



# Precision Decisions

Unlocking the value of attributes



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# How do you predict the future?

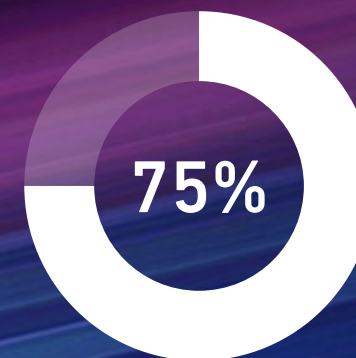
The Romans consulted chickens. Coops were taken all over the known world with the Roman armies and navies and were cared for by an official called a pullaris.

The procedure was that a few handfuls of grain were scattered on the ground and the chickens were released. If they rushed out of their cages and greedily gobbled up the grain, this was taken to be a great omen, and the attacking course of action was taken by the warring Romans.

However, if the chickens hesitated to come out, or showed a lack of interest in the grain, this was considered a warning that the battle would be lost and should be avoided.

The Romans used chickens to help predict their strategy for battles. This is one of many historical methods used for *prediction*. Of course, we've moved on since then, and today the most valuable method for predicting the future is through the intelligent use of data.

This is why **access to data** is crucial to delivering accurate credit risk decisions. We can learn a huge amount from historical credit data, as it provides all the raw material we need to develop insights that inform future decisions.



**75% OF BUSINESS LEADERS ARE PRIORITISING INVESTMENTS IN NEW DATA SOURCES TO BETTER UNDERSTAND RISK AND AFFORDABILITY**

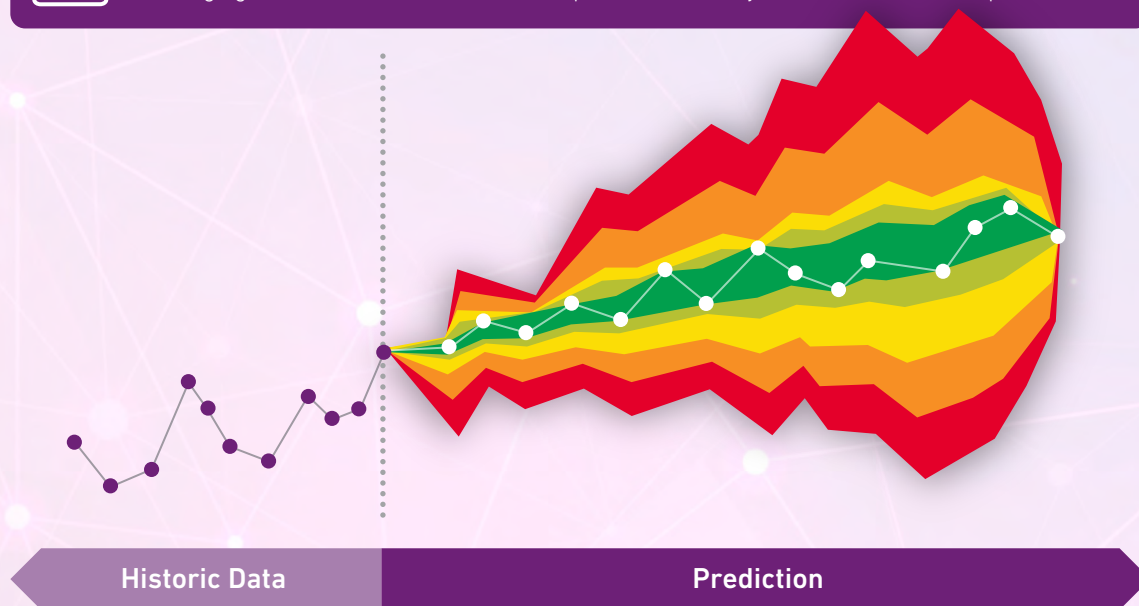
Base: 889 EMEA and APAC decision makers at financial services and telco providers.  
Source: Experian research conducted by Forrester Consulting, July 2023

## It's never been more important to predict the future...

In today's world the cost of defaults is much higher, putting pressure on forecasting accuracy.



- Higher interest rates
- Changing consumer behaviour
- Regulatory pressure
- Geopolitical instability
- Climate risk
- Increased competition



At Experian, we've been developing insights based on raw credit data for decades – providing clients with tools and software that allow them to make more informed decisions about credit risk.

A key part of this are our **Attributes** – which we will explore in detail in this insight paper. We'll explain why attributes are a **critical component of accurate credit decisions** and how they are helping our clients achieve **greater predictive precision**.

**EVERY BUSINESS HAS ACCESS TO DATA.  
THE KEY IS BEING ABLE TO DEVELOP  
DIFFERENTIATED INSIGHTS FROM THAT DATA,  
ALIGNED TO A SPECIFIC BUSINESS CHALLENGE.  
CLIENTS ARE EXCITED ABOUT OUR ATTRIBUTES  
BECAUSE THEY ARE EASIER TO USE AND MORE  
PREDICTIVE THAN RAW DATA – AND THEY OFTEN  
PROVIDE A SIGNIFICANT UPLIFT IN MODEL ACCURACY.**

# What are attributes?

Highly accurate risk models are crucial to success in today's lending environment. Businesses are placing much greater emphasis on precision in lending decisions – safeguarding both lenders and borrowers – and driving more inclusive and responsible lending.

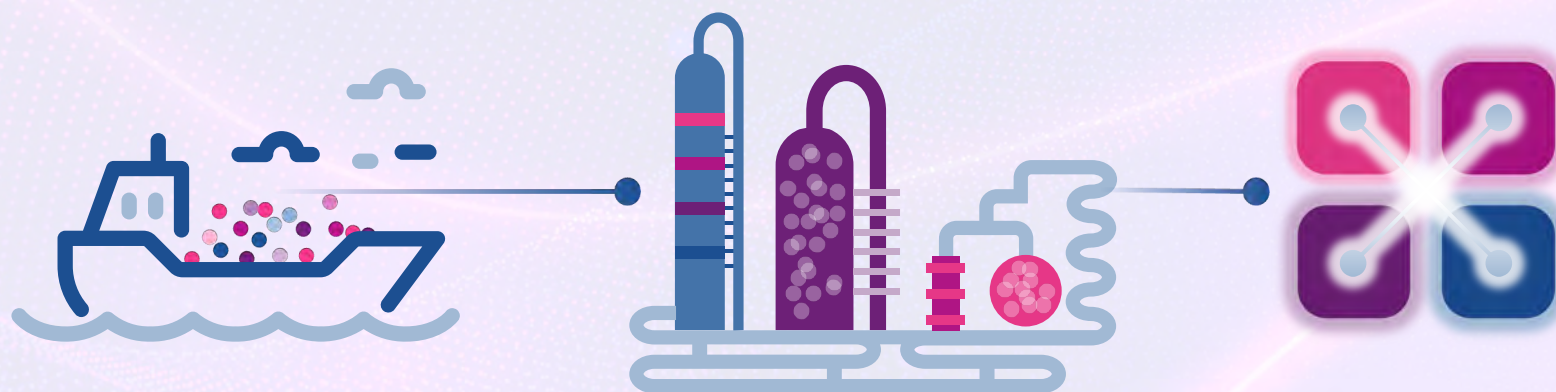
## Under the hood of a decision engine

As we open the hood of our credit decision engine to have a closer look at how attributes influence its capabilities, the easiest way to understand how they work is first to build out our analogy. Data is often referred to as the new oil, but in this case, imagine that **raw credit data is like crude oil**.

Although it holds enormous potential in its unrefined state, raw credit data is like a vast oil tanker – filled with impurities and, in this raw form, **unsuitable for a high-performance decision engine**.

Just as crude oil is transformed into fuel through the process of distillation, so too are **attributes a distilled version of raw credit data**. For attributes, the distillation process involves aggregating hundreds of millions of individual data points into their purest form, which is often a mathematical description such as a time-based ratio.

Each individual attribute represents a description of the relationship between different data points. The model developer will then use those attributes that are most relevant to the business objective and model requirements.

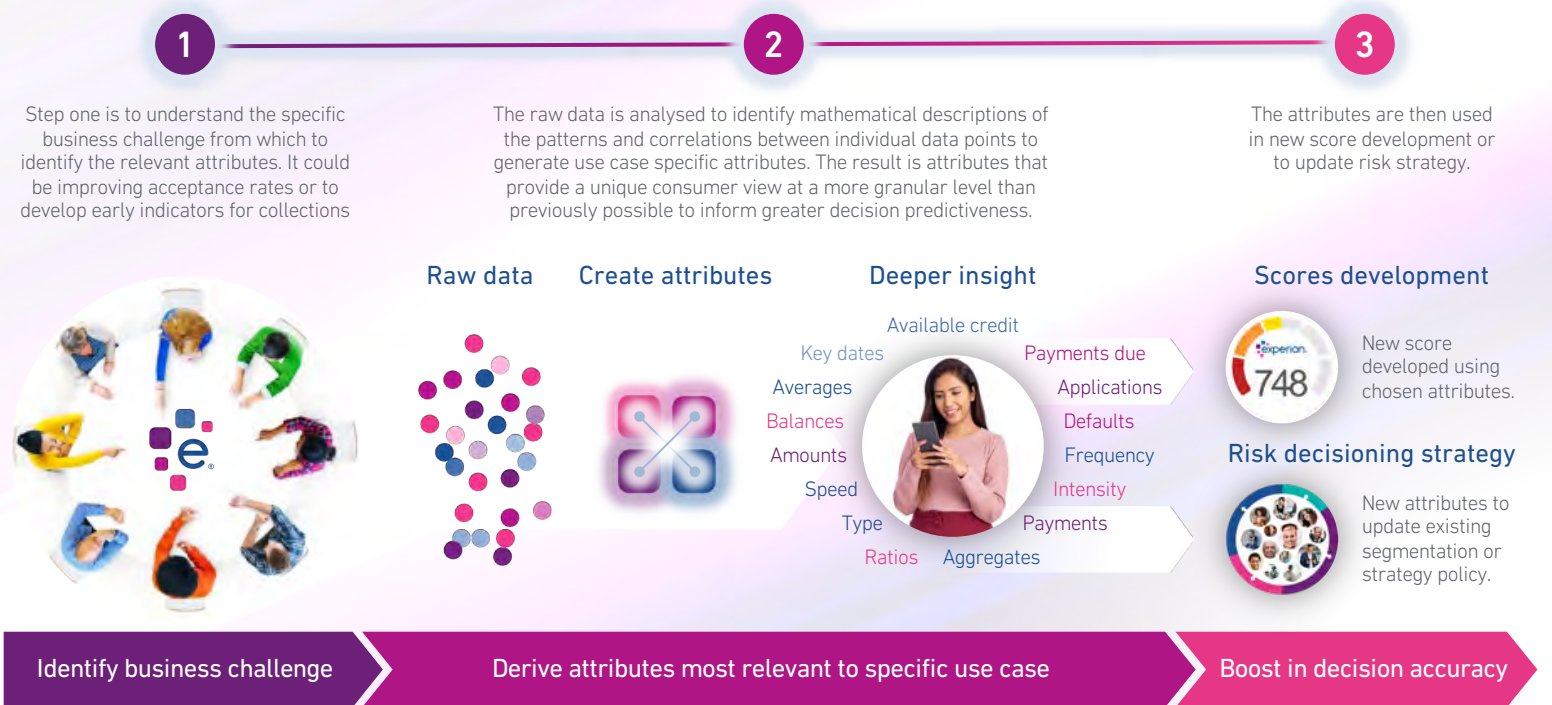


# How are attributes created?





Developing attributes is a highly specialised task. They are created by analysing, aggregating and combining credit data points to identify hidden relationships or patterns in credit behaviour. Each attribute is carefully derived from a huge amount of raw data due to its ability to impact the predictability of the final risk model.

- **Simple attributes** look at the relationship between data points, such as available credit, number of credit services, or repayment amounts.
- **Complex attributes** are ratios of aggregated data points that provide deeper insight into credit behaviour, such as a credit limit utilisation ratio or debt-to-income ratio over a given period.

## Using attributes: process flow



To understand how attributes are created, let's look at some common ways that they represent data points

Attribute type	Description	Example(s)
 <b>TIME-BASED AGGREGATES</b>	These summarise multiple data points within a specific timeframe	<b>The number of missed payments in the last 24 months</b> This attribute captures delinquency information over a given period. <b>Average credit utilisation ratio (past year)</b> This attribute calculates the average ratio of credit card balances compared to credit limit over the past 12 months.
 <b>HISTORICAL DATA POINTS</b>	These capture the value of a data point at a previous point in time. They help assess how past behaviour might influence future creditworthiness.	<b>Delinquency status on oldest account (1 year)</b> This attribute indicates if a borrower's oldest account was delinquent in the year prior.
 <b>TREND ANALYSIS</b>	Some attributes are created to capture the direction or rate of change in data points. This can be helpful in understanding if a borrower's financial situation is improving or deteriorating.	<b>Change in total debt over the past 12 months</b> This attribute shows if a borrower's overall debt is increasing or decreasing.
 <b>TIME SERIES</b>	In some cases, the entire credit history for specific data points might be used to create an attribute, allowing for a detailed analysis of credit behaviour over time.	<b>Monthly credit card balances for the past 2 years</b> This attribute captures the complete history of a borrower's credit card balances over the last 24 months.

Risk models use a combination of different attributes depending on the sector, type of lending, and stage within the customer lifecycle.

However, all attributes serve the same purpose – to reduce raw credit data into highly predictive features that can easily be ingested into risk models or used as an overlay for decisioning segmentation, cut-offs and rules.

# Why are attributes such powerful analytics tools?

Credit risk models are only as good as the data used to fuel them. And just as refining crude oil is a complex process, so too is engineering attributes. The complexity arises in the selection and testing of which data points can deliver the greatest gains in predictive accuracy.

The key to attribute selection is that **quality is far more important than quantity**. Including poorly defined or irrelevant attributes in your model can be detrimental to its performance – something like putting crude oil in a rocket. Models that are overloaded with low-quality attributes require more processing power, which slows down decision-making and can also lead to inaccurate predictions.

By only including the most predictive attributes in your risk models, they run more efficiently and deliver more reliable results. Selecting which attributes are the most predictive is a specialised skill set that can really boost decision engine performance.

## What pain points do attributes address?

In today's world, lenders have access to vast amounts of data. The challenge they face is transforming this data into meaningful insights that can power high-performing risk models.

Attributes allow businesses to get more value from data, by focusing on the most predictive data points that support a specific business challenge – such as improving acceptance rates.

According to our research, attributes can directly address two key pain points impacting businesses

### 01 DECISION ACCURACY

Improve the accuracy of lending decisions

### 02 ANALYTICAL AGILITY

Improve speed to market

#### Pain point

Our latest research shows that three-quarters (75%) of the businesses in our survey are prioritising investments in new data sources to better understand risk and affordability. The aim of this is to improve model accuracy.



Another recent study indicates that developing a new risk model takes an average of 15 months and that nearly two-thirds (65%) of businesses feel this is too long.

#### Solution

Attributes have been proven to provide up to a 20% (pp) uplift in the accuracy of decisioning models. Attributes are developed based on specific scenarios to ensure improved accuracy across several different use cases. For example, a focus on identifying attributes that are most responsive to changes in the macroeconomic climate to support portfolio monitoring.



Although attributes can be used to develop new credit scores, they can also be implemented much faster and at potentially lower cost when used as an overlay on existing models within credit policy definition and segmentation. This allows businesses to benefit from the step up in accuracy – but delivered in a much faster way.



# How can attributes be used within risk assessment?

Attributes are highly flexible as they can be used in several different ways to improve credit decisions. Each attribute can be used individually as a key indicator, or in combination with existing models, scorecards, policy rules and cut-offs.

Experian's attribute library varies between regions, with thousands of attributes across different industries, and we regularly work with clients to create new custom attributes.

Here is a breakdown of how attributes can be used for different analytical applications



To power new models and scores development

## New model development

New risk insights in the form of attributes can enable new models to be developed that have increased predictive power when compared to existing models.



To power improved risk strategy optimisation

## Customer segmentation

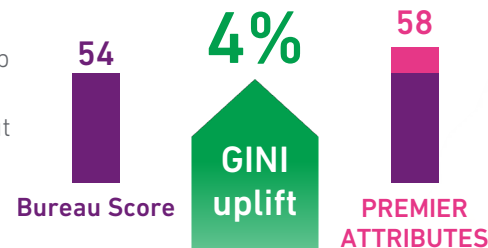
Attributes can still be used without developing new models to improve risk segmentation. The attributes act as an overlay to improve the precision with which each segment or subsegment may be defined. Allowing refinement of rules and cut-offs.

## The challenge



**PREMIER ATTRIBUTES** were used to develop a new model for a client in **vehicle finance** with view to increasing approval rate without impacting their risk thresholds.

## The results



**BOOST**

4%  
in predictiveness

4%  
in approval rate with  
**PREMIER ATTRIBUTES**

# Attributes use case: Early warning indicators

Our latest research shows that for nearly two-thirds (65%) of business leaders, the biggest risk they face in the next three years is the impact of inflation, causing a squeeze on income and a corresponding rise in defaults. A similar number (62%) have seen an increase in the volume of customers defaulting and entering collections.

So, what's the best way to proactively identify vulnerable customers before they default?

Experian has developed a subset of early warning attributes to specifically help lenders identify financially distressed customers **before they start to miss payments** on their credit obligations. By using these attributes, you can reliably predict which of your customers are at the greatest risk of delinquency.

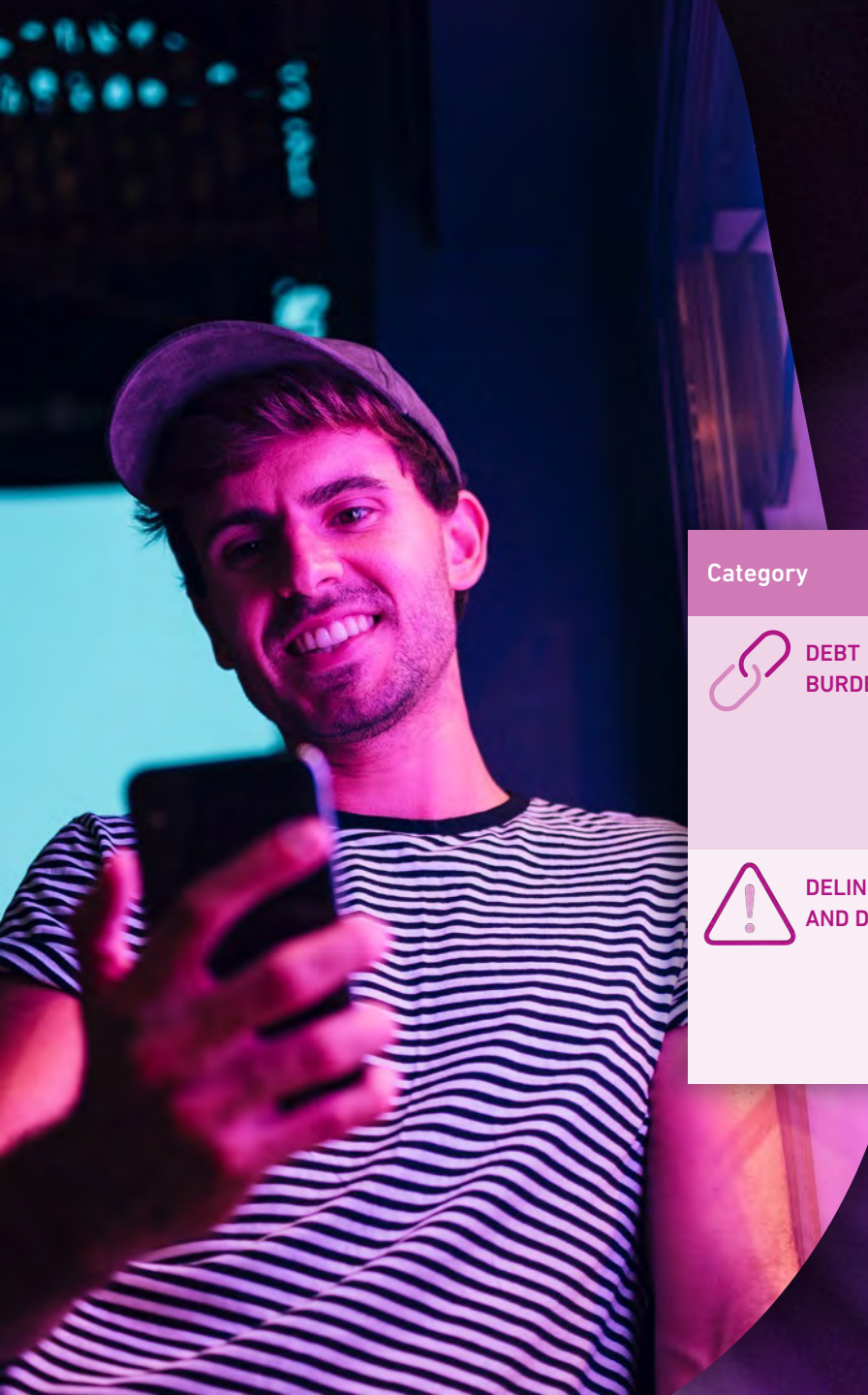
A key advantage here is the use of bureau information which simply means information and performance for the customer is being utilised from all lenders, thus providing a more 360-degree view of the customer.



**62% OF BUSINESS LEADERS ARE  
LOOKING TO IMPROVE THE ACCURACY  
OF VULNERABILITY DETECTION USING  
EARLY WARNING SIGNALS.**



Base: 889 EMEA and APAC decision makers at financial services and telco providers.  
Source: Experian research conducted by Forrester Consulting, July 2023





To show you how these attributes work, here are a few examples of the different categories from our diverse set of early warning attributes. Access to these attributes depends on the type of bureau data that is available in each country.

It is important to note that these attributes can be used as a segmentation overlay without the need to redevelop scores. This solution gives businesses the insight to improve decision accuracy without the time and resource expenditure required for a new model.

Category	Description	Onboarding insight	Portfolio monitoring insight
 <b>DEBT BURDEN</b>	Outstanding balances, balance-over-limit occurrences, and monthly payments can provide insight into consumer indebtedness and liability.	Consumers' indebtedness across all their credit and loan accounts is an important risk indicator. Trended attributes provide an aggregated view of overall debt burden and can measure the trajectory of a consumer's indebtedness.	Debt burden attributes provide insight into the current risk in a portfolio or segment. This information can be used to manage or offer better-suited finance terms.
 <b>DELINQUENCY AND DEROGATORY</b>	Provide insight into the worst current payment status of a consumer.	Identifying the worst present payment status on all qualifying credit accounts can help mitigate risk in acquiring new clients. This insight can also help determine the best credit terms and conditions.	Derogatory and high delinquency status on credit accounts signals consumers in the portfolio or segment who may require an adjustment to their credit terms and limits.

# Does your decision engine need some rocket fuel?

Experian's attribute solutions can provide you with a significant boost in decision accuracy. We have a comprehensive set of over 4,500 credit attributes globally, including both our point-in-time **Premier Attributes** and our historical **Trended Attributes**.

When you choose our attributes, you have instant access to boost your predictiveness.

## What does this mean for you?

- Increase acceptance rates without impacting risk
- Enhance affordability checks
- Optimise provisions
- Improve collections performance
- Reduce non-performing loan (NPL) rates

## Why choose Experian's attributes?

We have a legacy of developing industry-leading attributes that spans five decades. Our first generation of Trended Attributes took our data experts nearly ten years to develop. We use the advanced analytical power of machine learning (ML) to ensure our attributes capture every nuance of credit behaviour, and they are made even stronger by combining our local and global credit datasets.

### Flexible integration

Incorporating our attributes into your organisation is straightforward – all you need to do is decide on the level of support that our analytics team can provide to help you maximise the impact of our attributes across various analytical processes.

### Continual updates

Our attributes are constantly evolving, and we bring an ongoing supply of innovative new attribute concepts based on new data elements, bureau data reporting updates and changing industry trends. Our analytics team has a regular cadence of new attribute releases, so you can focus on your business goals instead of attribute management.

## Standard naming conventions

We use easily understandable and consistent naming conventions for all our attributes, filters and coding logic. Each attribute has a complete and accurate description of its behaviour.

## Simple coding process

At the core of our attribute infrastructure is the automated creation of code using a single-source pseudocode process. This proprietary and patent-pending process greatly improves coding accuracy by enabling attribute code to be automatically translated into multiple coding languages. The result is that analysts spend less time coding and more time doing in-depth analysis.





Contact Experian today to discuss your business needs and see how attributes can improve **the precision of your decisions.**

[CONTACT US](#)



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