

## OUR UNIQUE VALUE PROPOSITION

INSURERS CAN EVALUATE CLAIM OVERCHARGE AND ELIMINATE NON-CONFORMING SUPPLIERS THROUGH AN ONLINE PLATFORM (PLUG AND PLAY).

### KEY BENEFITS

- No setup cost, and no IT layer.
- Fast results: After you deliver the first dataset (usually the ETL for a full dataset takes 10 weeks) you have the first results in 2 weeks in a PoC. In subsequent runs, you are fully independent with our cloud solution.
- We can work with a success fee.
- We will deliver some "Remediation & identification workflows" through decision trees
- Our tool runs through ALL critical claims data. This helps detect low-incidence (0.001%) events.

### WAR STORIES

- ISACA has articles for auditors about using Benford's Law (BL) in the audit process.
- The Libor rate did not follow BL's second digits, most noticeably from 1 Jan 2007 through 8 August 2007.
- The Madoff Ponzi Scheme did not follow BL.
- BL is legally admissible as evidence in the U.S. in criminal cases at the federal, state and local levels. (This fact alone substantiates the potential usefulness of using BL.)
- In our pilot, we found that:
  1. True overcharge/anomaly: 68%
  2. True no overcharge/anomaly: 67%(Note: This is for suppliers, not claims. A higher hit ratio (i.e. false positive) can be obtained at the cost of higher 'false negatives'.)

## WHY IS DATA XL DIFFERENT?

### TRADITIONAL APPROACH

Traditionally, insurance companies use statistical models to identify fraudulent claims. These models have their own disadvantages.

- First, they use sampling methods to analyse data, which leads to one or more frauds going undetected. There is a penalty for not analysing all the data.
- Second, these methods rely on the previously existing fraud cases, so every time a new fraud occurs, insurance companies must bear the consequences of the first one.
- Finally, the traditional method works in silos and is incapable of handling the ever-growing sources of data from different channels and different functions in an integrated way.

### OUR APPROACH

A statistical law – Benford's Law (BL) – states that in many naturally occurring collections of numbers, the leading significant digit is likely to be small:

- Usually, the digit 1 appears as the leading significant digit about 30% of the time, while 9 appears as the leading significant digit less than 5% of the time.
- If the digits were distributed uniformly, they would each occur about 11.1% of the time. BL also makes predictions about the distribution of second digits, third digits, digit combinations, and so on.

We apply this rule to the insurance claims dataset to find strange digit patterns and narrow the list of possible anomalous items, making the entire audit process more manageable. We also pursue other digit patterns besides the ones in BL.

# SOLUTION DESCRIPTION

Data XL's platform contains the following modules:

- ETL (client's responsibility, although we can help on request).
- Upload the dataset in our platform.
- Receive a score for every supplier.
- Make a decision about each supplier (client's responsibility).

To run a pilot, Data XL needs the following information:

- A claim dataset with the entire business lens (Health: region, medical specialty, medical network or brand, client's age, client's gender, number of medical acts, typology of the main medical act, supplier characteristics and more; Motor: region, car brand, type of claim, client's age, client's gender, supplier characteristics, etc. - all the variables that characterize the accident).
- The dataset's unit of analysis must be the claim, and the objective variable is the total cost of the claim, meaning that all the costs must be aggregated.

For **maximum pilot success**, we recommend that you:

- Include past suppliers' fraud or cash leaks in the backlog sample.
- Define a team of experts to evaluate past cases and our "positives".

## BACKGROUND INFORMATION

- Portugal's biggest insurance company (this client can be disclosed on request).
- Data XL has been incorporated since 2017 and is profitable, but we are still a startup.

## OTHER USES OF OUR TOOL

Other objectives are equally applicable, including analysis of:

- Credit card transactions.
- Purchase orders.
- Loan data.
- Customer balances.
- Journal entries.
- Stock prices.
- Accounts payable transactions.
- Inventory prices.
- Customer refunds.