozen opportunities have been unlocked because of our ability to plug into the [Name Match] API, to do something that is very germane to compliance and something that we don't have. There's upside in the opportunity funnel that has been realized because of the [Name Match] API."

Why FIs need world-class name matching

FIs and fintechs need robust name matching for improved compliance with AML/KYC processes and mandates. They need to ensure that their customers are who they say they are, and that their transactions are what they purport to be.

The process isn't getting any easier.

Digital transformation and the rise of peer-to-peer financial applications have enabled the easier transfer of cash. With just a few clicks, people living in Alabama can now send money to family in Ecuador or buy hand-crafted market baskets from artisans in Kenya. These transactions — sending a few bucks to relatives back home, buying crafts directly from an artisan — are as old as time. Even the option to pay using a debit or credit card (rather than via check or cash) has been around for a while. All digital transformation has done in these cases is enable easier, faster transactions via new payment conduits — Venmo, Zelle, Stripe, WhatsApp Pay, and others. But by powering easier, faster transactions with persons or businesses in foreign countries, FIs put themselves at an increased risk for enabling money laundering. In fact, the Financial Action Task Force notes that trade-based money laundering is a growing concern.[1]

That risk only increases when FIs support the purchase of new types of assets and items. Investments and goods undreamed of 10 or 15 years ago are now readily available, nationally and internationally. People invest in crypto currencies, stablecoins, non-fungible tokens (NFTs), digital artwork, and real estate in virtual worlds. They treat themselves to virtual events, virtual clothing, and virtual accessories. (Who can forget the digital designer handbag that sold for $4,000 on Roblox?[2]) All these purchases present new opportunities for money laundering. FIs risk enabling that crime when they empower customers to make these purchases using credit or debit cards issued through their institutions.

Regulators know of the increased risk, and now expect FIs to use every possible tool to mitigate it. They expect FIs to deploy innovative solutions to coalesce entity information from FIs' own data siloes, data lakes, and databases to get a complete view of each customer. They want that view to include more robust comparisons against watchlists, sanctions lists, and other registries generated globally that name persons and entities with which FIs may not conduct business. They understand that AI-powered name matching and entity resolution (the process of finding the right "John Smith" in a sea of "John Smiths") can establish the true identities of entities involved in a transaction, and the relationship among those entities. In doing so, FIs can better spot potential instances of money laundering — and the business, individuals, and criminal networks that support it.

One of your customers initiates a transaction. Who is party to it? Does either party appear on a sanctions list? A watchlist? Even if the transaction is at arm's length, parties have formed a relationship by exchanging cash for goods or services. Is this relationship consistent with your risk model for this customer?

Do you know?

The challenge of matching names and charting relationships

FIs face at least four significant challenges in matching names, resolving entities, and charting relationships:

1. Global name variations

Our world has a wide variety of languages and scripts. To appropriately match names, FIs need purpose-built solutions that can translate and transliterate names. (Otherwise, how would customs and border officials in Great Britain recognize "Владимир Путин" as "Vladimir Putin?") This may be obvious. What is less obvious is how different naming conventions, nicknames, and gendered names muddy the process. In much of the West, names are written in "First/Last" or "First/Middle/Last" patterns (i.e., "John Smith" or "John Andrew Smith"). But that's not a worldwide standard. In many countries of East Asia, for example, the family name precedes the given name. In Spain, people often have two surnames: one from each parent. Arabic names follow a structure that uses patronymic names, honorifics, and historical family details to create a full name.

Nicknames present a second challenge. Name matching needs to understand that not everyone named "John Smith" goes by "John Smith." Some people named "John Smith" go by "Jack Smith" or "Jackie Smith" or "Johnny Smith." Name matching systems should understand that "Jack Smith" and "Johnny Smith" can be matches for "John Smith." They should also understand differences in name genders: that John Smith is likely not a match for Johanna Smith.

To optimally match names and resolve entities, name matching solutions must account for and accommodate different naming conventions, nicknames, and gendered names worldwide.

2. Differences in recording addresses and dates

There are no universal standards for addresses or dates, either. The United States and Canada, for example, list addresses by street number/street name/city name/state or province name. In France, the postal code appears before the city name. In England, the names of large city boroughs appear in addresses. In Japan, the prefecture appears first, then the city, ward, block number, and building number.

Date matching is similarly tricky. The United States lists days first, then months, then years: December 4, 2023. The majority of Europe lists the day first, then the month, then the year: 4 December 2023. Most of the world uses a Gregorian calendar. Some countries in the Middle East use the Islamic calendar.

FIs need matching capabilities that standardize all this information for improved address matching and date matching.

3. Corporate name similarities and variations

Many corporations have similar names. For example, a simple web search for "John's Ice Cream" returns a variety of businesses containing the name "John" and some mention of ice cream ("ice cream," "ice cream parlor," "ice cream factory"). Matching the right "John's Ice Cream" to the right company can be a challenging process. In addition, the corporate world commonly uses initialisms and nicknames Customers may often refer to "PennyLuck Pharmaceuticals" as "PennyLuck Drugs." You may regularly dine at your favorite restaurant, "Bobby D's," without knowing that this is just an initialism used by a corporation officially called "Robert D'Amico Foods, Inc."

In order to optimally and efficiently match in these instances, FIs need name matching technologies with semantic understanding. This is an understanding of the intent of a search term, rather than just a knowledge of the individual words used in each search.

4. Time pressures

FIs can't afford to match names and resolve entities at their leisure. They make millions of name matches every day for onboarding, transaction processing, and AML/KYC purposes. Speed is necessary. Otherwise, delayed onboarding and transaction approval may lead to angry customers who may choose to do business with a different, speedier bank. Cutting-edge name matching that can scale to any business need can help dramatically cut the time required to complete these processes.

How Name Match can help

FIs must improve name matching processes to better comply with AML/KYC mandates, and to speed customer onboarding and transaction processing. Failure to do so can result in dissatisfied customers, and marred reputations. Worse, FIs can run afoul of regulatory mandates, and incur significant fines and penalties. In 2023, for example, the United States Department of the Treasury levied a staggering $4.3 billion fine against the cryptocurrency exchange Binance for its AML failures. These included failures to prevent and report suspicious transactions with known terrorists and money launderers, and enabling transactions with sanctioned jurisdictions including Iran, North Korea, and Syria.[3]

As a world-class, AI-powered software solution for name matching, Name Match quickly compares, matches, and scores the names of individuals, organizations, addresses, and dates against structured and unstructured text. By enabling better name matching and entity resolution, Name Match dramatically reduces false positives and the concurrent need to manually investigate false positives. It allows users to tune match parameters to meet their own thresholds, and provides meaningful, easy-to-understand match scores.

The Forrester study notes that interviewees reported that Name Match "drove more accurate name matching which could include either better precision and fewer false positives (i.e., non-matches labeled as matches) or better recall and fewer false negatives (i.e., missed matches)." OEM partners interviewed for the study listed accuracy; speed and performance among technical factors that influenced their decisions.

Name Match also helps align AML/KYC processes with regulator expectations. In the words of one CTO interviewed by Forrester about his experiences with Name Match, "[Regulators] test both that we match names and that we have the latest, up-to-date version of the OFAC list … a couple of times a year. When I was implementing this, my goal was to pass and we did and have ever since."

Reducing manual investigative time at KOHO

Koho is a fintech company providing Canadians with full-service spending and savings accounts. It issues prepaid, reloadable cards empowering customers to quickly receive funds, pay bills, and receive payroll direct deposits. KOHO's business depends on ensuring the right customer quickly receives his or her money.

Tens of thousands of times daily, the KOHO system must perform real-time name matches for e-transfers. The problem? Sometimes the name on the KOHO account differed slightly from the payee name. A KOHO account holder's name may have been listed as Rebecca Hockenbury, but banks transferring money into her account may have used the name "Becky Hockenbury" or "Rebecca C. Hockenbury." KOHO's legacy name matching system couldn't handle these name variations. Consequently, KOHO employees spent a lot of time on manual reviews of name matches or mismatches, slowing payments to customers. (In fact, more than 900 pre-authorized payments required a manual review each month.) This made for unhappy customers anxious to get their cash.

After deploying Name Match, the company found that automated name matching has improved significantly, slashing the need for manual review in half. Before Name Match, the company needed to manually review 10% of direct deposits. With Name Match, it's only 5%.

Using advanced natural language processing algorithms, Name Match can help FIs improve:

Name matching across languages and scripts — Name Match works across 25 languages and an array of scripts, including Arabic, Chinese ideographs, and Japanese Kanji. And it performs these tasks well. In the words of the CTO of a payment and compliance platform interviewed for the Forrester study, use of Name Match "dramatically reduced false positives and dramatically increased accuracy" in the company's name matching processes.

Corporate name matching — In a business world filled with initialisms and nicknames, semantic search helps optimize corporate name matching. Understanding that people often say "drugs" rather than "pharmaceuticals," Name Match's semantic search capability knows that "PennyLuck Pharmaceuticals" and "PennyLuck Drugs" are probably the same company. Conversely, semantic search can reduce instances of false positives.

Address matching and date matching — Name Match's intelligent name matching algorithms can help match and coalesce address information. Accepting fielded addresses or unstructured address strings, it parses data into identity fields. This helps FIs overcome the challenges posed by differing address conventions. Similar capabilities help FIs better match dates.

Reducing false positives, increasing match confidence at DOKs

DOKS®, a fintech based in Finland, collects and stores data for its clients' KYC/AML needs. It then verifies IDs and matches names for organizations screening against sanctions lists. But DOKS' existing, in-house name matching tool couldn't handle the personal and corporate name variations coming into its system or the increasing volumes of screening required. Its name matching technology also produced too many false positives.

DOKS decided to work with Name Match in large part because of Name Match's scoring system and explainability. Name Match produces clear match scores ranging from 0.0 to 1.0. (Closer matches receive higher scores.) The system enables users to establish a threshold score above which two names are considered a match. It can also provide the reasons behind each match score calculation. Because DOKS is under continuous audit by third parties, these capabilities are important to the company. As is Name Match's ability to reduce false positives: working with Name Match, DOKS has decreased instances of false positives by up to 75%.

Additional capabilities include:

Information collection, collation — FIs typically store customer names and other information in an array of siloed data warehouses, or in enormous, heterogeneous data lakes. Much of the customer insight needed to improve AML/KYC compliance and transaction monitoring is there, waiting to be examined. But obtaining insight from scattered data is impossible. By uncovering customer data within an FI's systems, Name Match helps it better match names and resolve entities.

Scoring and Configurability — Name Match scores potential name matches using more than 120 parameters. FIs can configure many of these to match their risk tolerance for each use case. Scores are clearly presented on a scale ranging from 0.0 to 1.0. The higher the score, the stronger the match.

Integration and scalability — Available as both an SDK and an API, Name Match works seamlessly with popular search engines such as Elasticsearch — enabling swift integration with existing systems. The scalable nature of Name Match enables organizations to deploy it for multiple uses, products, and regions.

Explainability — Explainable AI is a set of methods and processes that enables users to better understand what AI is doing, and on what data it's basing its decisions. This type of explanation makes regulators and others trust the choices made by AI systems. Name Match is an explainable system that illustrates how changing different parameters (such as increasing or decreasing the penalty for a missing name component) affects match scores. It also guides decision making on what the best match threshold is to meet an FI's risk profile.

Lightweight name matching for post-processing

For a variety of reasons, many FIs hesitate to replace their existing name matching systems with newer technology. Concurrently, they often find that existing systems impede crucial compliance workflows and transaction processing. For these organizations, Babel Street offers a lightweight post-processing version of Name Match.

This version of Name Match uses advanced algorithms to re-evaluate the output of an existing name matching system. It then scores and ranks the results according to the likelihood of one name being a true match for another. In doing so, it can significantly winnow lists of possible matches, decreasing the amount of human investigative time required to verify those matches.

Think of it this way. An FI needs to match names for a new customer named John Smith. The legacy system returns a very long list of possible matches. These include John A. Smith, Johnny A. Smith, Jack Smith, Jack A. Smith, Johanna Smith, Johanna Smidt, Johanna Smyth, Joanne Smith, John Smallwood, John Smalley, John Smedley, Joseph Smith, Joseph Schmidt, José Smith, José Antonio Smith, and José Herrero. Without the lightweight version of Name Match, FI personnel would have to investigate each of these potential matches. But the lightweight version of Name Match can reduce these false positives by up to 75%. In this case, it culls that list to four likely matches: John A. Smith, Johnny A. Smith, Jack Smith, and Jack A. Smith. FI investigators now only have to manually examine those four names.

Working with Name Match, FIs can achieve:

- Dramatic reduction in false positives leading to measurably reduced investigative costs
- Reduced chance of running afoul of regulatory mandates, incurring fines, or suffering reputational damage
- Significantly improved transaction monitoring
- Faster customer onboarding
- Improved ability to scale name matching operations as needed

The Forrester Total Economic Impact study also notes that Name Match customers often particularly appreciate fair pricing, ease of use, and flexible integration options.

Start improving AML/KYC compliance today. Learn more about Babel Street Analytics Name Match. Visit www.babelstreet.com.

Endnotes

1. Financial Action Task Force, "Trade-Based Money Laundering," accessed March 2024, https://www.fatf-gafi.org/en/publications/Methodsandtrends/Trade-basedmoneylaundering.html

2. Daily, Jing, "A Digital Gucci Bag Sold for US$4,000 on Gaming Platform Roblox – Will Virtual Fashion Really Become a US$400 Billion Industry by 2025?" South China Morning Post, July 2021, https://www.scmp.com/magazines/style/news-trends/article/3136325/digital-gucci-bag-sold-us4000-gaming-platform-roblox

3. Rousch, Ty, "Judge Approves Binance's 4.3 Billion Settlement for Anti-Money Laundering, Sanctions Violations, Forbes.com, February 2024, https://www.forbes.com/sites/tylerroush/2024/02/23/judge-approves-binances-43-billion-settlement-for-anti-money-laundering-sanctions-violations/?sh=20a741504475

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