Banking & Capital Markets case study

Global bank processes complex documents 98% faster with generative AI

Cognizant develops a gen AI-based key information extraction solution that cuts average processing times for printed, scanned and hand-written documents from 30 minutes to 30 seconds.

At a glance

Industry
Banking and Capital Markets

Location
Global

Challenge
Minimize the time, cost and resources needed to perform key information extraction from large quantities of complex documentation across printed, graphical and handwritten formats.

Success Highlights

- **96% accuracy** in key information extraction from over 20 types of documents
- **98% faster** document processing time—from average 30 minutes down to 30 seconds
- **Up to 98% reduction** in average cost per document processed—from $5 down to $0.10

The challenge

Our client is a leading multinational banking organization headquartered in Europe, with strong brand recognition around the world. Its business lines include consumer banking, corporate and investment banking, private banking and asset management.

Many of the bank's activities involve extracting key information from documents of different types. For a credit card fraud claim, for example, a claims handling team may have to extract information from a variety of sources including scanned receipts, email trails, instant messages and bank statements. For a mortgage application, supporting documentation may amount to hundreds of pages of information about the property and the buyer.

Key information extraction was slow and costly, affecting the customer experience

All of this information—amounting to tens of thousands of documents daily, in a wide range of formats—would be manually reviewed by bank employees, who would extract key information and enter it into the relevant system. Subject matter experts (SMEs) often had to clarify technical points, increasing the time and resources spent on the task, taking SMEs away from their primary job.

With each document taking on average 30 minutes to process, key information extraction (KIE) was contributing to high operating costs and long timescales. The customer experience was suffering too, as customers, anxious for a fraud claim to be settled or a mortgage lending decision to be made, could be left feeling frustrated with the long wait.

The bank identified an opportunity to accelerate the key information extraction process using AI. It engaged a dedicated team of gen AI specialists from Cognizant to design and develop a solution.

Our approach

We worked with the bank's AI center of excellence to build, test and refine a solution based on optical character recognition (OCR), machine learning (ML) and gen AI. All of these technologies have matured significantly in recent times, making them ideal partners for an automated solution.

Drawing on specialist Cognizant AI expertise gained in academia and across multiple industries, we were able to develop a minimum viable product (MVP) in just four weeks. We then refined the solution until it performed accurately enough to be deployed into production.

The key capabilities of the solution are:

- **OCR text extraction**: We used Microsoft Azure AI Digital Intelligence as the OCR engine to scan structured and unstructured documents and turn them into digitized text. It employs deep learning to mimic human visual recognition and excels at recognizing printed and handwritten text— including from low-quality images and scans. Its API also made it ideal for integration into the process flow of this solution.

- **ML-based document classification**: A classification stage enables relevant documents to be identified and irrelevant information to be filtered out, making the KIE process even more efficient. We devised and trained an ML algorithm to classify documents that had been digitized using OCR, so only relevant information would be put forward for gen AI analysis.

- **Analysis with gen AI**: We instructed Microsoft Azure OpenAI GPT-4o to analyze the digitized text from relevant documents and extract key information from them. It identifies entities and relationships between them, enabling it to extract the fields required for the relevant business process. In addition, we used GPT-4o's multimodal capabilities to identify and extract relevant images, including signatures, logos and seals.
- **Back-office integration**: The working solution runs on Microsoft Azure, our client's strategic cloud platform, and integrates with relevant back-office systems also running in Azure.
- **Human in the loop**: While the solution automates the extraction of key information, all extracted fields are reviewed by a bank employee to ensure they are accurate.

Business outcomes

The solution is currently deployed in over 20 different use cases across the bank, including customer onboarding, mortgage applications, fraud claims processing and assignment of customer power of attorney. Its wide applicability means it can be applied to further use cases in the future. Since going live, the solution has delivered significant benefits for the bank and its customers in terms of process acceleration, cost reduction, optimized workloads and customer satisfaction.

Key benefits achieved to date include:

- **96% accuracy in key information extraction**: The solution is capable of extracting relevant information from tens of thousands of documents with 96% accuracy, and without requiring help from SMEs when dealing with complex legal or technical documents.
- **98% faster KIE process**: The average time to process a single document before the solution was 30 minutes. The solution takes an average of 30 seconds to perform the same task—from digitizing the selected documents with OCR, to extracting the key fields using Gen AI and populating a form in the relevant back-office system.
- **Up to 98% reduction in document processing costs**: The solution has the potential to reduce the cost of processing a single document from an average of $5 to just $0.10 or less. The savings potential across the bank's business divisions on a worldwide basis is significant.
- **Optimized workloads**: Subject matter experts in legal and technical matters no longer have to be called in to help identify the relevant information in a complex document. This streamlines their workload and frees up more time for their primary job role.
- **Enhance customer experience**: Key customer-facing processes can now be completed much faster, delivering a significantly-improved customer experience.

A state-of-the art gen AI platform delivering major cost and efficiency gains

As at every bank, many of our client's operations depend heavily on the extraction of key information from large amounts of documentation. This was a time-consuming manual job, particularly since documents come in many different forms and often contain complex legal and technical information. By working with Cognizant's AI specialists, the bank has been able to automate the KIE process to a level of 96% accuracy, unlocking significant cost and efficiency gains as well as improving the customer experience. As a solution that can be applied to many different use cases across the bank, its incremental benefits will continue to be felt long into the future.

96%

accuracy in key information extraction

98%

faster document processing

Up to 98%

reduction in document processing costs

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