

The logo for AiteNovarica, featuring the word "Aite" in white with three small orange dots above the "i", followed by "Novarica" in white. The background is a blue gradient with a faint grid pattern.

AiteNovarica

SEPTEMBER 2022

2022 IMPACT AWARDS IN FRAUD

GABRIELLE INHOFE
DAVID MATTEI
JAMES MORTENSEN
TRACE FOOSHEE
SHIRLEY INSCOE

IMPACT REPORT

TABLE OF CONTENTS

FEEDZAI AND LLOYDS BANKING GROUP	2
FEEDZAI AND LLOYDS BANKING GROUP: BACKGROUND COMPANY INFORMATION	2
FEEDZAI AND LBG INNOVATION: AN INTRODUCTION ...	4
KEY VALUE PROPOSITION AND MARKET CHALLENGES ADDRESSED	4
HOW THE INNOVATION WORKS	5
KEY BENEFITS AND RESULTS	6
FUTURE ROADMAP	7
AITE-NOVARICA GROUP'S PERSPECTIVE	7
RELATED AITE-NOVARICA GROUP RESEARCH	9
ABOUT AITE-NOVARICA GROUP	10
CONTACT	10
AUTHOR INFORMATION	10

LIST OF FIGURES

FIGURE 1: 2022 FRAUD IMPACT AWARD CATEGORIES – FEEDZAI AND LLOYDS BANKING GROUP	2
FIGURE 2: DATA FLOW AND MODEL CREATION	5

LIST OF TABLES

TABLE A: FEEDZAI AND LBG SUMMARY	3
--	---

IMPACT REPORT

SEPTEMBER 2022

2022 IMPACT AWARDS IN FRAUD

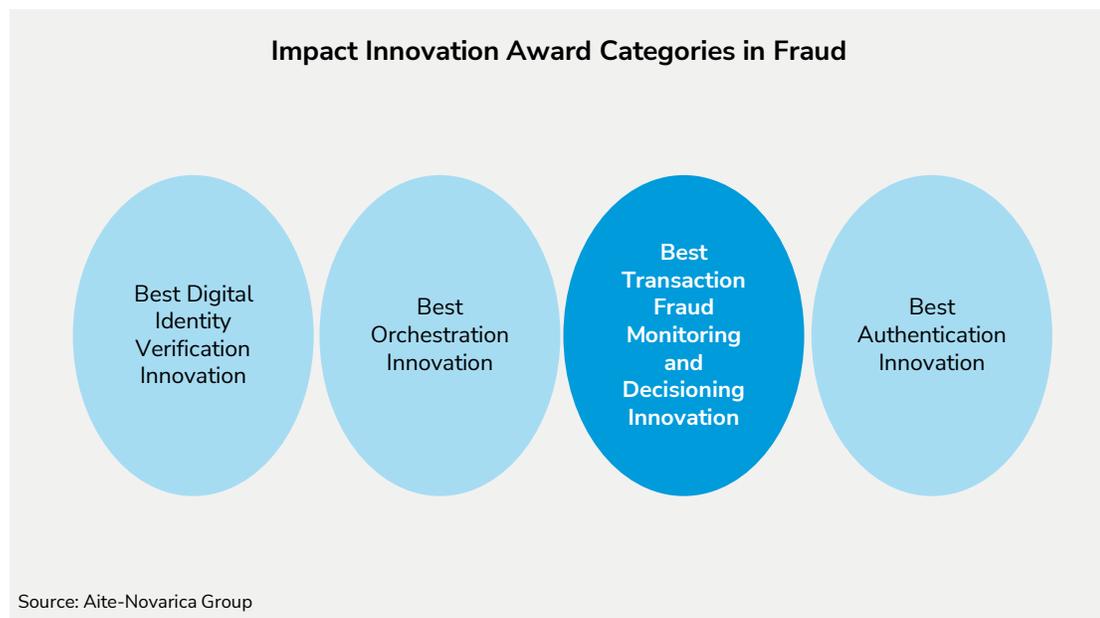
GABRIELLE INHOFE
DAVID MATTEI
JAMES MORTENSEN
TRACE FOOSHEE
SHIRLEY INSCOE

FEEDZAI AND LLOYDS BANKING GROUP

By David Mattei

Feedzai and Lloyds Banking Group are the recipients of the 2022 Fraud Impact Award for Best Transaction Fraud Monitoring and Decisioning Innovation (Figure 1).

FIGURE 1: 2022 FRAUD IMPACT AWARD CATEGORIES – FEEDZAI AND LLOYDS BANKING GROUP



FEEDZAI AND LLOYDS BANKING GROUP: BACKGROUND COMPANY INFORMATION

Feedzai safeguards global commerce with its cloud-based risk management platform, powered by machine learning and artificial intelligence. Its integrated cloud offering addresses a variety of account and transaction risk management scenarios ranging from device authentication, malware defense, behavioral biometrics (addressing scenarios as diverse as account takeover and scams) as well as a full suite of integrated financial transaction and anti-money laundering (AML) solutions. Feedzai customers include banks, processors, and retailers.

Lloyds Banking Group (LBG) is a U.K.-based financial services group providing a wide range of banking and financial services. It operates through three main brands including

Lloyds Bank, Halifax, Bank of Scotland. and others with total assets under management in excess of US \$1 trillion.

Table A shows summary information of the Feedzai and LBG winning innovation.

TABLE A: FEEDZAI AND LBG SUMMARY

CATEGORY	DESCRIPTION
Firms	Feedzai and Lloyds Banking Group
Dates Founded	Feedzai:2011 Lloyds Banking Group: 1765
Headquarters	Feedzai: San Mateo Lloyds Banking Group: London
Award Category	Best Transaction Fraud Monitoring and Decisioning Innovation
Innovation	A collaborative approach leverages technology and data to create a 360-degree view of payment risk across multiple payment channels. The innovative technology enables rapid testing of strategies with the best models promoted into production immediately after development and with an automated feedback loop for system adjustment.
Brief Description	Feedzai and LBG implemented a custom model using data across the organization and a set of new machine learning practices to address payment risk. Data silos were broken down within the bank by combining payment-related data points that included digital identity, biometrics (behavioral and voice), authentication, password change, personally identifiable information (PII) changes, transaction data (including payor and payee data), and additions of new payees. This is a multi-channel solution involving mobile banking, online banking, call center, and branches.
Key Features	Enterprise data, multi-payment channels, new machine learning technology, and 360-degree client view

CATEGORY	DESCRIPTION
Value Proposition	Reduction in fraud losses with improved Value Detection Rate (VDR) and Account Detection Rate (ADR), authorized & unauthorized fraud detection, lower false positives, and fewer fraud alerts.
Websites	Feedzai: www.feedzai.com Lloyds Banking Group: www.lloydsbankinggroup.com

Source: Feedzai, Lloyds Banking Group, Aite-Novarica Group

FEEDZAI AND LBG INNOVATION: AN INTRODUCTION

Feedzai and LBG teamed up to enhance the fraud detection system at LBG. The project went live in November 2021 after a multi-month testing and review process. They created a 360-degree client view incorporating data across multiple groups within LBG, breaking down data and organizational silos to leverage and unlock the value contained in its enterprise data. Leveraging Feedzai technology and machine learning modeling, a custom model was created to score transactions in real-time and mitigate fraud losses. The implementation was performed in an LBG-specific cloud instance managed by Feedzai.

KEY VALUE PROPOSITION AND MARKET CHALLENGES ADDRESSED

For years, fraudsters have leveraged breached PII data, including username and password pairs, email addresses, and phone numbers to directly social engineer customers to attack bank accounts. Account takeovers (ATOs) have been a major source of financial loss for financial institutions. Over the past few years, authorized fraud (scams) has been on the rise, especially in the U.K. UK Finance announced earlier this year that scam-related fraud losses exceeded card fraud losses in 2021 for the first time. And it is common for financial institutions to have silos where data is segregated by channel. Mobile banking, online banking, and branch banking data can reside in different databases, and therefore fraud systems have a limited view of the total payment picture of a client. Fraudsters have capitalized on this fragmented approach to account and transactional risk management to commit their crimes.

They devised a customer centric strategy to assess risk regardless of the channel in which clients interacted. LBG began their partnership with Feedzai in 2017 and

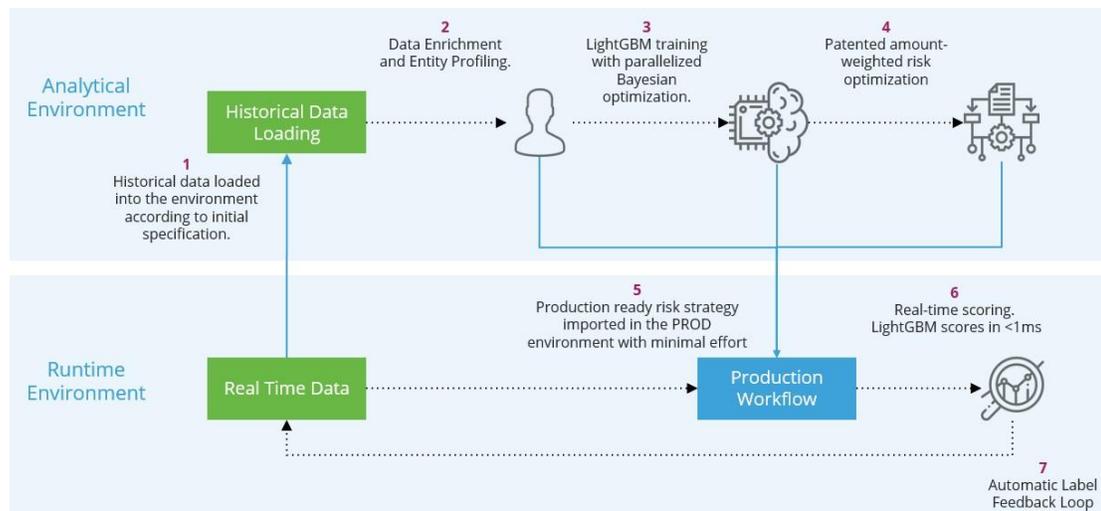
deployed a solution within six months, which LBG considered to be very fast. The relationship has grown over the years.

LBG wanted to build on their existing fraud controls to further protect their customers and was also interested in building an internal machine learning skill set with its data science team that could use its data to build custom Machine Learning (ML) scoring models and keep them evergreen. LBG was looking for a technology partner that could provide the platform and tools its data science team could use to achieve their objectives. Feedzai's RiskOps Platform was selected for this and the vendor also contributed its data science expertise to the initiative.

HOW THE INNOVATION WORKS

There are two main components of the solution: data and the ML modeling platform (Figure 2).

FIGURE 2: DATA FLOW AND MODEL CREATION



Source: Feedzai

Since this project involved centralizing data across multiple bank silos, the decision was made to place the data in an LBG-specific cloud instance managed by Feedzai. Historic data was collected and moved to the cloud including:

- Financial transaction data across multiple payment channels including all digital channels, telephony, and branch

- Financial transaction data including detailed information on the sender of the funds and the receiver of the funds
- Digital activity including historic online access
- Account changes made across all channels
- Third party data enrichment such as behavioral and device information.

When bringing data together from diverse sources, there is a mapping and cleansing process to prepare the data for use in ML modeling. This was a collaborative effort involving data science teams at both firms.

Feedzai provided the ML modeling platform and technology which the LBG data science team used to build the models with assistance and guidance from Feedzai. A newer modeling technology called Light Gradient Boosting Machine (LightGBM) was used. LightGBM, originally developed by Microsoft and currently available as open source code, is based on decision-tree based algorithms and is good for tabular data problems like fraud. LBG had a requirement that the model produce a score within 50 to 60 milliseconds across all payment channels including digital, call center, and in-branch. Feedzai made extensions to LightGBM to increase speed for real-time scoring needed in a low latency environment and to meet LBG needs. Feedzai proved the efficacy of its enhanced LightGBM in two other client installations prior to deploying it at LBG.

KEY BENEFITS AND RESULTS

While mitigating losses is usually a goal of any fraud implementation, LBG was also focused on the total cost of ownership of the fraud system. Other factors they considered were number of alerts generated, number of colleagues needed to manage the system and work those alerts, number of vendors needed to deliver a comprehensive solution, and internal flexibility to maintain an evergreen system.

As LBG gained confidence in Feedzai and as Feedzai's solution proved effective at mitigating fraud, the strategic partnership grew whereby LBG was able to replace legacy solutions. The implementation described in this award was LBG's first major use of machine learning technology at scale and it was particularly important that they "got it right". LBG reported that this solution "massively beat the legacy solution".

LBG has realized several benefits from the implementation including:

- A significant reduction in fraud losses. What is noteworthy is that both the case detection rate and value detection rate improved. Not only were more incidents of fraud detected but also more fraudulent monetary amounts.
- False positive rate reduction
- Enabler to move colleagues onto other customer-focused activity

FUTURE ROADMAP

LBG is working with Feedzai to explore further additional channel opportunities to optimize their customers' experience and balance existing and future fraud risks.

There is new functionality that Feedzai developed for this project which they plan to incorporate into its base commercial product in a future release.

AITE-NOVARICA GROUP'S PERSPECTIVE

The Feedzai / LBG solution is a wonderful example of the power of bringing together diverse data assets, applying ML technology to it, and creating ML models that are highly predictive of fraud. Doing this on a scale of a financial institution the size of LBG is also remarkable. In addition to the technology challenges of this initiative, the organizational challenges of breaking down silos and centralizing data and fraud systems cannot be overlooked.

Aite-Novarica group notes numerous factors that make this offering innovative:

- A cloud implementation in which the data science teams from both Feedzai and LBG could access and collaborate
- The number of payment channels covered
- A patented score transformation algorithm to flag transactions based on the transaction amount-weighted risk
- Rapid deployment of strategies into production by proving the value off-line before transferring to production. More than 300 models were trained and tested in six months with a technology that can be used to deploy the best models immediately after development
- Automation of the feedback loop for system adjustments

- The breadth of data used to build the ML models including account, device, behavioral, transactional, and other data assets
- Inclusion of scam-related detection in the solution. Most fraud systems are based on detecting third party fraud in which the fraudster performs the transaction. Scam-related fraud, which is a growing concern, is harder to detect since the bank's customer performs the transaction (usually coached by a fraudster)
- Consolidating multiple fraud systems across multiple payment channels into a single fraud system that increases insights and performance

In summary, Aite-Novarica Group congratulates Feedzai and LBG for their collaborative efforts to create an innovative and enterprise fraud solution. This system is foundational for future enhancements to obtain a 360-degree view of retail and commercial clients and protect them in an ever-increasing fraud environment.

RELATED AITE-NOVARICA GROUP RESEARCH

2022 Impact Awards in AML, September 2022

[Scams: On the Precipice of the Scampocalypse](#), March 2022

[Market Trends in Fraud for 2022 and Beyond: New Fraudsters, New Era](#), February 2022

[Top 10 Trends in Fraud & AML, 2022: Braving the New Normal](#), January 2022

ABOUT AITE-NOVARICA GROUP

Aite-Novarica Group is an advisory firm providing mission-critical insights on technology, regulations, strategy, and operations to hundreds of banks, insurers, payments providers, and investment firms—as well as the technology and service providers that support them. Comprising former senior technology, strategy, and operations executives as well as experienced researchers and consultants, our experts provide actionable advice to our client base, leveraging deep insights developed via our extensive network of clients and other industry contacts.

CONTACT

Research and consulting services:

Aite-Novarica Group Sales
+1.617.338.6050
sales@aite-novarica.com

Press and conference inquiries:

Aite-Novarica Group PR
+1.617.398.5048
pr@aite-novarica.com

For all other inquiries, contact:

info@aite-novarica.com

Global headquarters:

280 Summer Street, 6th Floor
Boston, MA 02210
www.aite-novarica.com

AUTHOR INFORMATION

Gabrielle Inhofe
+1.918.728.9434
ginhofe@aite-novarica.com

© 2022 Aite-Novarica Group. All rights reserved. Reproduction of this report by any means is strictly prohibited. Photocopying or electronic distribution of this document or any of its contents without prior written consent of the publisher violates U.S. copyright law, and is punishable by statutory damages of up to US \$150,000 per infringement, plus attorneys' fees (17 USC 504 et seq.). Without advance permission, illegal copying includes regular photocopying, faxing, excerpting, forwarding electronically, and sharing of online access.