



Retail

How AI enabled a Fortune 500 company to improve its customer care interactions and operational performance up to 20%

The Big Picture

Our client, a Fortune 500 specialty retailer with over 400 stores worldwide and >1Mn annual incoming customer contact volume, was facing challenges in identifying, recording, and analyzing customer's Reasons for Contact (RFC). With growing call volumes, the client wanted to explore efficiencies in their operations without having to increase representatives for servicing this demand proportionately.

Categorizing interactions was time-consuming and error-prone, taking ~20 secs per call on average, with new customer care representatives struggling to select the right set of options out of a large taxonomy. Most interactions were assigned to a few "common" categories, irrespective of their complexity. It also permitted a lot of subjectivity on the part of the representative, resulting in different RFC tags for similar calls, while nearly 10% of interactions remaining untagged.

Fractal's speech and [text analytics](#) accelerator, dCrypt was used to automate the entire process of tagging customer interactions across different channels, tagging 100% of interactions. It also allowed more nuanced interaction analysis, providing insights into inconsistencies in tagging operations across locations, and enabling the contact center representatives to focus more on customer interactions.

Industry

Retail, E-commerce

Challenge

Improve the TAT and accuracy of categorizing customer interactions over text and calls.

Solution

An automated cloud-based NLP solution to tag all incoming omnichannel, multilingual customer interactions – voice, chat, email, and social media.

Outcome:

- Up to 20% reduction in end to end interaction handling time.
- 80% accuracy in text, 65% in multilingual voice.
- Scaling to all 40 markets for the client.

Transformative Solution

The client wanted a solution that provided consistent tagging with increased accuracy and speed. Fractal deployed its text analytics IP accelerator, dCrypt, that is powered by state-of-the-art natural language processing and machine learning capabilities, to create end-to-end model pipelines to process and predict customer reasons for contact. dCrypt's superior natural language models of data anonymization, preprocessing, topic discovery, and deep learning algorithms for classification enabled a quick deployment of the fully automated system, working on both speech and text channels.

To address multiple gaps in the client's manual tagging process, dCrypt captured inaccuracies in the current tagging, and missing tags not discovered and captured by the existing system, using its suite of sophisticated error-detecting and unsupervised algorithms. Google Cloud Services Speech to Text API was used for transcribing voice interactions in a non-English language, in this case, Dutch.

Most models in the industry work well in the English language. However, accuracies quickly drop on other languages. dCrypt has built, over time, a robust suite of solutions to improve the accuracy of its models in lower resource languages, through pre-training and cross-lingual transfer methods. The transcribed text and other channel interactions (email, chats, and social media) were preprocessed through multiple steps including, cleaning, anonymization, and finally, used to build the machine learning models for predicting RFC tags.

To ensure high accuracy, separate predictive models were built for voice and text, using an ensemble of machine learning models that included deep learning and business rules. Finally, a dashboard enabled users to find answers to key business questions through these models. This higher level of insight lent itself to a more robust analysis of contact center activities.

The Transformation

Fractal helped drive the effectiveness of the clients' contact centers. They went from estimates and anecdotes to data and ROI.

The implementation of the solution took six months and provided positive results for the client. With automated interaction categorization, it eliminated the inconsistent manual task, leading to savings of twenty person-day/months. This, when realized for a 500+ representative contact center, was substantial. Further, if scaled out globally to all 40+ countries where the client operated, it would enable significant productivity improvements and bottom-line impact. The automation produced a reduction in average handling time, along with time and cost savings for training new representatives.

With cost-effectiveness, Fractal ensured that the data collection was accurate, impartial, and covered 100% tagging of the contact center interactions. Accuracy in text model tags went up to 85%, while voice model tags showed an accuracy of 65%. Additionally, new tags were added to RFC taxonomy, helping in scalability and real-time tagging.

The result was an improvement in efficiency in reporting with executives no longer required to do further analysis. The solution automatically identified emerging trends in call volume, leading to a significant cut down on manual spreadsheet efforts. Further, new capabilities can be added to the tool continuously, that can reprocess months of call data.

The Implementation

It was possibly one of the earliest attempts in the industry to apply NLP algorithms to the Dutch language. Today the client is looking at actively exploring options for scaling the implementation of the automated solution across markets.

Fractal has also supported other priorities for the client to improve their overall customer care operations framework, and customer experience, including the ultimate goal of eliminating that next customer call.

What started as a single solution for implementing analytics to categorize RFC has evolved into a transformational roadmap to drive AI & data-driven improvements that benefit the business in the long run.