

Data and  
Innovation



## Trusso: Experian's machine learning powered categorisation engine

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## Introduction

We believe that access to customer transactional banking data within open banking models will **transform** both

- the **relationships** that financial organisations have with their customers, and
- the **operational processes** that support these relationships

However, realising these value outcomes will be dependent on the establishment of automated processes that provide **fast, flexible and highly accurate analysis of this transactional data to uncover deep customer insights.**

Automated categorisation and analysis of transaction data will therefore become a fundamental business capability.

**It is for this reason that we have developed Trusso - Experian's machine learning categorisation engine.**

Trusso takes raw, unstructured data, such as transactional data from a customer's bank account or credit card and classifies it into predefined categories of income and expenditure. This makes it easier for advanced analytics to be applied to the data which, in turn, will allow

- Faster, more informed decisions to be taken
- Services to be personalised
- Customers to be treated fairly and responsibly, and
- The automation of manual processes.



## The solution

Trusso uses machine learning to automatically categorise the raw transactional data.

It is trained using data from multiple financial institutions, including major banks, to recognise varying types of income and expenditure. Analysis of the shared characteristics within each of these categories and sub categories, can reveal trends and patterns in transactional behaviour over variable lengths of time for a variety of customers and account types.

Three main design elements have been considered in the development of the engine.



### **Granularity and flexibility of the taxonomy**

The high level of granularity that is used allows for more detailed structuring of the data. This in turn enables a greater level of analysis to be undertaken to uncover previously hidden aspects of end customers' behaviours and preferences across all aspects of the lifecycle (originations, fraud, customer management and collections).



### **Accuracy and generalisation on new unseen datasets**

Scientific modelling enables the engine to recognise specific words, these are constantly refined using self-learning techniques to accurately classify new unseen data giving deeper insight.



### **Data aggregation and enrichment**

For advanced models, we can cross-reference the raw data to other data such as, Experian reference data or your own data to reveal even deeper insights.

## Machine Learning: The key to speed, accuracy and flexibility

The use of Machine Learning driven predictive analytics creates significant benefits over traditional rules-based approaches.

Continuous, automatic, self learning means that the categorisation process can instantly adapt to changes in transaction descriptions and different types of account information.

As a result, Trusso's categorisation service is typically more accurate and agile than conventional rules based alternatives – typically achieving 90%+ accuracy when categorising previously unseen data, and 98% accuracy on seen data.

Rules based approaches to categorisation by definition will become more complex as new types of previously unseen data appear – each requiring the addition of exemptions and rule changes. In addition, if data types and scenarios change faster than the rules can be adapted, this will create the risk of compromising the accuracy of the categorisation which may lead to decisions being taken based on inaccurate insights.

The accuracy and adaptability of machine learning combined with the granularity of the underlying taxonomy means clients can not only benefit from increased confidence and reassurance, but will also be likely to see a reduction in the overall costs to serve.

# Supporting multiple use cases across the end customer lifecycle



## Affordability

### Use case 1

Machine driven categorisation creates the perfect opportunity to review and re-design existing credit risk policies, lending rules, scorecards and processes to enable the value of relationships to be optimised at a portfolio level, product level or individual customer level.

### Use case 2

Where credit bureau data is 'thin', for example new to credit, new to country, categorised transactional data can enhance the decisioning process.

### Use case 3

In the case of a customer needing to send more information, categorisation can automate the underwriting/referral process.



## Enhancing customer growth and retention

### Use case 1

By aggregating and enriching with other data sources, resulting insights can enable hyper-personalisation of future products offers - deepening the overall relationship and increasing overall customer lifetime value.

### Use case 2

Identifying subtle changes in behaviour patterns can provide early indication of financial distress to enable the earliest possible intervention. Suspicious spending and payments may also provide an additional layer of fraud detection.



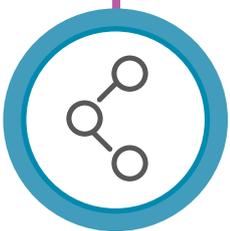
## Underwriting

### Use case 1

Manual underwriting is time consuming and can require subjective decision making. With categorisation, you can automatically see the net disposable income to inform risk, reducing underwriting time to just a few minutes.

### Use case 2

Achieve a clearer differentiation between short term and longer term risks by understanding discrepancies better - such as gaps in income due to changing jobs, going on holiday, short term sick leave and so on.



## Connecting markets

### Use case 1

By having a more granular interpretation of a person's data there are more opportunities for cross-sector partnerships, such as offering incentives for switching retailers through cash back, and broadening propositions to include complementary partner services such as insurance services.

Machine learning driven categorisation  
- a key enabler for innovation, speed and scale:





## An ongoing roadmap of use case development

Experian is committed to ongoing innovation. Additional taxonomies (including the analysis of international cross border transactions), underwriting tools and services are being constantly developed. These will enable machine learning categorisation to power multiple use cases for both individual consumers and small and medium sized enterprises (SMEs) across the lifecycle.

To find out more contact your local Experian office.

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## About Experian

Experian unlocks the power of data to create opportunities for consumers, businesses and society. At life's big moments – from buying a home or car, to sending a child to college, to growing a business exponentially by connecting it with new customers – we empower consumers and our clients to manage their data with confidence so they can maximise every opportunity. We gather, analyse and process data in ways others can't. We help individuals take financial control and access financial services, businesses make smarter decisions and thrive, lenders lend more responsibly, and organisations prevent identity fraud and crime.

For more than 125 years, we've helped consumers and clients prosper, and economies and communities flourish – and we're not done.

Our 17,000 people in 37 countries believe the possibilities for you, and our world, are growing. We're investing in new technologies, talented people and innovation so we can help create a better tomorrow. Learn more at [www.experianplc.com](http://www.experianplc.com).