Integrated Tax Payer Data Management System (ITDMS)

A 360-degree profile of Posidex solutions are tracking tax evasion for India's Income Tax Department using state-of-the-art Data Mining technology

Client

Income Tax Department of India

About ITDMS

The Income Tax Department of India has large amounts of citizen data that is gathered from within and outside the department. All the data in their possession is stored in several databases and is managed as an Integrated Tax Payer Data Management System (ITDMS). PAN number is a tax payer identification like a social security number by which the customer data is identified. To have a holistic view of the individuals' financial affairs, the department has decided to use an alternate identifier other than the PAN. Name and address were used to correlate the information from large heterogeneous databases and create a 360-degree view of the individual or a network of taxpayers who are wither related to each other by family, financially, or employment etc. This can help link the profiles with their reported incomes to identify any mismatches.

Challenge

- **Unique Identification:** Though PAN number is used as a unique Identifier across all data sources, absence of a single source of truth such as a Citizen ID makes it difficult to trace transactions that use other IDs other than the PAN.
- **Poor Data Quality:** Since there are no defined standards for writing names and addresses such as the sequence of first name, last name, and addresses, which are subject to variations and transcription errors.
- **Data Volumes:** Every location of the Income Tax Department has approximately 2–4 Crores of data volumes that need to be processed.
- **Errors in Existing solutions:** The previous models to track tax evaders has large number of false positives and thus was inefficient.
- **Slow response:** Since the records are huge and most of the data volumes increase multifold during the tax seasons, the processing times were longer with slower response times.

Thus, the Income Tax Department was looking for solutions that can process huge volumes of data with quick processing, faster response, and high precision and recall rates of matching. The IT Department had an open bidding for all solutions to select such a solution.

Solution

Out of all the solutions that were presented, Posidex's innovative PrimeMatch® technology was selected by the Income Tax Department as a solution through an open bidding wherein all the vendors were tested on precision and recall of matching process and speed of response on the same test data using the same hardware.

Our proprietary solution was the only one which met all the criteria fixed by the department to overcome the above challenges and handled high volumes of data at scale.

Results

- **Identified Tax evasion:** The solution was able to effectively re-engineer the investigative work processes and enabled an effective non-intrusive anti-evasion work. As a result, ITDMS has now become a standard operating procedure in Investigation units of the department.
- **Increased Tax income for the government:** Many major investigations using the information developed through ITDMS solution resulted in collection of huge amounts of additional taxes which added up to almost hundreds of crores every year.
- **On-demand cases:** The solution helps in selecting cases as needed by the officers, rather than by chance and the information could be provided on demand.
- **Handling data based on other IDs:** The solution allowed collation of transactions of an entity or a group based on identifiers other than PAN.
- **Data quality:** The solution enabled the handling of large data and processing of records based on name and address matching to create quality data without any errors.
- **Risk Management:** ITDMS solution raised the effectiveness of risk management strategy of the tax department raising alerts to handle cases in real time.

Testimonial

ITDMS was awarded the Prime Minster's Award for Excellence in Public Administration, the highest award in civil services due to its effectiveness and innovation. It was selected for Presentation at the annual tax technology conference held by Federation of Tax Administrators (FTA), Idaho USA in August 2010.

"With the ITDMS deployed at all the DGITs, it is expected to improve the data mining and non-intrusive investigative capabilities of the department substantially. (The) Income Tax department has taken head start and is the first enforcement agency in the country to implement a state of art profiling system using sophisticated name search engine on Indian Names..."

Member, CBDT

About Posidex

Posidex Technologies develops software products, solutions and offer services in the domain of entity resolution and analytics. Posidex's products and solutions helps enterprises in their operations, decision making and planning during the Process of customer data integration, data quality management, customer analytics. Posidex's clients are spread across various verticals from BFSI to government and are one of the largest data depositories in India in their respective domains.

Posidex Technologies Pvt. Ltd.

Email: info@posidex.com

Website: http://www.posidex.com